Available
• Only 3 percent of the 80,000 dams in the U.S. generate electricity.
• The Department of Energy estimates that over 12,000 MW of capacity could be added to the nation’s non-powered dams.
• Over 60,000 MW of new hydropower projects are in the FERC regulatory pipeline.
• Hydropower currently supports over 300,000 American jobs annually and over 2,500 supply chain companies from coast to coast. Continued growth supports those companies and could add 1.4 million new jobs.

Reliable
• Hydropower capacity totals 100,000 MW in the U.S. and generates two-thirds of the nation’s renewable generation.
• Hydropower provides over 30 million American homes with affordable power each year.
• A flexible resource, hydropower is well-suited to meet changing electricity demands.
• Pumped storage hydropower provides a reliable solution for energy storage and grid integration of variable renewable resources like wind and solar.

Affordable
• Compared to all other sources of electricity, hydropower has the lowest cost per kilowatt hour.
• States that get the majority of their electricity from hydropower, like Idaho, Washington, and Oregon, on average have energy bills that are lower than the rest of the country.
• Relying only on the power of moving water, hydropower prices are not dependent on unpredictable changes in fuel costs.

Sustainable
• Hydro avoids up to 225 million tons of CO₂ emissions annually—that’s like taking 42 million cars off the road!
• Satellite imagery shows that the Pacific Northwest, home to the most hydropower in United States, is an island of low carbon emissions.
• Hundreds of millions of dollars are invested each year in environmental enhancements at hydro facilities.
• Industry is constantly innovating and investing in research and development to improve fish passage and ensure greater water quality with enhanced technology.
Letter from the President and Executive Director

The National Hydropower Association has dedicated itself to strengthening and growing the hydropower industry for the 30 years it has served as the industry advocate in Washington, D.C. That commitment was stronger than ever in 2012 as NHA marshaled the collective efforts of our industry to achieve key initiatives.

In 2012 NHA focused on bringing additional value to our members. From piloting an industry-wide operational event reporting system, to launching a multi-stakeholder initiative to expedite hydro licensing, from aggregating efforts to create the next generation hydropower workforce, to improving market recognition of hydro’s benefits, NHA is working for you!

It’s clear that hydropower will play a vital role in America’s clean energy future and NHA has continued to advance that vision. Expanding this available, reliable, affordable and sustainable resource will drive our economy, creating new jobs and additional renewable energy. To make that vision a reality, we have advanced hydropower bills through Congress and secured more favorable financial incentives for hydropower project development.

We invite you to explore NHA’s 2012 work on behalf of the hydropower industry, as described more fully in this report. We think you will be impressed!

These are exciting times for hydropower, and much work lies ahead in 2013. We know we can count on the continuing engagement of NHA’s members as we drive ahead to complete new supportive hydropower legislation, achieve regulatory improvements, raise hydropower’s profile, and promote operational excellence.

Sincerely,

David Moller
President

Linda Church Ciocci
Executive Director
Hydropower has a rich history in the United States that spans 130 years. From the first project on the Fox River in Wisconsin to new developments on the Ohio River, hydropower has served as America’s economic engine of growth. It powered our country through some of its most difficult times, including the Great Depression and World War II. Hydropower’s role is just as vital now as it was then. Its unique electric benefits, the flexibility it offers for grid stability and energy security are more important than ever.

Although there is room for hydropower to expand its contributions, it is already the United States’ largest source of renewable electricity, generating nearly twice as much power as all the other renewable resources combined. Once more, hydropower’s ability to operate as peak energy, baseload, or load-following resource sets it apart from its renewable brethren.

NHA believes a resource this large and unique must be preserved for the benefit of future generations. NHA has worked to ensure the industry has the tools it needs to keep hydropower on top as a reliable, affordable, and sustainable renewable energy resource. This is especially important as more than 20% of our existing hydropower resource awaits or will go through relicensing by the Federal Energy Regulatory Commission in the next 10 years. From engaging with regulators and advocating hydropower’s value, connecting the industry, and promoting the operating performance of the existing hydropower fleet, NHA continues to support and promote hydropower’s present contributions.

Over the last few years, NHA has worked with industry members to identify the key challenges before it. Hydropower licensing remains a continuing concern among NHA members, whether relicensing or building new projects. As such, NHA has brought together a broad group of stakeholders to consider policy improvements to address the regulatory challenges our existing fleet, and new development, faces. The Hydropower Policy Review Working Group first met in Fall of 2012—comprised of NHA, hydropower industry representatives, American Rivers, Trout Unlimited, The Nature Conservancy, Union of Concerned Scientists, the American Council on Renewable Energy, the Theodore Roosevelt Conservation Partnership, Third Way, and the American Action Forum—are working together through with the common belief that America needs more low-carbon energy. The goal is to achieve common sense reforms that allow for an expedited process while preserving and building on habitat and water resource protection.

The regulatory challenge is only one of the major concerns voiced by NHA members over this past year. Securing market value for hydropower, its storage capabilities, and its ancillary services is another prime issue. NHA recognizes that policy makers at the federal and state level need to better understand the full suite of benefits that hydropower offers, including creating a more reliable electricity grid. They also need to understand how state and federal policy can negatively affect hydropower’s value and the critical role it plays in balancing the system. To educate and build regional approaches, NHA launched a Markets Initiative in summer 2012 to bring industry members together and discuss potential solutions grounded in regional differences and regional needs.

Through our committees and these special initiatives, NHA has launched a new era for the hydropower industry. Our policy work is important, but the opportunities to share experiences and unite the industry are equally valuable. This year, NHA continued to provide our membership of nearly 200 companies opportunities to bring its collective knowledge and experience to bear on the entire industry through an ever-diverse program of meetings and innovative tools that facilitate information sharing. By offering these opportunities, NHA seeks to constantly raise the industry’s standard of performance, raise hydropower’s profile, and provide an invaluable opportunity to learn from one another whether new to hydropower or with decades of experience.
standard of performance, raise hydropower’s profile among state and federal energy discussions, and provide an invaluable opportunity to learn from one another whether new to hydropower or with decades of experience.

From DC to Green Bay, Sitka to Charleston, Chattanooga to Boise, NHA held meetings in all corners of the country in 2012, connecting over a thousand industry members with policy makers, regulators, business leaders and each other. With a record average attendance of nearly 100 at each of the four programs offered in 2012, the regional meetings program brought tremendous value by uniting industry to focus on specific regional issues and learn more about how Washington and the policies under consideration will affect their operations. Our Annual Conference was one of the largest gatherings of NHA members to date, with the highest number of first-time attendees and non-member companies in attendance.

As always, the Hydraulic Power Committee brought together hydropower owners and operators to discuss the latest from the front lines of hydropower generation. This annual gathering of nearly 100 operators facilitates the sharing of invaluable operation and maintenance solutions, resulting in reduced liability and cost savings across the industry.

NHA is committed to bringing more opportunities for industry to learn from one another and promote the highest standards. Throughout 2012, NHA significantly advanced the Operational Excellence Initiative begun last year which is composed of industry members and charged with identifying the resources needed to achieve a high level of operational excellence at hydropower facilities. To this end, NHA developed and launched a pilot Event Reporting system to provide the industry a forum with which to share information on significant operations, maintenance, and environmental events through a central database. This information exchange will lead to valuable lessons learned and the development of best practices.

"NHA members met in Charleston, WV, for the Southeast Regional Meeting in October, hosted by Brookfield Renewable Energy Partners."
Hydropower provides tremendous benefits to our nation’s electricity portfolio and has the potential to contribute even more as our nation grapples with its energy challenges. Over 60,000 MW could be developed in the next 15 years with the right policies in place. All while creating over a million cumulative new jobs in the United States. This growth and job creation potential makes hydropower very attractive to policymakers because it moves our nation toward cleaner energy choices and expanded economic growth—major goals for the newly re-elected administration.

The U.S. hydropower industry is a vibrant, growing part of the American energy economy. That’s why NHA has been working to improve the regulatory and financial environments for new hydropower development through sustained outreach to key policymakers and opinion leaders in Washington.

This year, NHA released the first-ever U.S. Hydropower Supply Chain Snapshot. The fully interactive online map demonstrates that our industry supports a thriving domestic supply chain that benefits regions and communities across the country.

The U.S. Hydropower Supply Chain Snapshot features more than 2,500 companies in the non-federal hydro supply chain. Those companies include small, medium and large firms, and range from project developers to construction companies; architecture and engineering firms to electricians; and component manufacturers to biologists.

That message was heard loud and clear.

To make our growth goals a reality, NHA advanced legislation to make common sense improvements to the federal hydropower regulatory process for small, conduit, incremental, and pumped storage technologies. The Hydropower Regulatory Efficiency Act of 2012, introduced by Representatives Cathy McMorris Rodgers (R-WA) and Diana DeGette (D-CO), passed the House of Representatives unanimously in July following swift committee consideration. It was the only energy legislation of the 112th Congress to receive wide-ranging support and move so quickly.

The politics of hydropower are clearly changing. The groundwork NHA has laid over the last several years through stakeholder engagement and aggressive

The Snapshot clearly shows that smart, targeted federal policies to incentivize investment have paid dividends around the country. And it shows what’s at risk if Congress fails to provide a stable, predictable policy environment for hydropower moving forward.
outreach offers new opportunities for bipartisan policies to promote the preservation and growth of our industry.

Amplifying the industry’s call for these legislative improvements became a top priority for NHA. NHA aided industry members and congressional champions in placing opinion pieces in key state and D.C. publications, including POLITICO, The Denver Post, and The Oregon Register-Guard, calling on the Senate to send hydropower legislation approved by the House to President Obama’s desk by the end of the year.

Though the Senate’s focus in the final months of 2012 was centered on the nation’s fiscal challenges and it was unable to take up the regulatory bill, NHA’s work was successful in raising the profile of hydropower as a bipartisan energy solution. Recognizing the strong industry and stakeholder support behind these measures, incoming Senate Energy Chairman Ron Wyden (D-OR) vowed to work with Ranking Member Lisa Murkowski (R-AK) to move hydropower regulatory changes in the 113th Congress.

In addition to regulatory improvements, strong financial incentives play an important role in the decision making process of developers across the country.

### NHA has been working to improve the regulatory and financial environments for new hydropower development.

In fact, dozens of projects and nearly $500 million worth of investments were put at risk by the uncertainty over extension of the production and investment tax credits. NHA brought together renewable energy technologies and other base-load and dispatchable energy technologies including biomass, geothermal, and waste-to-energy to advocate for changes in the qualifications for these key renewable energy incentives.

Through meetings with key Hill offices and increased media outreach in the heat of summer, NHA was able to secure language in the Senate Finance Committee’s tax extenders bill modifying the qualifications for the PTC/ITC to a “start construction” deadline from a “placed-in-service” deadline, which would allow additional time for hydropower projects to qualify.

NHA’s hard work was met with success in the waning hours of 2012 as lawmakers wrestled with the impending “fiscal cliff”. When Senate leaders took control over negotiations, the PTC/ITC modification was included in the final bill passed on New Year’s Eve.

With financial incentives secure for another year and groundwork laid for action on hydropower legislation in the 113th Congress, the hydropower industry is certainly in a stronger position to expand America’s top renewable resource in the years to come.

### 2012 Regulatory and Legal Milestones

**JANUARY**
- NHA files first round of comments on Reclamation draft Lease of Power Privilege (LOPP) requirements.
- NHA files comments on FERC proposed rulemaking on annual charges.

**FEBRUARY**
- Supreme Court rules unanimously in favor of PPL Montana in riverbed rent case for hydropower projects in which NHA filed an amicus brief.
- NHA comments on petition to list Alewife and Blueback Herring under the Endangered Species Act.
- NHA urges ARPA-E to include hydropower technologies as part of their funding opportunity announcement.
- NHA files comments with Bonneville Power Administration on wind curtailment and Oversupply Protocol.

**MARCH**
- NHA advocates for inclusion of hydropower in Army RFP for large scale renewable energy production for federal installations.
- NHA files comments with FWS on the oversupply protocol.

**JUNE**
- NHA files second round of LOPP comments.

**JULY**
- NHA files comments with FWS on their proposal to create incentives for voluntary conservation actions.

**SEPTEMBER**
- NHA files amicus brief in Supreme Court Clean Water Act case, NRDC v. County of Los Angeles.
- NHA files comments with FERC on ancillary services NOPR
- Reclamation issues final Lease of Power Privilege requirements.

**OCTOBER**
- NHA files comments on FWS/NMFS proposed rule on earlier access to scientific and economic analyses supporting critical habitat designation.
Hydropower Growth Potential by 2025

- Efficiency Improvement, 8,900 MW
- Non-Powered Dams, 10,000 MW
- Greenfield Sites, 1,000 MW
- Hydrokinetics, 2,000 MW
- Ocean Current, 750 MW
- Wave, 9,000 MW
- Tidal, 4,000 MW
- Pumped Storage, 24,000 MW
- Issued Preliminary Permits, 52,651 MW
- Pending Preliminary Permits, 6,532 MW
- Pending Licenses and Exemptions, 3,030 MW

FERC Pipeline

- New Projects Filed
- New Licenses, Exemptions, & Capacity Amendments Issued
- New Projects Placed in Service

HydroVision International
July 18-20
Louisville, KY

Sustainable Energy Coalition Congressional Renewable Energy Expo
June 21
Washington, DC

NHA Annual Conference
April 16-18
Washington, DC

NHA Southeast Regional Meeting
September 12-13
Charleston, WV

Hydraulic Power Committee Fall Meeting
October 1-3
Chattanooga, TN

NWHA/NHA Northwest Regional Meeting
October 17-18
Boise, ID

NHA Alaska Regional Meeting
August 21-23
Sitka, AK

NHA / HUG Midwest Regional Meeting
May 15-16
Green Bay, WI

Hydrosociaiton Coalition Congressional Renewable Energy Expo
June 21
Washington, DC

Federal Investments in Hydropower

Rural Energy for America Program (USDA)

Advanced Hydropower Development (DOE)

Section 1603 Grants

Production Tax Credit

Issued Preliminary Permits, 52,651 MW

HydroVision International
July 18-20
Louisville, KY

Sustainable Energy Coalition Congressional Renewable Energy Expo
June 21
Washington, DC

NHA Annual Conference
April 16-18
Washington, DC

NHA Southeast Regional Meeting
September 12-13
Charleston, WV

Hydraulic Power Committee Fall Meeting
October 1-3
Chattanooga, TN

NHA Alaska Regional Meeting
August 21-23
Sitka, AK

NHA / HUG Midwest Regional Meeting
May 15-16
Green Bay, WI

HydroVision International
July 18-20
Louisville, KY
Hydropower Growth Potential by 2025

- Efficiency Improvement, 8,900 MW
- Non-Powered Dams, 10,000 MW
- Tidal, 4,000 MW
- Greenfield Sites, 1,000 MW
- Hydrokinetics, 2,000 MW
- Ocean Current, 750 MW
- Wave, 9,000 MW
- Pumped Storage, 24,000 MW

Pending Preliminary Permits, 6,532 MW
Pending Licenses and Exemptions, 3,030 MW

Federal Investments in Hydropower

Hydropower Activity At FERC

By the Numbers
In 2013, NHA celebrates 30 years as the industry’s advocate in Washington. That role is even more important as over 100 new members of Congress come to Capitol Hill and new faces join the Obama administration for its second term. We look forward to engaging with policymakers to discuss hydropower’s growth potential and the industry’s pursuit of the highest level of operational excellence.

Though the Senate ran out of time to address hydropower regulatory improvements last year, there is every indication that energy leaders on the Hill wish to move quickly to enact them in the 113th Congress. NHA will be there pushing for those changes and looks forward to partnering with our member companies to demonstrate the need within the industry for these changes.

Going even further, NHA will continue to foster relationships with outside groups that can be partners in our goals to strengthen our industry. We’ve already begun working with the NGO community and D.C. think tanks to reach consensus on solutions designed to reduce the costs and delays in new project development and relicensing of existing projects. We’ve already successfully developed solutions to promote development at Army Corps facilities. And through our inaugural Finance Summit, we hope to garner increased investor interest in hydropower project development.

Involving industry members every step of the way in each of these initiatives will be key to NHA’s success. Over the next year, we will remain committed to promoting the hydropower industry and we hope that you will join us in this endeavor.

Welcome New Members

Applegate Group Inc.
BCS Incorporated
Cadwalader Wickersham & Taft
Chugach Electric Association
City of Aspen, CO
City of King Cove, AK
EDF Renewable Energy
Environmental Resources Management
General Electric
GRACON Corporation
Granite State Hydroelectric Association
Hoosier Energy REC, Inc.
Idaho Power Company
Lignum Vitae North American LLC
Marrone Bio
NAES
Versalence

Awards

Outstanding Stewards of America’s Waters 2012
New York Power Authority
PPL Montana
Tacoma Power

Henwood Award
Mark Garner

Past Presidents’ Scholarship
Kaitlyn Martin, a Colorado School of Mines student pursuing a degree in Mechanical Engineering
Executive Committee

President
David Moller, Pacific Gas & Electric

Vice President
Cherise Oram, Stoel Rives LLP

Treasurer
Eric Van Deuren, Mead & Hunt, Inc.

Secretary
Suzanne Grassell, Chelan County PUD

Executive Director
Linda Church Ciocci

Board of Directors

John Barnes, Exelon Power
William Bunker, Pacific Gas & Electric
Jane Cirrincione, Northern California Power Agency
John Claybrook, Alstom
Wayne Dyok, Alaska Energy Authority
Kevin Frank, Voith Hydro
Marc Gerken, AMP
Kirby Gilbert, MWH
Carol Goolsby, Duke Energy
Lisa Grow, Idaho Power
Jeanne Hilsinger, Mavel
Rick Miller, HDR (Past President)
Andrew Munro, Grant County PUD (Past President)
R.M. Singletary, Santee Cooper
Mark Stover, Hydro Green Energy
John Suloway, New York Power Authority
Steve Wenke, Avista
James Hancock, Balch & Bingham LLP

Staff

Jeffrey A. Leahey, Esq., Director of Government Affairs
Diane C. Lear, Director of Member Services
David Zayas, Esq., Manager of Regulatory Affairs
Matthew Nocella, Assistant Manager of Strategic Communications
Kimberly Costner, Executive Assistant
Luciana Ciocci, Staff Assistant
Upcoming Events in 2013

NHA will have no shortage of opportunities to continue uniting the industry across the country in 2013. Take a look at the upcoming events, meetings, and conferences coming up:

**NHA Annual Conference**
April 22–24, Washington, DC

**NHA Midwest Regional Meeting with MHUG**
May 15–16, Wisconsin Dells, WI

**Hydro Finance Summit**
June 3, New York, NY

**Hydraulic Power Committee Fall Retreat**
September 9–11, Spokane, WA

**NHA Alaska Regional Meeting**
September 26–27, Girdwood, AK

**NHA Northeast Regional Meeting**
October 2–3, Northampton, MA

Visit hydro.org/events for the most up-to-date information.