RENEWABLE POWER TO CLEAN FUELS SYMPOSIUM
WELCOME TO OUR RENEWABLE POWER TO CLEAN FUELS SYMPOSIUM!

It is truly wonderful to see you here! As we all know, this has been an incredibly difficult year and for a non-profit organization such as RHA, it has been especially difficult. RHA depends upon events like our Symposium to bring together our members and prospective members to make important connections, catch up on the latest in the industry, and learn from one another. Events like these are also important revenue sources for our organization so we can continue doing important work in advancing the renewable hydrogen industry for clean energy, clean fuels, a healthier planet and good jobs.

We’ve missed you, and we’ve got a wonderful program to welcome you back! We will hear about zero emission fuel cell backup power for data centers as an alternative to diesel generators; the importance of hydrogen to the agricultural sector; the first in the US hydrogen fuel cell powered passenger ferry built right here in Washington state; and how government policies are laying the groundwork for an expanding renewable hydrogen economy, among other great topics!

Thank you for being here and we hope you enjoy our Symposium!

Michelle & Martina
RHA Executive Team

TODAY’S AGENDA

8:30-9:00 Welcome and Introduction
   Introductory remarks and Ken Dragoon honorary recognition
   Michael Catsi - Emcee / TPU Economic Development Manager
   Michelle Detwiler - RHA Executive Director
   Don Ruff - RHA President

9:00-10:30 Projects and Progress in the PNW
   Moderated by Shannon Souza - Executive Director, Oregon Coast Energy Alliance Network (OCEAN)

10:30-10:45 Break

10:45-12:15 Clean Fuels in Industrial Uses in the PNW
   Moderated by Elizabeth Crouse - Partner, K & L Gates

12:15-13:00 Lunch

13:00-14:30 Renewable Hydrogen: Policy Maker’s Perspective
   Moderated by Jason Sekhon from Toyota.

14:30-14:45 Break

14:45-16:15 Decarbonizing the PNW Energy System with Clean Fuels
   Moderated by Nicole Hughes - Executive Director, Renewable NW

16:15 Wrap Up and Networking
ABOUT THE RENEWABLE HYDROGEN ALLIANCE

RHA is a member trade association focused on advancing the renewable hydrogen sector throughout the Pacific Northwest. Local, national and international membership represents diverse industries, including utilities (gas and/or electric), equipment and power system manufacturers, renewable energy project developers, clean energy & clean transportation advocacy groups, a Native American Tribe, legal and other service firms, and many more.

RHA’s mission and objective is to promote the use of renewable electricity to produce hydrogen and other climate neutral fuels to reduce fossil fuel consumption. RHA does this through policy and regulatory advocacy at the state level, and education and outreach on the benefits of renewable hydrogen as a multi sector solution to addressing climate change. RHA has been highly successful in making sure that renewable hydrogen is considered a solution and pathway to decarbonizing the Pacific Northwest’s economy and enabling the energy and transportation sectors to comply with greenhouse gas emission reduction mandates in the region.

Become a member and help us help you make the clean economy a reality! For more information please visit: renewableh2.org.

Michelle has spent over 20 years in the energy sector and came to RHA from PacifiCorp, a Berkshire Hathaway Energy utility where she served on the Government Affairs team managing their California and Washington state legislative issue portfolio. She began her energy career managing Alaska public utility clients for a senior law partner’s energy practice. Following that, she managed international, federal and state energy efficiency policy for a global building products manufacturer and also has provided energy consulting services.

Michelle moved to Portland in 1995 from Washington, DC where she worked at the World Bank on infrastructure projects for the China, North Africa and Middle East Country Departments. Originally from suburban Philadelphia, Michelle received her Bachelor of Arts degree in Policy Studies from Syracuse University and her Master’s Degree in Public Administration from George Washington University.

Michael Detwile
Emcee

Michael leads the economic development efforts at Tacoma Public Utilities (TPU), providing critical utility and site information for companies considering relocation or expansion within the TPU service area. TPU is municipally owned and is comprised of Tacoma Power, Tacoma Water and Tacoma Rail. Prior to moving to Tacoma, Michael spent three decades in Alaska, where he spent 16 years leading economic development programs and organizations at local, regional and state levels. Michael is a Certified Economic Developer, a Development Finance Certified Professional, and graduated with a Bachelor of Science in Geography from University of New South Wales, Australia.

Don Ruff

Don dedicated 30 years at Bonneville Power as a Structural/Civil Engineer. He has been involved in several environmental activism projects, such as organizing the first Earth Day celebrations in college; installing solar panels for the indigenous community in Costa Rica; and building Micro hydro systems in the jungles of Borneo. Don’s community service includes starting two day care centers and being President of nonprofit boards of Portland State University Alumni Advocates, Bienestar (which provides housing to farm workers in Washington County), Renewable Hydrogen Alliance, and Oregon Partners of the Americas.

RHA is proud to support Women in Green Hydrogen and Women in Hydrogen groups to help publicize the issue and support each other in meeting our shared goals for a more diverse, stronger and more effective hydrogen industry.
Shannon is a licensed Professional Engineer and principal founder of Sol Coast Consulting & Design, LLC, a 20 year sustainability consulting and contracting firm based in Coos Bay Oregon with the mission to support strategic growth, responsible development, and sustainable living. At present, her focus is on fulfilling contract work as the Policy Director for Pacific Ocean Energy Trust (POET).

Shannon also volunteers as Executive Director of Oregon Coast Energy Alliance Network (OCEAN), Oregon Solar + Storage Industry Association’s (OSSIA) Policy Chair, on Gov. Brown’s Resilience Mitigation Activity Council (RMAC), as a Board Member for the Professional Engineers of Oregon (PEO), and as Chair of the Coos Housing Action Team.

Ray Johnson manages the Energy Resource Planning & Evaluation group at Tacoma Power. Mr. Johnson is responsible for the Integrated Resource Plan (IRP), wholesale power and transmission contracts, conservation planning, and evaluation. Prior to his current role, he managed the retail pricing and energy risk functions.

Tacoma Power provides electric service to the City of Tacoma and several neighboring municipalities. Tacoma Power is a national leader in providing renewable, reliable, and affordable energy.

Prior to joining Tacoma Power, Mr. Johnson managed The Energy Authority’s west coast analytics group. He holds Bachelors degrees in Economics and International Studies from Oregon State University and a Masters of Business Administration from Seattle University.

Kate Lyman, AICP is a Senior Planner and Project Manager at TriMet with 15 years of experience in transit and transportation planning. She helped lead the development of TriMet’s Non-Diesel Bus Plan, adopted in 2018, which established TriMet’s goal of converting its bus fleet fully away from diesel by the year 2040. Since then, she has led continued planning work towards full implementation of a zero-emissions fleet, including the recent completion of a Hydrogen Fuel Cell Electric Bus Feasibility Study. Kate has a Master’s degree in Urban and Regional Planning from Portland State University.

Ron has had a ten-year working relationship with All American Marine (AAM); but joined the company in the Fall of 2018 as Business Development Manager. Prior to coming on board at AAM, Ron had nearly two decades of vessel operations experience in Alaska. Ron was promoted to President and Chief Operating Officer of All American Marine in April 2021.

Ron graduated from Oakland University in Rochester, Michigan in December 1993. He has a Bachelor of Science, Business Administration with a major in Finance. Ron also holds a current United States Coast Guard, Merchant Mariner License.

Jonathan is a recovering solar contractor and accidental Director of Support Services at Klickitat Valley Health (KVH) in Goldendale, WA. In his role as President of the Washington State Society for Healthcare Engineering he has worked with the Washington State Hospital Association and the Washington Healthcare Climate Alliance to advocate for the interests of rural healthcare organizations in a carbon free future. KVH was recently awarded a grant to add a 100kW hydrogen fuel cell to their backup power system.
Mr. Alan Mace has more than 20 years experience in the fuel cell industry in product development, customer service and product management roles. In his current position as Product Application Manager, he is responsible for application and market intelligence including definition of customer requirements. His experience includes a strong technical background on fuel cell products and applications.

Prior to his fuel cell career, Mr. Mace developed machinery for pulp, paper, and web processing applications, as well as high-speed machine vision systems for food processing.

David Fernandes is a Business Strategist on Microsoft's Datacenter Advanced Development team, part of the company’s Cloud Operations & Innovation organization. The team is tasked with developing technology that will go into Microsoft’s datacenters in the next 5-10 years and is focused on; energy storage, pollution-free back-up power, water conservation, and overall Datacenter infrastructure sustainability. Microsoft is currently researching hydrogen fuel cells for use at Datacenters to help meet the company’s sustainability commitments. Prior to joining Microsoft, David held the position of Business Development Manager for Air Liquide Hydrogen Energy US.

Jennifer brings 20 years of renewable energy and clean tech experience in industry, non-profit, government and research environments. She is Vice President, Projects and Strategy for Washington Maritime Blue, a cluster organization for maritime innovation and sustainability. She leads collaborative efforts and Joint Innovation Projects as part of implementing the Blue Economy strategy for Washington State. She’s also supported development of the new Blue Sky Maritime Coalition and serves on its Board of Directors. Previous experience includes DNV, Port of Port Angeles, Pacific Northwest National Laboratory, JUWI wind development and serving as City Councilor for Sequim, WA.

Christopher Wood is the founder of Dryland SA, L.L.C., a Spokane, WA based ag equipment development firm. He has provided his new product development services over the last 25 years in 30 plus states and 5 countries. Leading company turn arounds and acquisitions he has worked with every size firm, from Mom & Pop shops to Fortune 500. He is educated as a mechanical engineer, is an adjunct professor in Gonzaga's Engineering School, an angel investor, and is a partner in a large wheat, timber, and cattle ranch in Eastern Washington. His experience spans from wheat field dirt clods to rocket launch pads.

Elizabeth Crouse provides business-focused solutions for U.S. federal, state, and international tax problems in a variety of transactions and investment structures. She has particular experience assisting multinational businesses and investor, developer, and operator clients in the renewable energy and carbon capture industries, including storage and secondary market acquisitions of renewables facilities by taxable and tax-exempt organizations. Elizabeth has significant experience navigating the challenges and opportunities of the U.S. federal and state renewable energy and carbon capture tax incentive programs (including the investment tax credit, production tax credit, and 45Q credit), Opportunity Zones incentive, post-TEFRA partnership audit rules, and compliance with the Foreign Account Tax Compliance Act (FATCA) and the Common Reporting Standard (CRS).
RENEWABLE HYDROGEN: POLICY MAKER’S PERSPECTIVE

Jason Sekhon is an Advanced Technology Research Senior Consultant at Toyota and responsible for expanding hydrogen infrastructure for fuel cell electric vehicles and piloting new applications of fuel cells in areas other than light duty passenger vehicles (for example, stationary power). Prior to joining Toyota, he worked at McKinsey & Co. where he led projects for automotive, transportation, and energy clients focused on vehicle electrification and charging infrastructure. He holds an MBA and MS in Natural Resources from University of Michigan and a BS from Georgia Tech.

Sen. Reuven Carlyle is the State Senator for Washington’s 36th District that includes the Northwest Seattle neighborhoods of South Lake Union, Belltown, Ballard, Queen Anne, Greenwood and Magnolia. He served in the State House of Representatives from 2009-2016 before being elected to the Senate. He currently chairs the Senate Environment, Energy & Technology (EET) Committee and serves on the Senate Ways & Means and Rules committees. As EET chair, he was lead sponsor of the historic 2019 Washington Clean Transformation Act, moving the state’s electric utilities completely off coal by 2025 and to 100-percent clean and renewable energy by 2045.

In 2021, he was lead sponsor of the Climate Commitment Act, Washington’s new cap and invest program that will cap GHG emissions in other key sectors of the state’s economy. These bills were part of comprehensive carbon emission reduction packages that Sen. Carlyle has partnered with Gov. Jay Inslee to craft and which puts Washington on track to meet Paris climate agreement goals.

Sen. Carlyle received his Bachelor’s degree in Communications from University of Massachusetts Amherst and a MPA from John F. Kennedy School of Government at Harvard University.

Sen. Michael Dembrow is State Senator of Oregon’s District 23, covering portions of NE and SE Portland and the city of Maywood Park. Elected in 2008 to the State House, he was first appointed in November 2013 and has been subsequently re-elected to his Senate seat.

He as Chair of the Senate Education Committee and sits on the Judiciary Committee, the Energy and Environment Committee, and the Ways and Means Subcommittee on Education. He has been a leader on labor and workforce issues and in the past few years, has turned his focus to the environment and criminal justice reform. He is leading the fight to limit greenhouse-gas emissions in Oregon, while also working on youth sentencing reforms, and removing barriers faced by ex-offenders as they re-enter society and the workforce.

Sen. Dembrow also serves on the Oregon Workforce Investment Board, the Oregon Youth Conservation Corps Advisory Committee, the Western Interstate Commission on Higher Education, and the Oregon Commission on Asian and Pacific Islander Affairs. He earned his undergraduate degree in English from University of Connecticut and his Master’s degree in Comparative Literature from Indiana University.

Representative Ed Orcutt represents Washington’s 20th legislative district and was appointed to the Washington State House of Representatives in 2002. He is the ranking member on the House Finance Committee, and serves on the Transportation committee where he was Ranking member from 2013 to 2018. He also serves on the Rural Development, Agriculture, and Natural Resources Committee, the Joint Legislative Audit and Review Committee, and is also a member of the State Economic and Revenue Forecast Council.

Rep. Orcutt received an Associate of Science Degree in Forest Management from University of Maine, and a Bachelor of Science Degree in Forest Management from University of Idaho. In addition to his legislative duties, he is also a forestry consultant.

Representative Orcutt is active in his communities and has worked with several non-profit and professional organizations dedicated to improving lives and creating opportunities. He has held leadership positions with policy-related organizations, including the Natural Resources and Infrastructure Committee for the National Conference of State Legislatures.
Michael Furze is an Assistant Director at the Washington State Department of Commerce, where he heads the State Energy Office. The office leads Washington State’s transition to a clean and just energy future through policy leadership, investing in cutting-edge clean technologies, planning and responding to energy emergencies, and expanding equitable access to clean energy. This work strengthens communities, so Washington residents can thrive in a clean, affordable and equitable energy economy.

Michael serves on the Board of the National Association of State Energy Officials. He holds a Master’s degree in Community and Regional Planning and a Graduate Certificate in Town Design from University of New Mexico.

Rebecca Smith is a Senior Energy Policy Analyst at the Oregon Department of Energy, where she focuses on alternative transportation fuels in the medium- and heavy-duty vehicle sectors. Previously at ODOE, she focused on electricity sector decarbonization, serving as the program administrator for the Oregon Renewable Portfolio Standard and the chair of the Portfolio Options Committee, an advisory body to the Oregon Public Utility Commission for the state’s voluntary renewable power programs. Prior to joining ODOE, Ms. Smith worked on greenhouse gas mitigation policy and corporate climate risk management at organizations including Earth Advantage Institute, Det Norske Veritas, and EcoSecurities. She has an M.P.A in Environmental Science and Policy from Columbia University and a B.A. from Grinnell College.

RHA’s Recent Achievements

- Worked to help pass Washington Senate Bill 5588 authorizing public utility districts to manufacture and sell renewable hydrogen, paving the way for RHA member Douglas County Public Utility District to make the largest electrolyzer purchase in the US by a public utility;
- Successfully had renewable hydrogen language added to Washington’s Clean Energy Transformation Act (CETA) including ensuring that investments in renewable hydrogen infrastructure qualify as eligible Energy Transformation Projects (ETPs) for compliance with the Act;
- Advocated for and helped to secure over $7.5M in direct appropriations for hydrogen infrastructure in Washington and another $16.3M for competitive grant programs that include hydrogen related infrastructure and vehicle end use market development opportunities;
- Partnered on a successful grant proposal to fund the first retail hydrogen fueling station on Washington’s I-5 corridor expected to be operational in 2022;
- Persuaded the Western States Governors’ Association to include fuel cell vehicle infrastructure in its Electric Vehicle Roadmap Initiative;
- Achieved passage of an RHA request bill (Oregon Senate Bill 333) authorizing the Oregon Department of Energy to study the benefits of production and use of renewable hydrogen to decarbonize Oregon’s energy, transportation and industrial sectors and present policy recommendations to the Oregon legislature;
- In cooperation with the Center for Sustainable Infrastructure, published the Pacific Northwest Renewable Hydrogen Action Plan to guide development of renewable hydrogen deployment hubs in the region, identify key policy initiatives and develop a 10-year roadmap for the sector;
- Successfully got specific language included in Washington’s Clean Fuels bill (House Bill 1091) on renewable hydrogen production and infrastructure as eligible investments for fuel credits from revenues earned by utilities from the sale of electricity used for electric vehicle charging;
- Created several RHA-member only committees that meet regularly to address topics ranging from legislative and regulatory policy to commercial development to technology;
- Co-created the Women in Hydrogen networking group to foster connection and elevate women working in the US hydrogen sector.
DISCUSSION: DECARBONIZING THE PNW ENERGY SYSTEM WITH CLEAN FUELS

Nicole Hughes joined Renewable Northwest as Executive Director in July 2018. She has over 16 years of experience in the renewable energy industry in areas such as project development, construction, finance, permitting and policy for utility-scale wind and solar energy. She has worked for AWS Truepower, HDR, Element Power, RES Americas, Tetra Tech, and The Bonneville Power Administration. In her previous work, Nicole engaged with Renewable Northwest as a member and understands first hand the importance of the organization’s coalition work between advocacy organizations and renewable energy businesses in moving the region forward towards a clean energy future.

Nicole has served in a variety of board and volunteer positions working on issues related to support for individuals with disabilities, environmental conservation and energy issues. She currently serves on the boards of the Center for Energy Efficiency and Renewable Technologies and the Renewable Hydrogen Alliance.

Mary is the Director of Environmental Policy and Corporate Responsibility at NW Natural where she works to continue raising the bar for responsible and effective, environmental programs, operations and community support at Oregon’s largest Natural Gas utility. She serves on the board of SOLVE Oregon and the Headwaters Council of the Freshwater Trust. Prior to joining NW Natural, Mary worked in environmental nonprofits in Atlanta, GA, focused on greenspace conservation, sustainability and environmental education. Mary received a Masters of Public Administration from Georgia State University and Bachelors in Biological Sciences from Agnes Scott College.

Ron Roberts is Vice President of Energy Supply for Puget Sound Energy. Ron is responsible for PSE’s generation and transmission development, load serving operations and the energy supply merchant function. He also oversees Puget LNG, a subsidiary of Puget Energy. In addition, he has interim responsibility for our energy efficiency, product development, resource planning, and clean energy strategy functions. Prior to his current role, Ron served as PSE’s Director of Generation and Natural Gas Storage.

David W. Brown is the Senior Principal and co-founder of Obsidian Renewables. He brings a passion for energy innovation and expertise in transaction structures.

With Obsidian Renewables, Mr. Brown has developed many of the larger utility scale solar photovoltaic projects in Oregon. Mr. Brown is a member of the Oregon Solar + Storage Industries Association (OSSIA) and the Northwest and Intermountain Power Producers Coalition (NIPPC). He is also active in the Renewable Hydrogen Alliance (RHA), the Bioenergy Deployment Consortium, the Northwest Environmental Business Council, and the Community Renewable Energy Association (CREA). Mr. Brown has been very active in renewable energy incentive and land use legislation in the state of Oregon.

Prior to founding Obsidian Finance Group and Obsidian Renewables, Mr. Brown practiced law with Miller Nash LLP in Portland, Oregon. His practice included many different aspects of business, tax and finance.

Hari is a Senior Analyst in the Market Intelligence & Strategy group at Mitsubishi Power. He provides analytics-driven insights on business opportunities for achieving decarbonization in power generation. He strategizes decarbonization pathways using Hydrogen-capable Gas Turbine and Combined Cycle plants, Onshore and Offshore Wind, Solar, Battery Storage, Nuclear, Power-to-X, CCUS and other technologies.

Previously, Hari was a Senior Modeler in the Commodity Analytics group at Wood Mackenzie. He developed their proprietary Global Coal Model for forecasting trade flows of thermal and metallurgical coal in the international seaborne markets.

Hari has a PhD in Mechanical Engineering from University of Massachusetts and a Master’s in Computational Finance from University of Washington. His PhD dissertation advanced the state-of-art in optimal scheduling of Combined Heat and Power systems.
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