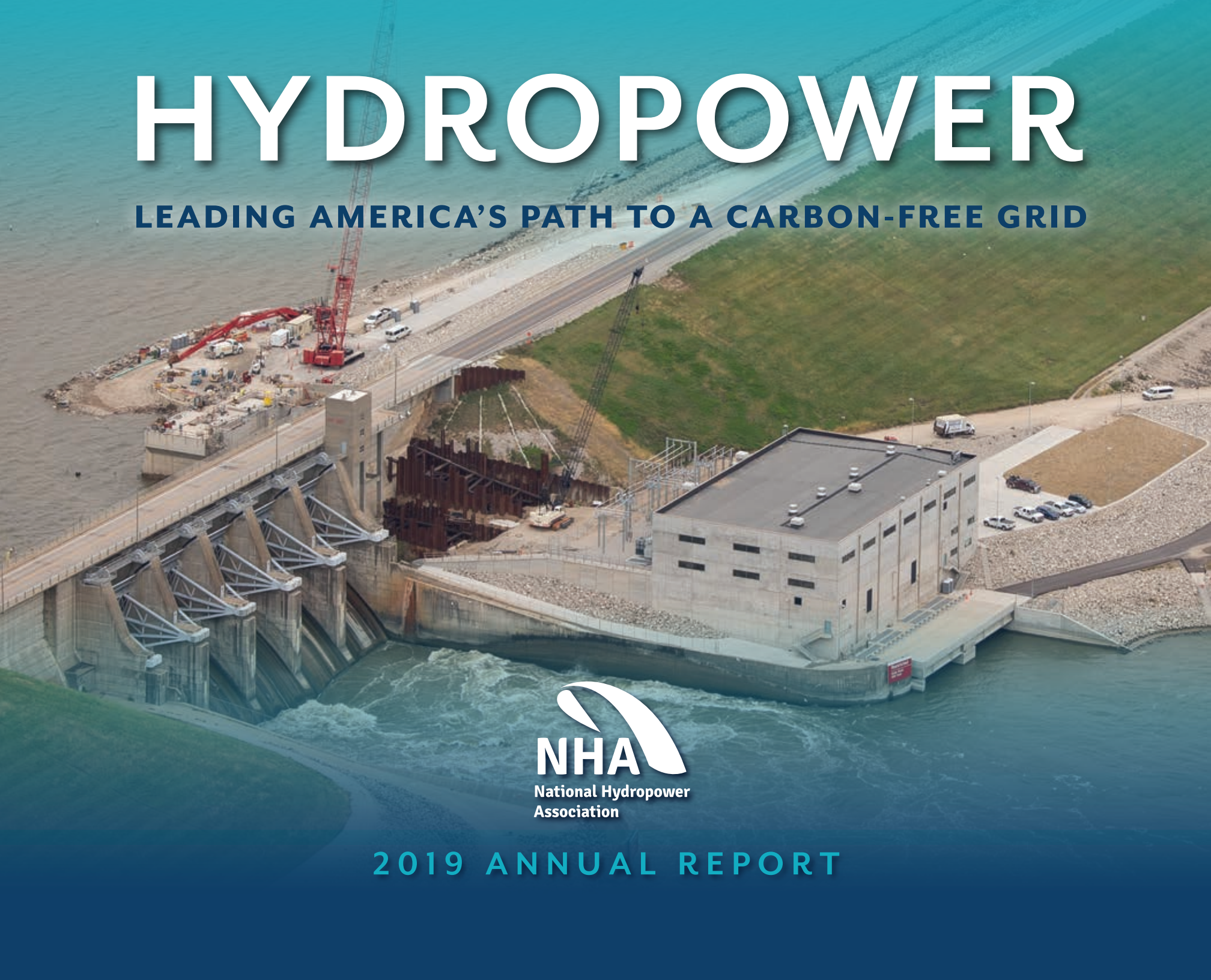


HYDROPOWER

LEADING AMERICA'S PATH TO A CARBON-FREE GRID



2019 ANNUAL REPORT

Association

by the numbers

245

NHA members

17

NHA Webinars held

600

attendees at Waterpower Week in Washington

6

NHA meetings held

45

OpEx Reports Shared with Members

Advocacy

by the Numbers

3 Year

ITC/PTC Tax Extension secured

\$148 million

Appropriations secured for DOE Marine and Hydropower R&D

\$25 million

in DOE funding awarded to marine energy and pumped storage research

12

Comments filed in regulatory or market proceedings



“We’ve laid out our bold vision for NHA’s future.”

LETTER FROM CHAIR and CEO

2019 was a year of progress. NHA achieved significant, incremental policy wins and broadened its advocacy efforts into new policy arenas to preserve and expand all forms of waterpower. We’re well positioned for a great 2020!

NHA’s multi-year tax advocacy bore fruit on December 20, 2019, with the President signing a bill restoring tax parity for the hydropower and marine energy industry. The 30% Investment Tax Credit and the Production Tax Credit valued at roughly 1.2 cents per kwh were restored and extended through the end of 2020, with 2018 and 2019 included retroactively. With the wind and solar tax credits also expiring at the end of 2020, the debate over longer term renewable energy tax credits will likely be a major issue throughout the year.

2019 was also a landmark year for regulatory proposals related to hydropower licensing. The U.S. Environmental Protection Agency proposed a major rulemaking to improve the standards and process for federal license and permit applicants to obtain Section 401 water quality certification. Together with improvements to the Endangered Species Act and proposed NEPA reforms, these measures offer the promise of reduced regulatory uncertainty. As states around the country set goals to decarbonize their energy mix and bolster grid resiliency and reliability, we are working with both sides of the aisle on more fundamental licensing improvements and expect proposals in coming weeks.

Energy markets, once an afterthought, have emerged as a major new area where NHA’s voice is needed. With NHA’s Markets and Hydro Valuation Taskforce in place, we succeeded earlier last year in advocating for changes to the California ISO’s market rules that benefit hydropower. NHA intends significant engagement on market design issues in the coming year at both U.S. Federal Energy Regulatory Commission and at targeted Regional Transmission Organizations or Independent System Operators.

Malcolm Woolf
NHA President & CEO



Jay Anders
NHA Board Chair



Last year also brought with it a change in NHA leadership. The organization is deeply indebted to its former CEO, Linda Church Ciocci, for all her efforts on behalf of the industry. And we also express our sincere gratitude to Jeff Leahey for leading our legislative efforts for many years. While both individuals will be missed, we are pleased they continue to be active within the industry.

As we look to 2020, we can assuredly tell you that more change is coming. We’ve laid out our bold vision for NHA’s future, which we invite you to read in this report. And to bolster our advocacy efforts on legislative, regulatory and markets issues, we created the NHA Rapid Response Policy Team—a small and nimble group, representative of our diverse membership, to provide timely guidance to NHA staff on implementation of the Board’s policy priorities. We also look forward to hosting Waterpower Week in Washington, along with the International Conference on Ocean Energy, on May 19–21, as well as five NHA Meetings and related NHA technical committee and council meetings during the year. We hope to see you there!

2020 is a new beginning for NHA. We believe that the path to clean energy flows through waterpower. And above all, we continue to be committed to working on your behalf.

Sincerely,
Malcolm Woolf, *NHA President & CEO*
Jay Anders, *NHA Board Chair*

LEGISLATIVE, REGULATORY & MARKET EFFORTS

LEGISLATIVE EFFORTS

In 2019, NHA successfully fought to end the tax disparity that puts hydropower and marine energy development at a significant competitive disadvantage. As part of Congress' year-end spending deal, NHA secured an agreement to extend the expired energy tax credits for hydropower and marine energy. The Production Tax Credit valued at roughly 1.2 cents per kwh and a 30% Investment Tax Credit were restored and extended through the end of 2020, with 2018 and 2019 included retroactively.

NHA also successfully secured record funding for the Department of Energy's Water Power Technologies Office (WPTO). Congress approved \$148 million in funding for hydropower and marine energy. The agreement allots \$109,000,000 for marine energy



FERC Commissioner **Richard Glick** speaks at 2019 Waterpower Week in Washington.

research, development and testing. Conventional hydropower will receive \$39 million for research initiatives, of which \$7 million is designated for upgrades at existing infrastructure.

Speaking of EPACK sections 242 and 243, NHA secured the reintroduction of bills in the House and Senate to extend these provisions, which are designed to spur new hydropower development at sites with existing infrastructure by providing incentive payments for power generation. The Senate bill was reported favorably out of the Energy and Natural Resources Committee and the House bill is moving through the Energy and Commerce Committee.

For energy storage, NHA obtained pumped storage-specific language in the Senate's Better Energy Storage Technology Act (BEST Act), which is designed to support grid-scale energy storage research and development and improve the efficiency of the nation's electric grid.

In the marine energy sector, NHA worked with U.S. Senator Ron Wyden (D-OR) on the introduction of a bill to reauthorize the Department of Energy's Marine Energy Program. NHA also worked closely with the House Science, Space and Technology Committee's Subcommittee on Energy for a hearing focused on the research and development of waterpower technologies.

Legislation is just one area where NHA's presence was felt on Capitol Hill. Recognizing the role hydropower will play in decarbonizing our national grid, NHA filed comments on the importance of hydropower in meeting climate, carbon emission-reduction goals with the House Energy and Commerce Committee and the House Select Committee on the Climate Crisis. The climate discussion draft recently released by House Energy Committee Democrats reflects our

efforts, including hydropower on an equal footing with other renewables and specifically noting the need for hydropower licensing improvements.

Additionally, we conducted educational outreach on the Hill with several hydro briefings including an Environment and Energy Sustainable Study Institute (EESI) briefing for the House and Senate; House Energy and Commerce Committee briefing; and a briefing for the House Sustainable Energy and Environment Caucus.

REGULATORY EFFORTS

2019 was a big year in regulatory activity. The Environmental Protection Agency issued a landmark proposed rulemaking seeking to significantly modernize regulations implementing water quality certification under Clean Water Act (CWA) Section 401—regulations that have not been updated for nearly 50 years. The new rule would improve the standards and process for federal license and permit applicants, including applicants for Federal Energy Regulatory Commission (FERC) hydropower licenses, to obtain Section 401 water quality certification.

The proposed new regulations seek to add greater transparency; assure timeliness and certainty to water quality certification; improve coordination between concurrent federal and state review of hydropower projects; establish more uniform processes; and define the scope of a state's review under Section 401. In response, NHA has filed supportive comments on the proposed rule, and met with FERC officials.

For new projects, NHA filed comments on FERC's final rule for the America's Water Infrastructure Act of 2018, which required it to establish an expedited process



NHA gives a Washington Update at our regional meeting.

for issuing original licenses for facilities at existing nonpowered dams and for closed-loop pumped storage projects.

And finally, NHA, along with the Northwest Hydropower Association, filed comments to U.S. Fish and Wildlife Service and the National Oceanic and Atmospheric Administration's National Marine Fisheries revised Endangered Species Act regulations to improve collaboration, efficiency, and effectiveness.

ENERGY MARKET EFFORTS

2019 marked the first year of NHA's full engagement on energy and environmental market issues. With the formation of our Markets and Hydro Valuation Taskforce, NHA has been engaged on pressing issues at ISOs and RTOs.

Of note, NHA was successful in advocating for changes to the California ISO's (CAISO) market rules that benefit hydropower. NHA filed comments with CAISO and a motion to intervene at FERC advocating for the opportunity cost of hydro generation to be included in any CAISO mitigated price floor.

NHA also filed comments on the New York Independent System Operator's (NYISO) "Grid in Transition" initiative. The NYISO initiative is focused on preparing the electric grid to meet New York State carbon reduction goals. NHA's comments focus on how hydropower's environmental, reliability, and flexibility benefits can help the NYISO transition to a cleaner electric grid at low cost.

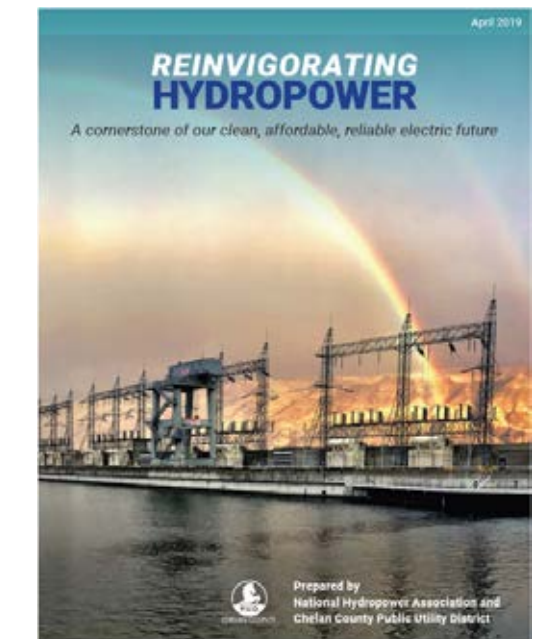
And recently, NHA submitted comments to CAISO on the Extended Day-Ahead market (EDAM) proposal to improve market efficiency and more effectively integrate renewable resources by optimizing day-ahead unit commitment and scheduling across a larger footprint. Recognizing that EDAM market mechanisms will affect the voluntary dispatch of hydropower across the west to support renewable energy and carbon reduction goals, NHA offered comments with an eye toward optimizing hydropower participation in the delivery of firm, carbon-free power products to EDAM customers.

REINVIGORATING HYDROPOWER

As a call to action, last year, NHA and Chelan County Public Utility District (Chelan PUD) released a new report looking at public policy areas that can unleash capabilities of hydropower for the next 30 years. Entitled "*Reinvigorating Hydropower: A cornerstone of our clean, affordable, reliable electric future*" the report describes the value hydropower provides the grid and the recommended governmental and industry policies necessary to fully realize hydropower's value.

Hydropower has and will continue to play a critical role in states meeting their clean energy goals. From providing reliably and resiliency to enabling other renewables onto the grid, hydropower is the backbone of the nation's electricity system. However, for it to flourish, policymakers must reform the policies that are holding it back, and it starts with recognizing the true value of hydropower.

The report makes a call to action, identifying six recommendations, covering a range of issues including market design, public policy and regulatory processes.



A Vision to Expand NHA's Value and Impact

For 2020, NHA is charting a new course, with a bold new vision to bolster our advocacy efforts on legislative, regulatory and markets issues. As an association, we believe that hydropower, in all its forms, is integral to a reliable, resilient grid and is an essential part of a climate solution.

To achieve this goal, our focus is to deepen NHA's value proposition in three areas:



CONNECT

members with other hydropower professionals, build relationships, and facilitate business

- Waterpower Week in Washington/ICOE/NHA Regional Meetings



INSIGHTS

about timely policy and industry developments

- NHA Committees and Councils/OPEX
- NHA Today (now a weekly!) and industry webinars



ADVOCATE

to preserve and expand hydropower in all its forms

- Streamlining the license process through a new bipartisan reform effort
- Seeking parity in Congress—tax treatment, appropriations and other technology-inclusive bills
- Shaping potential carbon pricing at the federal, state and/or RTO level
- Obtaining full market valuation of hydropower's attributes and reliability services in RTOs and ISOs
- Raising the profile of hydropower "Beyond the Beltway" by leveraging state political umbrella groups
- Launching new campaign "Path to Clean Energy Flows Through Hydropower," targeting energy policy thought leaders



GETTING THERE

For 2020, we have positioned the association for success by diversifying and growing NHA's revenues, expanding NHA's advocacy beyond federal advocacy to markets and building NHA's internal capacity to engage on policy.





PURSuing OPERATIONAL EXCELLENCE

NHA's Operational Excellence (OpEx) program is a member-only, voluntary, confidential event reporting system that receives, distributes, archives, and catalogs hydro operating experiences and resulting best practices and lessons learned. The scope and focus of OpEx is on events related to safety (dam, employee, and public), operations, maintenance, and environmental performance, and is intended to be a tool to help avoid events experienced by others, train a workforce in development, and assist in managing aging assets.

In 2019, OpEx experienced significant growth, with **44 Event Reports added** to the system – a net increase of **23.8%** from 2018 submissions. The numbers of **total registered users also increased to 674**.

EVENT REPORTS BREAKDOWN



OpEx is the hydropower's premier platform for information sharing. Is your company signed up for OpEx? Learn how to participate at www.hydroexcellence.org.

Presentation given at NHA's Regional Meeting.



LINKING THE HYDROPOWER INDUSTRY TOGETHER

At NHA, we strive to be the best at serving the industry and our membership. In doing so, we work hard to bring waterpower professionals from all segments of the industry together. In 2019, we successfully hosted a multitude of opportunities to learn, network and share best practices.

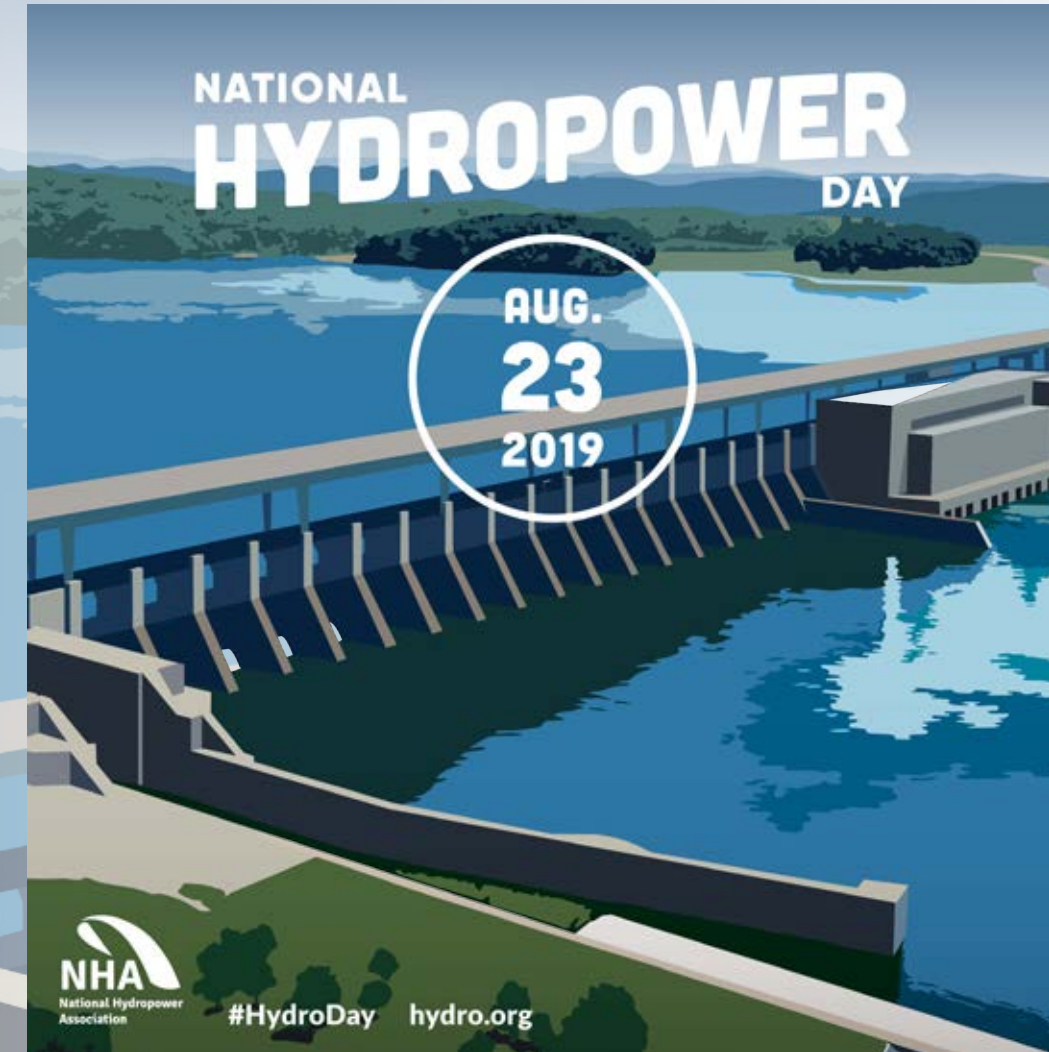
At the top of the list, our 2019 Waterpower Week in Washington, the nation's premier hydropower policy event, brought in hundreds of members of the hydropower and marine energy industry. The Conference was co-located with International Marine Renewable Energy Conference (IMREC).

NHA's regional meetings program continues to be an essential part of the hydropower industry's calendar every year. In 2019, we held meetings in California, Alaska, South Carolina, Massachusetts, and Minnesota, with panels on issues ranging from water quality standards to relicensing.

Attendance at our meetings continues to break records year over year. Our California Regional Meeting once again became the most attended meeting in history with 184 attendees.

Are you interested in attending a regional event? Go to Hydro.org for more information.

Attendees at NHA's 2019 Waterpower Week in Washington.



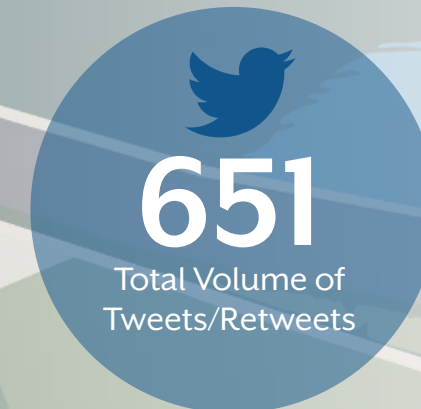
SPEAKING WITH ONE VOICE

As an industry, it is critical that we work together to amplify hydropower's message. To generate support and increase industry engagement, NHA established National Hydropower Day (NHD) in 2019 to recognize hydropower's undeniable contributions to America's clean energy infrastructure.

All told, over 11 million impressions were generated on Twitter, Facebook and LinkedIn with over 100 companies, organizations and individuals participating. NHD generated support from Members of Congress and government agencies and officials.

NHD, however, was more than just a social media event. Hydropower generators throughout the country leveraged the day to foster earned media. Some issued press releases, published letters to the editor, and held media availabilities with local tv outlets.

Speaking with one voice, the industry demonstrated its ability to elevate hydropower's message.



2019 NEW MEMBERS

Barr Engineering Co.
 BioBlend
 Centralia City Light
 Columbia Industrial Products
 Current Hydro LLC
 Day & Zimmermann
 ElectroMechanical Engineering Solutions
 French Development Enterprises, LLC
 Frisbee, Keith
 Gannett Fleming
 GZA GeoEnvironmental, Inc.
 Helios Altas Corp.
 Hunton Andrews Kurth LLP
 Hydroland Inc.
 Inter-Fluve, Inc.
 Juneau Hydropower Inc.
 INNOVASEA
 L3 Technologies - Ocean Server
 LeHigh University
 LEF Engineering, PLLC
 UBC Millwrights
 National Electric Coil
 New Summit
 Niles
 Renewable Risk Advisers
 RTI
 Scott Bridge
 Small Hydro Consulting
 St. Anthony Falls Lab, University
 Stone and Webster
 Structured Communications
 Thompson Construction
 Tiger Utilities
 US Floating Solar, LLC
 Wells Engineering
 Wisconsin Valley Improvement Company



2020 NHA LEADERSHIP

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Past Chair: Alvin Thoma, *Pacific Gas and Electric*

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 WASHINGTON, D.C. • MAY 19-21, 2020

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Plan to Attend
**2020
 NHA
 CONFERENCES**



#ICOE2020
 ICOE2020.ORG

WASHINGTON, D.C.
**19-21 May
 2020**
 U.S.A

**ENERGIZING A
 POWERFUL
 BLUE ECONOMY**

2020 NHA MEETINGS

NHA Conferences

2020 Waterpower Week in Washington | May 19–21

2020 International Conference on Ocean Energy | May 19–21

2020 NHA Regional Meetings

SE Regional Meeting | February 25–26 | Charlotte, NC

NE Regional Meeting | March 31–April 1 | Niagara, NY

AK Regional Meeting | August 24 | Anchorage, AK

NW Regional Meeting | November 4–5 | Eugene, OR
Co-located with Northwest Hydroelectric Association

CA Regional Meeting | December 2–3 | Rosemead, CA

2020 NHA Hydraulic Power Committee (HPC)

Mid-October | St. Louis, MO

Co-located with Midwest Hydro Users Group



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Hydro.org