

## **NHA Public Affairs Packet**



NHA Board Meeting, July 26, 2010

## Table of Contents

This packet contains NHA press releases as well as a representative sampling of articles related to conventional hydropower, pumped storage, and hydrokinetic technologies that have appeared in the press since the last board meeting. NHA press releases appear first followed by articles in chronological order.

### NHA Press Releases

NHA Statement Applauding New FERC Tools for Small Hydro Development

America's hydropower industry converges on Washington to stake a claim for country's largest renewable energy source

NHA Recognizes Three Hydropower Projects for Outstanding Stewardship

NHA Announces 2010 Past Presidents' Legacy Scholarship Program Winner

NHA Presents Henwood Award to American Hydro's Selim Chacour

NHA Names Sen. Patty Murray Legislator of the Year

NHA Applauds Launch of Holtwood Expansion

NHA Reacts to Kerry-Lieberman Proposal

NHA Statement on the Hydropower Improvement Act of 2010

NHA Members Call for Immediate Action on Hydropower

### News Articles

Apr. 9	Providence Journal, RI (Pages 1-2)	Small Hydro	
Apr. 11	Covington Reporter, WA (Pg. 3-4)	Conventional	NHA Member Cited
Apr. 11	The News Tribune, WA (Pg. 5-7)	Conventional	NHA Member Cited
Apr. 26	Roll Call, DC (Pg. 8-9)	All	NHA Members Cited
May 5	The Daily Sentinel, OH (Pg. 10)	Conventional	NHA/Member Cited
May	HydroWorld (Pg. 11-15)	All	NHA/Members Cited
May 3	PennEnergy (Pg. 16)	Conventional	NHA Member Cited
May 6	Renewable Energy World (Pg. 17)	Conventional	
May 25	The Seattle Times, WA (Pg. 18-20)	Conventional	NHA Member Cited
May 26	The Washington Examiner, DC (Pg. 21-22)	Tidal/Wave	
May 27	The Nature Conservancy (Pg. 23-25)	Conventional	
May 27	Green Energy News (Pg. 26-27)	Tidal	
May 30	NOLA.com, LA (Pg. 28-29)	Hydrokinetics	NHA Member Cited
Jun. 10	59 WVNS, WV (Pg. 30-32)	Small/Conv	NHA Members Cited
June	N. American Clean Energy, CA (Pg. 33-34)	All	NHA Cited

Jun. 22	HydroWorld (Pg. 35-37)	Conventional	NHA Members Cited
Jun. 25	PennEnergy (Pg. 38-39)	All	
Jun. 30	The Republic, IN (Pg. 40-41)	Conventional	NHA Member Cited
Jul. 2	BrighterEnergy.org (Pg. 42)	Conventional	NHA Member Cited
Jul. 7	PennEnergy (Pg. 43)	All	NHA Member Cited
Jul. 12	Bangor Daily News, ME (Pg. 44-45)	Tidal	
Jul. 13	Wall Street Journal (Pg. 46-51)	Conventional	
Jul. 14	Energy & Environment Daily (Pg. 52-53)	All	NHA Cited
Jul. 14	BrighterEnergy.org (Pg. 54-55)	All	NHA Cited



# STATEMENT

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## For Immediate Release

### NHA Statement Applauding New FERC Tools for Small Hydro Development

Washington, D.C. (April 20, 2010) – The following is a statement by NHA Executive Director Linda Church Ciocci in response to the Federal Energy Regulatory Commission's (FERC) recent announcement that it is taking administrative steps to aid small hydropower project developers:

"The National Hydropower Association applauds FERC's recent announcement committing to greater outreach to developers and introducing new web-based enhancements designed to ease the small hydro licensing process. We thank FERC for listening to the industry's comments at the Small Hydro workshop in December 2009 and acting on our input so quickly.

"While this action is a good first step in improving the process – and we commend FERC's leadership – NHA also urges the Commission to continue its efforts on small hydropower, especially with regard to regulatory issues not addressed through the recent announcement.

"NHA stands ready to work with the Commission, other agencies, and stakeholders to implement an even more effective process for small hydro projects. As FERC Chairman Jon Wellinghoff notes, small hydropower has an important role to play in this country's energy future. We look forward to supporting future actions by the Commission to help break down regulatory barriers and ensure responsible development of small hydropower resources in an efficient manner."



# PRESS RELEASE

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## For Immediate Release

### America's hydropower industry converges on Washington to stake a claim for country's largest renewable energy source

*Gathering focuses on job creation, new technologies and hydropower's place in a clean economy*

Washington, D.C. (April 26, 2010) -- With the Senate poised to introduce sweeping climate and energy legislation, the National Hydropower Association kicked off an expanded annual conference showcasing the next generation of sustainable American hydropower and its unique role in a clean energy future.

Hydropower already provides more than two-thirds of renewable generation in the United States and 7% of the country's electricity overall. The industry this week will unveil the policy agenda that will allow the U.S. to double hydropower generation and create hundreds of thousands of American jobs. Highest on the list: enacting a strong renewable electricity standard that includes pumped storage technology, tax credit parity with other renewables, and a revamped and simplified regulatory approval process.

"We're here to mark a new era of American hydropower," **NHA President Andrew Munro** emphasized as the conference opened. "The shift to a low-emission economy cannot happen without hydropower. The future of our industry has never looked so promising."

NHA members range in size from Fortune 500 companies to family-owned small businesses, including both public and investor-owned utilities, independent power producers, developers, manufacturers, environmental and engineering consultants, and attorneys from across the United States and Canada.

**NHA Executive Director Linda Church Ciocci** noted the unique potential of hydropower among clean energy sources. "No other source of energy offers the complete package like hydropower. It's renewable, reliable, affordable, and poised to grow in environmentally-friendly ways. Simply by adding power generation to existing dams, we have the ability to transform the way our country is powered and revitalize local economies in every state."

NHA will also release a new study this week from **Navigant Consulting, Inc.**, on the job-creation potential of hydropower under a "weak" and "strong" national Renewable Electricity Standard. The study found that:

- Over 1.4 million cumulative direct, indirect and induced jobs can be created in the hydropower sector if the federal government enacts a 25% by 2025 RES;
- About half of these jobs would be in supporting industries like transportation, electrical services, and related segments of the economy; and
- The study also underscores the importance of pumped storage to hydropower industry job creation, while pointing to the need for federal policies that encourage private investment and greater deployment of the technology.

The hydropower industry has been energized by several recent supportive moves from the Obama Administration. In March, Energy Secretary Steven Chu, Interior Secretary Ken Salazar and Assistant Secretary of the Army Jo-Ellen Darcy signed a Memorandum of Understanding to increase hydropower generation at federal facilities. This is a major step forward for the federal government, the largest owner of hydropower in the United States.

NHA's annual conference will feature presentations from government and industry leaders including:

- **Under Secretary of Energy Dr. Kristina M. Johnson**, Department of Energy
- **Senator Patty Murray (D-WA)**, the recipient of NHA's annual Legislator of the Year Award
- **Deputy Assistant Secretary of the Army Terrence C. "Rock" Salt**, Department of Defense
- **Deputy Assistant Secretary for Water and Science John Tubbs**, Department of the Interior

"Hydropower companies want to create new jobs, and we're ready to go, but we need real, national policy commitments and the market certainty they bring," **NHA President Munro** reiterated. "Hydropower puts people to work, reduces carbon emissions, balances supply and demand for our nation's electricity grid and has a proven track record of keeping energy bills low. This is common sense."

More information on NHA's annual conference is available at [www.nationalhydroconference.com](http://www.nationalhydroconference.com).

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## For Immediate Release

### **NHA Recognizes Three Hydropower Projects for Outstanding Stewardship** *OSAW Awards Highlight Exceptional Achievements in Hydro Industry*

Washington, D.C. (April 26, 2010) -- The National Hydropower Association today honored the exceptional programs and practices of three hydropower organizations today through its annual Outstanding Stewards of America's Waters (OSAW) Awards. The winners -- American Municipal Power, Chelan County Public Utility District #1, and New York Power Authority, -- have established important, collaborative projects that serve as models for the hydro industry.

"The OSAW awards recognize the industry's most innovative approaches to fulfilling its obligations as stewards of our rivers and natural resources," said NHA Executive Director Linda Church Ciocci. "NHA recognized this year's winners for creating innovative solutions to significant challenges and tested approaches that will raise the entire industry's performance, as well as fulfilling their legal and regulatory commitments."

NHA conferred two awards in the category of Recreational, Environmental, and Historical Enhancement this year:

- **Chelan County Public Utility District #1** won for the design and implementation of the Chelan River Habitat Restoration and Enhancement Project in Washington. In relicensing the Lake Chelan Hydro Project, Chelan had the opportunity to add and improve fish habitat. Working with many stakeholders, Chelan restored year-round flow in the Chelan River of 80 cubic feet per second, while also adding about four acres of spawning habitat for salmon and steelhead in the lower reach and tailrace. Visit <http://www.chelanpud.org/> for more details.
- **New York Power Authority** won for a Common Tern Habitat Improvement Project at its Niagara Power Project in New York State. Because the endangered common tern has very few suitable habitats for nesting, NYPA created two state-of-the-art gravel nesting beds that offer 3,400 square feet of improved habitat. Installed in the spring of 2009, the project has already achieved impressive results, supporting 550 new nests and more than 1,000 fledgling chicks in the first season alone. Visit <http://www.nypa.gov/news.html> for more details.

NHA also conferred one award in the Operational Excellence category this year:

- **American Municipal Power** won for Safety Excellence at its Belleville Hydroelectric Plant/OMEGA JV5 in Belleville, West Virginia. Thanks to the program, AMP has completed more than 150,000 person-hours without a lost-time injury or reported incident over the last 10 years. This safety record is especially notable as the employees created their safety program from scratch and no employees had previous hydro experience. As AMP expands its hydro assets, they have plans to implement their safety program in other facilities. Visit <http://ampppartners.org/> for more details.

NHA's selection panel, which includes representatives from across the industry and media interests, determined the OSAW Award winners based on their project or program's initial challenge, innovation, collaboration with stakeholders, and results. The panel judges every project by its own merits.

NHA presented the awards today at the association's annual conference in Washington, D.C.

For more details on the 2010 OSAW winners, see [www.outstandingwaters.org](http://www.outstandingwaters.org).

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## For Immediate Release

### **NHA Announces 2010 Past Presidents' Legacy Scholarship Program Winner** *Namratha Gudemaranahalli of Morgantown, WV, is the 2010 recipient*

Washington, D.C. (April 27, 2010) -- The National Hydropower Association is pleased to announce that it has awarded Namratha Gudemaranahalli of Morgantown, West Virginia, its prestigious Past Presidents' Legacy Scholarship for 2010.

NHA established the Past Presidents' Legacy Scholarship in 2008 to contribute to the next generation of industry leaders by helping them complete their degrees. Through donations from NHA's previous presidents and other contributors, the scholarship will serve as a legacy for the hydropower industry.

"Through this scholarship, NHA's leadership is helping to build a bridge to the next generation of hydropower innovators," said NHA Executive Director Linda Church Ciocci. "The scholarship also helps the hydropower industry ensure that the country will have a pool of strong, qualified engineers and scientists to help address the needs of the 21<sup>st</sup> century."

Gudemaranahalli is working toward a Bachelor's Degree in Biology at West Virginia University in Morgantown. In applying for the scholarship, she stated that she hopes to pursue a graduate degree, studying the effects of greenhouse-gas emissions on the environment and analyzing ways to use renewable resources like hydropower to minimize environmental impacts.

"Namratha's interest in building the country's clean-energy future is one that we in the hydropower industry share," said Church Ciocci. "This work addresses some of our country's most critical energy, economic, and environmental priorities."

To qualify for the Past President's Legacy Scholarship, applicants must be full-time juniors, seniors, or grad students with a 3.0 grade-point average at an accredited college, or have the equivalent average at an accredited vocational technical school. All applicants must be U.S. citizens and legal residents.

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## For Immediate Release

### **NHA Presents Henwood Award to American Hydro's Selim Chacour** *Award honors Chacour's dedication, innovation, and contribution to hydro industry*

Washington, D.C. (April 27, 2010) – The National Hydropower Association is pleased to announce that it has presented Selim Chacour, president of American Hydro Corporation, with the prestigious Dr. Kenneth Henwood Award for individual achievement.

"Selim Chacour has made significant contributions to the hydropower industry during his more-than 40-year career, not only by pioneering computer technology for hydro turbine designs, but also through his executive leadership at Allis-Chalmers and American Hydro," said Linda Church Ciocchi, NHA's executive director. "Chacour's talents have contributed to the entire industry through his ingenuity to provide hydroelectric operators options for using new turbines that increase plant efficiency."

A licensed professional engineer who received his engineering degree from Cairo University, Chacour has dedicated his career to the design of thousands of hydropower turbines and managing hydropower manufacturing facilities. Chacour was the principle founder of American Hydro and has led it from a small entrepreneurial enterprise to one of the industry's leading turbine manufacturers, employing 130 people. Last year Chacour was elected to the prestigious U.S. National Academy of Engineering.

"We were pleased to select Selim Chacour for this award," said Leslie Eden, a NHA past president and Henwood selection committee chair. "His work – from advancing turbine design to fostering a successful manufacturing company – embodies the dedication and forward-thinking that will help this industry meet the challenge of doubling its energy contribution in the next 20 years."

The Dr. Kenneth Henwood Award is the hydropower industry's most prestigious individual achievement award. NHA established the award in 1990 in memory of Kenneth Henwood, an NHA board member, engineer, and developer who died while working on a project in California. Henwood winners must show persistence in the face of institutional obstacles, exhibit fair dealing and plain speaking, and depict an appreciation of the relationships between project engineering, the environment, and economics.

"In honoring Selim Chacour with the Henwood award, the selection committee is recognizing an unsung hero of the hydropower industry. In fact, his engineering accomplishments will benefit not just the industry, but the millions of Americans who count on clean, affordable hydropower," said Church Ciocchi. "On behalf of NHA and the entire industry, I'd like to congratulate Selim Chacour on this award and thank him for his contributions."



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## For Immediate Release

### NHA Names Sen. Patty Murray Legislator of the Year

*Murray is a champion of hydro's energy, environmental, and economic benefits*

Washington, D.C. (April 27, 2010) -- The National Hydropower Association is pleased to announce that Sen. Patty Murray (D-WA) is its 2009 Legislator of the Year. The senior senator from Washington, Sen. Murray is the Senate Majority Conference Secretary. She serves on the Appropriations Subcommittee on Energy and Water Development, as well as several other committees.

"Sen. Murray is a great champion for hydropower and for America's energy future," said NHA Executive Director Linda Church Ciocci. "She is a visionary leader, especially on issues that help foster a broad portfolio of renewable energy resources."

Church Ciocci noted that Sen. Murray has supported programs that help spur the development of new hydropower resources through tax incentives and R&D initiatives. She has also been a guiding force behind efforts to ensure that the United States remains a global energy leader by encouraging both innovation and education throughout the energy sector.

"Sen. Patty Murray has been a tireless supporter of affordable, renewable hydropower since she came to the U.S. Senate," said NHA President Andrew Munro, Director of External Affairs for Grant County (WA) Public Utility District. "She is an effective leader for hydropower because she clearly understands the economic and clean-energy benefits that affordable hydropower provides her home state of Washington and the nation."

Munro noted that Senator Murray has long advocated for common-sense energy policy, that recognizes hydropower's important role. "As a strong advocate for working families, she understands that hydropower provides family-supporting jobs -- and can create more -- while also substantially increasing our domestic renewable energy supply. It is my great pleasure to see a fellow Washingtonian receive this national honor."

Munro and Church Ciocci presented Murray with the legislator of the year award today at NHA's annual conference in Washington, D.C.

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## For Immediate Release

### **NHA Applauds Launch of Holtwood Expansion**

*Project will create 200 jobs and more than double the plant's clean-energy generation*

Washington, D.C. (May 12, 2010) – The following is a statement from National Hydropower Association Executive Director Linda Church Ciocchi on the launch of PPL Generation's Holtwood expansion project.

"We are pleased to congratulate PPL on the start of the expansion project at Holtwood. This project will more than double the generating capacity of a major clean, renewable hydropower resource for Pennsylvania, while creating more than 200 family-supporting jobs and reducing the facility's environmental impact.

"Bringing benefits like this to communities around the country is what the U.S. hydropower industry does best. Hydropower is a proven, reliable clean energy resource for meeting our energy, economic, and environmental priorities.

"Holtwood also demonstrates just how critical the right policies are for fostering the development of clean energy resources. PPL had withdrawn its application for this project because of the economic uncertainty following the economic downturn in the fall of 2008. But after Congress extended production and investment tax credits for hydropower projects, the company was able to reassess the business case for the project, revive their plans and move forward.

"NHA applauds PPL's vision for moving forward with the Holtwood expansion. Through projects like this, our industry will be able to double its clean-energy generation and create millions of new jobs in the next two decades."

*Holtwood is a 108-megawatt hydroelectric plant on the Susquehanna River in Lancaster County, Pennsylvania, owned and operated by PPL Generation. The expansion will add 125 megawatts of hydroelectric generating capacity and improve the plant's fish passage facility, enabling more migratory fish to reach traditional spawning areas upstream along the Susquehanna and its tributaries.*



# STATEMENT

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## For Immediate Release

### **NHA Reacts to Kerry-Lieberman Proposal**

#### *Legislation advances the debate on the nation's energy policy*

Washington, D.C. (May 12, 2010) – The following is a statement from National Hydropower Association Executive Director Linda Church Ciocchi on the release of draft climate legislation by Senator John Kerry (D-MA) and Sen. Joe Lieberman (I-CT):

“Today’s introduction of climate legislation by Senators Kerry and Lieberman advances the debate on the nation’s energy policy. With the right policies, America can move closer to a secure energy future where millions of new jobs are created by renewable, domestic energy resources, such as hydropower.

“Accounting for two-thirds of the country’s current renewable electricity generation, hydropower must continue to play a central role in creating a clean energy economy. As the process moves forward, it is essential that any comprehensive energy legislation includes a strong renewable electricity standard coupled with important hydropower tax incentives and other measures that support project development and bring more clean energy, jobs, and environmental benefits to all Americans.

“The U.S. hydropower industry generates clean, reliable, affordable, and domestic energy for millions of American homes and businesses. NHA stands ready to work with policymakers and stakeholders to ensure that hydropower’s contributions grow and American consumers continue to enjoy its benefits for generations to come.”



# STATEMENT

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## For Immediate Release

### **NHA Statement on the Hydropower Improvement Act of 2010**

#### *Bipartisan bill supports clean, reliable, domestic hydropower development*

Washington, D.C. (July 13, 2010) – The following is a statement from National Hydropower Association Executive Director Linda Church Ciocci responding to the bipartisan introduction the Hydropower Improvement Act of 2010 by Senator Lisa Murkowski (R-AK), and original co-sponsors Senator Patty Murray (D-WA), Mike Crapo (R-ID), and Senator Maria Cantwell (D-WA).

"The National Hydropower Association congratulates Senators Murkowski, Murray, Crapo, and Cantwell on the introduction the Hydropower Improvement Act of 2010. They show great vision in turning to hydropower to provide clean, reliable, domestic energy generation, while also creating jobs in every state in the country – in fact, the measure will help create 1.4 million cumulative jobs nationwide over the next 15 years.

"The strong bipartisan support for this bill also highlights hydropower's broad appeal as means of addressing our country's energy, economic, and environmental needs. As legislators craft energy and environmental policy, hydropower is the proven, reliable, domestic energy resource that serves all Americans.

"The bill includes provisions that will help make existing hydro resources more efficient, convert existing dams to energy-generating resources, and support small conduit technologies, as well as pumped-storage project development, all while furthering environmental protection. This approach focuses on new technologies and new approaches, not necessarily new dams.

"The bill also looks to the future, by providing for federal research and development and worker-training programs. This will ensure that, as a country, we can continue to bring new waterpower technologies to market, and that we'll have the pool of skilled workers needed to expand hydropower's benefits.

"NHA hopes that this bill also spurs additional consideration of hydropower in energy and climate policymaking. For example, Congress must provide continued long-term incentives for project development to create the stable investment environment developers need to expand America's hydropower resources.

"NHA strongly supports this effort to maximize hydropower's contribution in meeting the country's energy, environmental and economic goals. We salute Sen. Murkowski and the bill's co-sponsors for their work and stand ready to work with Congress, the White House, and other stakeholders to ensure that hydropower is supported in any energy and/or climate bill that moves forward."

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## For Immediate Release

### **NHA Members Call for Immediate Action on Hydropower**

#### *Energy legislation needed supporting America's largest domestic renewable electricity resource*

Washington, D.C. (July 19, 2010) – More than two dozen members of the National Hydropower Association today urged Congress to put hydropower to work for America by pursuing policies that will serve the country's energy, economic, and environmental priorities. Companies from every part of the nation signed a letter calling for immediate congressional action on policies to expand the deployment of clean, reliable, readily available hydropower resources.

"Untapped hydropower generation, primarily from existing facilities and new pumped storage opportunities, has the potential to create 1.4 million American jobs and support the doubling of U.S. renewable energy resources," said NHA President Andrew Munro of Grant (WA) Public Utility District. "This year has marked many opportunities for the hydropower industry from the adoption of a federal memorandum of understanding on increasing hydropower development at federal facilities to the recent introduction of the bipartisan Hydropower Improvement Act of 2010. Development of sustainable hydropower resources must be a priority in energy legislation."

An NHA study released earlier this year showed that hydropower, already the largest source of renewable electricity in the United States, has the potential to add 60,000 megawatts of capacity in the next 15 years alone, with an industry goal to double. In doing that, hydropower companies would help spur the creation of 1.4 million cumulative jobs throughout every state.

"When you look at those statistics, especially the potential for job-creation and local economic opportunities, you realize what an engine for growth hydropower can be," said NHA Executive Director Linda Church Ciocci. "However, policy matters and the hydropower industry is calling on Congress to extend and expand hydropower incentives, adopt clean energy policies that recognize hydropower's contributions, speed job creation benefits through better coordinated development processes for minimal-impact projects, and increase federal funding for waterpower R&D."

Today's letter emphasizes the important role hydropower plays in NHA member company portfolios. "Hydropower has been a critical source of renewable energy for Pacific Gas & Electric Company as part of a diverse portfolio of low-carbon sources of energy. We support legislation that helps expand the use of hydropower in an environmentally responsible way," said NHA Vice President David Moller of PG&E.

A copy of the letter NHA sent to Congress today is available at [www.hydro.org](http://www.hydro.org).

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## [Projo 7 to 7 News Blog](#)

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### **State awards stimulus funds for clean energy**

4:44 PM Fri, Apr 09, 2010 | [Permalink](#)

Alex Kuffner

PROVIDENCE, R.I. -- The state has conditionally awarded \$3.3 million in federal stimulus grants to [45 businesses, municipalities, nonprofits and private individuals](#) for the installation of wind turbines, solar panels and other small- to medium-scale renewable energy systems.

Governor Carcieri and the state Office of Energy Resources announced the awards on Friday. The grants, which range from about \$2,000 for individuals to \$750,000 for public organizations, will fund up to 25 percent of a project's cost and are conditional on the recipients meeting all local, state and federal permitting requirements and relevant environmental regulations.

The \$3.3 million in grants are part of a total \$8.3 million that the state received from the American Recovery and Reinvestment Act to support clean energy projects. The award of the remaining \$5 million in grants will follow at a later date. A third round of funding may be made available upon completion of the second round.

"The level and quality of proposals exceeded expectations, and I am heartened that in these difficult times Rhode Islanders thought creatively and sought to pursue green energy opportunities," Carcieri said in a statement. "Supporting the use of renewable energy on the residential, commercial and government levels is a worthwhile investment. These projects will result in good jobs and allow our residents and businesses to make long-term investments that will reduce energy costs and save money."

The two largest grants of \$750,000 each went to the Narragansett Bay Commission, which operates wastewater treatment plants in Providence and East Providence, and the Washington County Regional Planning Council, which represents nine communities in the southern part of the state.

The Bay commission is planning to install three turbines ranging in size from 600 kilowatts to 1.6 megawatts that will offset the use of electricity at the Fields Point Wastewater Treatment Facility, in Providence. In comparison, the turbine at Portsmouth Abbey, the state's first, is 660 kilowatts while the turbine at Portsmouth High School is 1.5 megawatts.

The regional planning council will use the money for a massive 2-megawatt solar photovoltaic array that is being planned in Westerly. The \$10.5-million project would cover 12.3 acres on the town's capped landfill. It would be the largest system of solar panels in the state by far. The



current largest is a 175-kilowatt array on the roof of the headquarters of United Natural Foods in Providence.

"If you don't reach big, you won't accomplish anything," Jeff Broadhead, executive director of the nonprofit planning council, said.

The project in Westerly is one of 17 solar energy proposals that the council is working on in addition to several wind energy projects, according to Broadhead. The council is developing sources of clean energy for its member towns at the same time that it is trying to reduce energy use through a plan to improve energy efficiency at 146 public buildings across the county.

Toray Plastics, a manufacturer with a facility in North Kingstown, was the only large commercial project to receive funding. It will use a \$500,000 grant to build a 375-kilowatt photovoltaic system as part of an overall clean energy plan that also includes a proposal for a 225-kilowatt wind turbine.

The factory is the largest single user of electricity in the state and Shigeru Osada, senior vice president for engineering and maintenance, said the company will do all it can to reduce energy costs. The solar system would provide a fraction of the facility's energy needs, but, said Osada, it is still worth building.

"It's small, but savings are savings," he said. "In this case, the price stability is guaranteed even though it's a small portion."

Trinity Restoration, which is developing a performing arts charter school in South Providence, was given \$239,500 to build a photovoltaic system that it has described as a "solar wing canopy."

One unusual project to receive funding was a hydropower system that will be built in the West Warwick Wastewater Treatment Plant. The 6-kilowatt system will be powered by the flow of effluent water through a culvert inside the facility itself. It will be the first system of its kind in the state, according to Haluk Durudogan, founder of Integrity Energy Systems, a consultant on the project.

Durudogan is also working with the Hodges Badge Co., which was awarded \$156,250 for the installation of a 225-kilowatt wind turbine at its Portsmouth plant. He said that with stimulus money flowing, the time is right to invest in renewable energy in Rhode Island.

"There's no reason to wait," he said. "We're blessed with good wind and we're blessed with good hydro. And, in some places, good solar, too."

Under the state's clean energy grant program, private citizens could apply for a maximum of \$10,000 to pay for up to a quarter of the cost of a project. Businesses were allowed to apply for up to \$500,000 and municipalities or institutions that serve or house 1,000 or more people were eligible to apply for as much as \$750,000.

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## Hydropower the key to Washington's future | Don Brunell

By [DON BRUNELL](#)

**Covington Reporter Columnist**

Apr 11 2010

Ever since the generators at the Grand Coulee dam started spinning in 1942, low-cost hydropower has been the key to our economic strength and way of life.

During World War II, its abundance enriched uranium at Hanford produced aluminum for Boeing's bombers, built Navy vessels at Kaiser's shipyard in Vancouver and provided plenty of affordable heat and light for our homes, schools and hospitals.

That low-cost water power comes from the Columbia-Snake River System. While dams present a challenge to salmon runs — many of which have been successfully addressed — hydropower is a clean, affordable, renewable energy source that produces no carbon dioxide.

It has been a key reason Boeing, pulp mills, refineries and other manufacturers flourish here, creating family-wage jobs for generations. And its low-cost, reliable electricity is vital to keeping cutting-edge semiconductor manufacturers like WaferTech in Camas and solar manufacturers such as REC in Moses Lake — all of which have huge electricity requirements.

More recently, "greenhouse gas-free" hydropower was the primary incentive cited by German manufacturers SGL and BMW in their decision to locate a \$100 million carbon fiber plant in Moses Lake. Lightweight carbon fibers — one-tenth the size of a human hair — are stronger than steel and lighter than aluminum but, like both metals, require enormous amounts of electricity to produce.

Carbon fiber is the perfect material to build battery-powered cars, such as BMW's Megacity electric car set to debut in 2015. Just as carbon composites are the basic component in the next generation of airplanes, they are rapidly becoming the preferred material for future cars.

Why would those German companies ship raw materials 5,000 miles from Japan to Moses Lake to process into fibers and then send them another 5,000 miles to Germany to be fabricated into car parts? It is because low-cost electricity is available in Grant County from Wanapum and Priest Rapids dams on the mid-Columbia River. That's how important affordable energy is in today's global marketplace.

In announcing the Moses Lake project, BMW's chief financial officer, Dr. Friedrich Eichiner, told business leaders, "The energy demand from producing carbon fiber will come from environmentally friendly hydropower."

If hydropower is environmentally friendly, why isn't it considered renewable energy in our state? Dam opponents who drafted I-937 a few years ago intentionally omitted electricity produced at dams from the types of energy utilities could use to meet their renewable energy requirements. Even today, legislators still rebuff attempts to include hydropower as a renewable energy source under the law. Why?

Why do those who want to remove the four lower Snake River dams wrongly claim the lost power can be replaced by wind and solar? Where will they find another "greenhouse gas-free" source of electricity that is equivalent to lighting Portland?

Why are they intensifying their efforts to further restrict the generating capacity of the Columbia River from the Chief Joseph Dam to the ocean?

Executives with SGL and BMW could clearly see the advantages of Washington's hydropower from Germany 5,000 miles away, but our own legislators cannot. Perhaps, they need an additional shove from the governor who stood with those CEOs at the Seattle press conference on April 6.

A healthy economy runs on abundant, affordable energy. To succeed, we will need a diverse and reliable supply of electricity, including hydro, wind, solar, nuclear, clean coal and natural gas plants.

Washington must be in a position to attract employers like SGL and BMW and keep companies like Boeing, Longview Fibre and WaferTech. In a state where the cost of doing business is high, a reliable supply of affordable energy is the key to our future.

*Don Brunell is the president of the Association of Washington Business. Formed in 1904, the Association of Washington Business is Washington's oldest and largest statewide business association, and includes more than 6,900 members representing 650,000 employees.*

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## **Cheap power can be magnet for industries**

BILL VIRGIN; contributing writer

Last updated: April 11th, 2010 08:56 AM (PDT)

In the economic development game, states constantly add to their portfolios of incentives to try to find a competitive advantage.

But if the comparative advantage is something that has been around for at least half a century, that'll work too.

Moses Lake in Eastern Washington has a comparative advantage in electricity that's cheap and plentiful.

With that electricity, Moses Lake has just landed a \$100 million plant that will make carbon fibers for new cars.

German automaker BMW and composites producer SGL Group are the ones fronting the project. BMW/SGL also are taking advantage of available developable land, some tax incentives and training programs and a streamlined permitting process to get to groundbreaking as soon as June.

But electricity was the key factor that brought the consortium to Moses Lake, instead of Japan (where the raw material for the fiber is made), or Germany, where the fiber will be woven into fabric and then made into car parts and components.

Specifically, cheap Moses Lake hydropower got the officials of BMW and SGL so excited about "renewable, clean" energy that they mentioned it at a press conference in Seattle on Tuesday about the venture.

That the Columbia River hydropower system should provide the base for entire industries is a familiar story to people in the Northwest. Grand Coulee's development as a power-and-irrigation project made Central and Eastern Washington's huge agricultural industry possible. Cheap electricity also created the Northwest's aluminum industry.

Agriculture still thrives, aluminum still survives in a much-diminished form, but the hydropower system, often neglected unless the conversation turns to salmon, is still paying dividends in new industries. Cheap power and some tax breaks are drawing huge server farms to towns such as Quincy and Wenatchee, for example.

The composites industry is becoming an important business in its own right after years of getting attention only in connection with other sectors.

Composite materials, and their strength and weight attributes, are an important element of the Boeing 787 story. They're also showing up in boat-building and alternative-energy projects such as wind turbines. More applications are coming, such as the use of carbon fibers to reinforce concrete and cement.

Washington has a growing list of companies with expertise in making composite materials and products from them, including such local representatives as Toray Composites (America) Inc. at Frederickson, Strategic Composites Inc. in Pacific and Composite Solutions Corp. in Auburn.

Robert Koehler, SGL's chief executive officer, explained why two German companies find themselves building a plant in Eastern Washington. His remarks must have gladdened the hearts of those politicians who have heard more than a few complaints about Washington's competitiveness.

"I'm a little bit peeved that we couldn't invest in Germany," said Koehler, whose company operates multiple manufacturing sites in the U.S. and Canada.

"Why is this? It's infrastructure, it's hydropower, it's competitive electricity costs which we can't do in Germany. I have been accusing the German politicians left, right and center that they're missing out on a future technology."

BMW and SGL officials are optimistic that the Moses Lake plant will grow from the starting point of 80 jobs (not counting the 150 to 200 construction jobs). They're not making any promises about whether their investment will lead to other companies in the composites business moving in. All of the fiber production from the Moses Lake plant is committed to BMW.

But the mere announcement will cause others to at least add Washington to the list, and being added to the list means more companies will figure out there is a composites sector to become a part of in this state.

If they, too, are coming for cheap electricity, what will they find?

Grant County's public utility district owns and operates two Columbia River dams (Priest Rapids and Wanapum). It's just one of the many power companies, municipal utilities and investor-owned power companies that control all or a significant portion of their electricity supply, and whose portfolios include low-cost hydropower. Those companies will be key to landing those economic-development projects for which power costs are a top consideration.

That could set up some interesting debates over how to allocate the power. Meanwhile, the region's historic advantage in power costs could be eroded in the drive to add more expensive alternatives including wind and solar.

The BMW/SGL Group plant is a high-profile win for a state that is still smarting over Boeing's decision to locate the second 787 final-assembly line in South Carolina rather than Everett. If economic-development officials and planners are interested in seeing more wins like

BMW/SGL, they'll get to work on a recruitment strategy for the composites sector on par with what's being done for aerospace, clean energy and life sciences.

They'll also make sure that the venerable hydropower system that made the BMW/SGL win possible continues to be as renewable, sustainable and affordable as the electricity that system now produces.

Bill Virgin's column on business and economics appears Sunday in The News Tribune. He is editor and publisher of Washington Manufacturing Alert and Pacific Northwest Rail News. He can be reached at [bill.virgin@yahoo.com](mailto:bill.virgin@yahoo.com).

Read more: <http://www.thenewstribune.com/2010/04/11/v-printerfriendly/1143588/cheap-power-can-be-magnet-for.html#ixzz0tVdRptIx>

## Garner & Culbertson: No Clean Energy Future Without Hydro

April 26, 2010, 12:55 p.m.

By Mark Garner and Tim Culbertson

Special to Roll Call

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As the Senate prepares to debate climate and energy legislation in earnest, it's very clear what our priority must be: passing a bill that's effective at creating jobs and reducing emissions. An ideal policy would tap into new energy technologies and renewable sources like wind and solar, while also exploring new, sustainable ways to develop more traditional sources.



But there's one largely overlooked solution, a major generator of clean energy that was dubbed "America's best kept secret" by Energy Secretary Steven Chu — hydropower.

Already responsible for more than 70 percent of all U.S. renewable energy generation, hydropower eclipses all other renewable sources, feeding electricity to 30 million homes. Hydropower is affordable, sustainable and, with the right policies, can double its capacity — providing affordable electricity for millions more Americans and creating millions of jobs. And because it uses the energy stored in our domestic freshwater supply, it's 100 percent renewable and doesn't depend on volatile commodity markets or the politics of foreign regimes.

Unfortunately, many Americans — particularly inside the Beltway — seem unaware of the promise of hydropower. The debate over our renewable energy future has focused largely on wind and solar — both of which must be part of the solution. But all along, hydropower has been the sleeping giant of renewable energy, quietly providing dependable, base load renewable electricity generation for countless communities and ensuring a reliable electric grid.

As representatives from both sides of the hydro economy, we know that its potential is real and immediate. We come from the perspective of a West Coast public utility that is in the midst of investing more than \$800 million to install more efficient hydropower turbine and generator technologies and a Pennsylvania-based manufacturer with more than 550 employees that has grown 27 percent and added 194 family-supporting jobs during a recession. We've seen this technology's ability to spur economic growth and provide utility-scale clean power in communities that need it. It's something that can be utilized across the U.S., and the time to embrace it is right now.

A recent study from independent firm Navigant Consulting Inc. found that investment and growth in the hydropower industry could create a cumulative 1.4 million jobs by 2025. These jobs would employ a range of skilled American workers in manufacturing, development, engineering, operations and maintenance — in particularly job-hungry places such as Ohio, Tennessee, Florida and Virginia.

And because many of these jobs will be located at existing hydropower facilities and non-powered sites that would be retrofitted to generate electricity, they will improve the economies of nearby communities without additional environmental impacts.

This potential is a central reason why the Obama administration has recently expanded its commitment to hydropower. In March, Energy Secretary Chu, Interior Secretary Ken Salazar and Assistant Secretary of the Army Jo-Ellen Darcy signed a memorandum of understanding to increase hydropower generation at federal facilities. They recognize the role this technology has to play. The question is, does Congress?

Past policies such as the Investment Tax Credit, Production Tax Credit and Clean Renewable Energy Bond program have gone a long way in supporting growth in hydropower. But it's time to take the next step and support hydro technologies that not only create jobs themselves, but are crucial to enabling other renewables to come to scale.

The most important of these is pumped storage, the only commercially viable form of utility-scale energy storage in existence. The recent explosive growth in wind power generation has created a need for large-scale energy storage, and pumped storage allows us to retain tens of thousands of unused megawatts of electricity, dispatching it at times of peak demand and "smoothing" availability from other sources of power. Energy Secretary Chu last September called pumped storage "astoundingly efficient" and noted the "massive amounts of energy" it stores. Indeed, this proven technology already represents 20 gigawatts of domestic energy capacity, with another 31 gigawatts in the approval pipeline now.

Supporting pumped storage and valuing it properly through national policies such as a strong Investment Tax Credit, transmission incentives and inclusion in a national Renewable Electricity Standard would let America deploy the most economical, most available and most effective solution to the power storage question hanging over our clean energy future. It's a problem we simply have to solve — and hydro is the answer.

Washington will be focused in the coming weeks on climate and energy legislation. At the end of the day, we absolutely must have a strong, smart policy that simultaneously deploys more renewable energy assets and ensures they're viable at scale. That policy also must not leave affordable megawatts or available jobs on the table. Hydro should be at the center of achieving all of those priorities.

The power of clean, moving water has already served the nation for generations. With the right signals from Washington, we are poised to continue turning water into good American jobs, continued economic growth, greater energy independence and a clean and sustainable future.

**Mark Garner is president and CEO of Voith Hydro, a group division of Voith and a producer of hydropower equipment. Tim Culbertson is the general manager of the Grant County Public Utility District in Washington state, the nation's second-largest generator of nonfederal hydroelectric power.**



# The Daily Sentinel

## Belleville hydro plant wins award

by Sentinel Staff

05.05.10 - 12:13 am



REEDSVILLE — The National Hydropower Association (NHA) recently honored the Ohio Municipal Energy Generating Agency Joint Venture 5 (OMEGA JV5) Belleville Hydroelectric Plant with an Outstanding Stewards of America's Waters (OSAW) award for operational excellence.

Linda Church Ciocci, NHA executive director, said "the OSAW awards recognize the industry's most innovative approaches to fulfilling its obligations as stewards of our rivers and natural resources. The award went to OMEGA JV5 and American Municipal Power (AMP), which serves as agent for the joint venture.

Belleville won for safety excellence. Since the day the plant began producing electricity in 1999, Belleville has never had a reportable or lost-time incident, covering a period of more than 150,000 man hours. The NHA noted Belleville's record "is especially notable as the employees created their safety program from scratch and no employees had previous hydro experience."

Further, the same six employees — Charles Bailey (Parkersburg, W.Va.), Anthony Belcher (Little Hocking), George Connolly (Syracuse), James Dinnen and Matthew Steele (Washington, W.Va.), and Matthew McDaniel (Portland) — have worked at Belleville from the first day of operation until now

"These six employees have done an outstanding job from day one on this project. They've exhibited great teamwork and safety awareness, and have helped the Belleville plant achieve an admirable operating history," said Marc Gerken, AMP president/CEO. "As the hydroelectric projects AMP is now developing become operational, the Belleville employee experience, safety program and forthcoming employee training program will be beneficial for those projects."

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## **Policy & Regulation: NHA Conference: Planning for Reform**

*Regulators tout "historic" MOU as the hydro industry makes plans to build on that momentum by calling for regulatory reforms and incentives for the most reliable form of renewable power.*

**By Russell Ray and Shaun Epperson**

Hydropower advocates meeting in Washington, D.C., for the National Hydropower Association's 2010 Conference said a "historic" agreement between three federal agencies will be a powerful tool in helping the industry reach its goal of doubling hydropower production in the U.S.

Hydropower can play a starring role in the nation's push toward a clean energy economy, said Department of Energy (DOE) Undersecretary Kristina Johnson, who delivered the keynote address during the conference's opening plenary session.

Johnson was one of several keynote speakers during the three-day event, which drew more than 500 attendees, an all-time high.

The NHA conference, held April 26-28, came after the U.S. Department of Interior (DOI), U.S. Army Corps of Engineers, and DOE signed a memorandum of understanding (MOU) to promote the development of hydropower, the largest and most reliable source of renewable power. Under the agreement, the agencies agreed to work more closely and align priorities to support the development of environmentally sustainable hydropower.

Johnson said she looks forward to seeing results from the recent MOU and that hydropower has plenty of room to expand its role in providing clean, renewable energy.

"We're quite excited to move forward on this," she said. "We're counting on hydropower to double, both in jobs and clean electrons on the grid."

The Corps is the nation's largest owner of hydropower. Terrence C. "Rock" Salt, is principal deputy assistant secretary of the Army, who provides policy oversight for the Corps. During his keynote speech, Salt said the potential to increase hydropower capacity in the U.S. is significant.

"I don't know what the right number is, but there's no reason why we can't achieve a huge lift in hydropower," Salt said.

The U.S. has about 100,000 MW of hydropower capacity. However, a study by Navigant Consulting Inc. shows that the technical potential is around 400,000 MW. What's more, up to 1.4 million jobs could be created by 2025 if the potential for new capacity is met, the study shows.

"One of the reasons this MOU is historic is because it's an action MOU," said John Tubbs, deputy assistant secretary of the DOI for water and science. "We need to achieve the goals the MOU set forth."

Roger Ballentine, president of Green Strategies Inc., an environmental policy consulting firm, said the MOU represents a genuine effort by the federal government to boost hydropower capacity in the U.S. Such an agreement would not have been possible five years ago, Ballentine said.

"The MOU is a remarkable achievement," he said. "I am just amazed about where we are today compared to where we were just a few years ago. It's extraordinary."

U.S. Energy Secretary Steven Chu, Ballentine said, is "completely committed to hydropower."

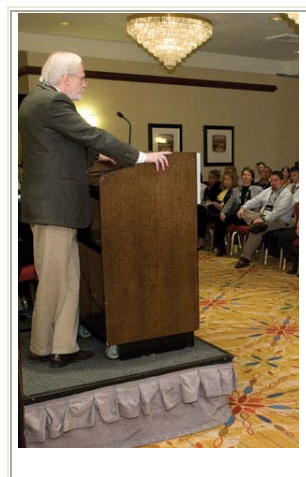
Lori Caramanian, counselor to the assistant secretary of water and science at DOI, said getting the heads of three federal agencies and their lawyers to agree to the provisions in the MOU was a titanic undertaking.

"That was no small chore," Caramanian said. "But we got it done and we're really excited about moving forward."

The potential to boost hydropower capacity at facilities owned and operated by the Bureau of Reclamation, an agency under DOI, is great, Caramanian said.

"We have over 500 dams. More importantly, we have thousands of miles of irrigation canals," she said. "Of those 500 dams, 58 of them have federal hydropower on them and 71 are private hydropower leases. So there's a lot we can do. We have irrigation canals that can be fitted with small turbines."

NHA President Andrew Munro said hydropower is a firm, dispatchable form of renewable energy that can grow with the help of regulatory and legislative reforms designed to speed up the licensing process and boost investors' confidence.



More than 500 people attended the National Hydropower Association's 2010 Conference in Washington, D.C., a record high.

"The opportunity is right now for the hydropower industry," Munro said. "Our benefits of clean power, job creation, and environmental quality line up perfectly with the priorities of our country."

The conference's opening day included a rally on Capitol Hill, which featured a visit from several key lawmakers and energy regulators.

FERC Commissioner Philip Moeller and U.S. Reps. Cathy McMorris Rodgers, R-Wash., Ed Markey, D-Mass., and Doc Hastings, R-Wash., were among those in attendance.



Energy Undersecretary Kristina Johnson (center) delivered the keynote address at the National Hydropower Association's 2010 Conference, saying hydropower should play a starring role in the U.S.'s national energy plan. Also pictured are NHA Executive Director Linda Church Ciocchi (right) and NHA President Andrew Munro (left).

"We have a huge opportunity," said Rodgers, a founding member of the House Hydropower Caucus. "There have been so many positive results, and we just want to continue the positive story of hydropower."

Markey said hydropower should be recognized as a renewable energy source that has helped to fuel the country's energy needs throughout the nation's history and that there is plenty of opportunity for hydropower to take a leading role in the nation's energy future.

"Hydro is back. Hydro is big," Markey said.



Selim Chacour, president and founder of American Hydro Corp., was the 2010 recipient of the National Hydropower Association's Henwood Award.

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### **NHA Presents Henwood Award to American Hydro's Selim Chacour**

Selim Chacour, founder and president of American Hydro Corp., received the Dr. Kenneth Henwood Award for individual achievement during the National Hydropower Association's 2010 Conference, held April 26-28 in Washington, D.C.

NHA established the Henwood Award in 1990 in memory of Kenneth Henwood, an NHA board member, engineer, and developer who died while working on a project in California.

Chacour is credited with revolutionizing the way runners were designed throughout the hydro turbine industry. American Hydro, founded in York, Penn., in 1986, specializes in the design and manufacture of high-performance hydro turbines and pumps and is now a leading supplier for the hydro industry.

"He was an innovator in developing and applying finite element methods to improving turbine designs," said Leslie Eden, chair of the Henwood Selection Committee. "Finite element methods are powerful tools for finding better solutions to the complex mathematical problems inherent in turbine design."

Chacour continued his groundbreaking work, developing a series of powerful computer codes related to the design of hydropower equipment.

"I have worked in five different countries, and there is not a single country in the world that would allow four young engineers to achieve their dream," Chacour said. "This is the only country in the world where we could have succeeded."

Other award winners were:

— U.S. Sen. Patty Murray, D-Wash. – NHA Legislator of the Year;

— Twenty-year-old Namratha Gudemaranahalli – NHA Past President's Scholarship Award;

— New York Power Authority – Outstanding Stewards of America's Waters (OSAW) Award for its Common Tern Habitat Improvement Project;

— Chelan County Public Utility District – OSAW Award for its Chelan River Habitat Restoration/Enhancement Project; and

— American Municipal Power – OSAW Award for its Safety Excellence Project at Belleville Dam.

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*Russell Ray and Shaun Epperson are associate editors of Hydro Review.*

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## Hydroelectric power plant to get more generating capacity

3 May 2010-- [PPL Generation](#) broke ground on a \$434 million expansion project at the almost 100-year-old, 108 MW Holtwood [hydroelectric](#) power plant in Pennsylvania that is expected to more than double its generating capacity.

The [Federal Energy Regulatory Commission](#) approved PPL's request in November 2009 to add 125 MW of generating capacity to the plant. FERC also extended the plant's operating license an additional 16 years until August 2030.

PPL had withdrawn plans for the uprate in 2008 because of the economic downturn, but the utility recently decided to go forth with plans because of available tax credits.

Preliminary construction work began in January and the upgrade is expected to be complete by 2013. A new hydroelectric powerhouse will be built on the site of a coal-fired power plant that was shut down in 1999.

Read more [hydroelectric power](#) news

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To access this Article, go to:

<http://www.pennenergy.com/pennenergy-2/en-us/index/power/renewable-generation/display.articles.powergenworldwide.renewables.hydro.2010.05.Hydroelectric-uprate.html>



May 6, 2010

## **Hydroelectric Projects Receive Low Impact Hydropower Certification**

Maine, United States [HydroWorld.com]

The Low Impact Hydropower Institute (LIHI) recently certified four hydropower projects as low impact.

The Low Impact Hydropower Institute is a non-profit organization dedicated to reducing the environmental impacts of hydropower generation through the certification of hydropower projects that have avoided or reduced their environmental impacts pursuant to the Low Impact Hydropower Institute's criteria.

The recently-certified projects are: Clark Fork Hydroelectric Project in Idaho and Montana; Arkansas River Dam No. 2 Hydroelectric Project in Arkansas; the Alternatives Hydroelectric Project on the Mumford River in Massachusetts; and the Penacook Upper Hydroelectric Project located on the Contoocook River in New Hampshire.

The Clark Fork project consists of the Cabinet Gorge development and the Noxon Rapids development. The projects are located on the Clark Fork River in Idaho and Montana, respectively.

With the exception of the Clark Fork project, which was certified for eight years, the remaining projects received five year certification.

For details about the recently-certified hydro projects and LIHI certification, visit [www.lowimpacthydro.org](http://www.lowimpacthydro.org).

The voluntary LIHI program is designed to help consumers identify environmentally sound, low-impact hydropower facilities. Certification under the program means the owner can market the project as a certified low-impact facility.

For more hydropower news and information, visit [HydroWorld.com](http://HydroWorld.com)

<http://www.renewableenergyworld.com/rea/news/article/2010/05/hydroelectric-projects-receive-low-impact-hydropower-certification>



Tuesday, May 25, 2010 - Page updated at 11:01 PM



SHANNON DININNY / AP

Members of the U.S. Army Corps of Engineers show stainless-steel drivers in the foreground that will steer more water to the power-generating turbine at Chief Joseph Dam.

## Upgrades will boost power output of Columbia dams

By SHANNON DININNY

The Associated Press

BRIDGEPORT, Douglas County — Workers are preparing to install a new 45-ton turbine at the second-largest hydropower-producing dam in the United States, part of a multiyear upgrade that will generate power for an additional 30,000 Northwest homes.

The \$120 million project at Chief Joseph Dam on the Columbia River is one of several planned around the country as the federal agencies that operate hydropower dams replace aging equipment and employ new technology to produce more power from the same amount of water.

In the Northwest, about one-third of the region's low-cost electricity comes from hydropower dams, many of which were built decades ago and require upgrades.

The region also is home to the largest power-producing dam in the country — Grand Coulee Dam — where work is wrapping up to replace 18 turbines. Ten new turbines are to be installed downstream at Chief Joseph Dam by 2014.

Chief Joseph Dam already supplies enough power for the city of Seattle. Between both dams, the new turbines will produce enough power for an additional 60,000 homes once they are fully operating.

These massive hydropower projects are key to integrating an increasing renewable energy supply, such as wind power, into the electric grid, said Mark Jones, manager of federal hydropower projects for the Bonneville Power Administration, the federal agency that sells electricity wholesale to public utilities in the region.

The frequent starts and stops of intermittent wind power can stress the electric grid, but hydropower can be dialed back to offset those stresses more easily than some other power sources, such as a nuclear or coal plant.

The 31 dams in the Columbia River system also offset carbon-dioxide emissions equivalent to 20 coal plants, Jones said.

BPA is evaluating smaller projects that could improve reliability and efficiency in the power supply. Electricity ratepayers fund all the projects.

"Most of what we spend money on is to just try to maintain the system for the next generation. By maintaining the aging infrastructure, investing in reliable upgrades, we continue to be able to produce reliable, low-cost power for the region," Jones said. "And everywhere we can, we try to gain new efficiencies."

Michael Garrity, Washington state conservation director for American Rivers, said upgrades like these can help create flexibility in how other Columbia River dams are operated to better protect fish and wildlife and still meet regional water demands. "That's particularly true in areas where you know the dams are going to be around a long time and there's no controversy about removing them. This certainly fits that case," he said.

However, Garrity said dam operators also should be moving toward a time when fish passage could be restored to the upper Columbia River.

There is no fish passage beyond Chief Joseph Dam.

BPA has been working with area American Indian tribes to improve fish passage and habitat throughout the region. Construction of a new fish hatchery for the Colville Confederated Tribes is expected to begin in the coming months.

The number of aging hydropower dams in the United States means an increasing need for new turbines to replace aging equipment, said Claude Lambert, vice president of Alstom Hydro North America, a Montreal-based company that produced the new turbine runner measuring 8 feet high and 16 feet in diameter.

"We foresee an increase in the coming years, but it will also depend on the economy of the country, whether there will be financing to do the projects," Lambert said.

The U.S. government manages more than 1,000 dams nationally between the Bureau of Reclamation and the Army Corps of Engineers.

In March, the Energy and Interior departments and Army Corps of Engineers signed a memorandum of understanding to focus on increasing energy generation at hydropower dams and explore opportunities for new developments.

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## **US commerce secretary: Indonesia has great potential for renewable energy production, use**

**By: TANALEE SMITH**  
**Associated Press**  
**05/26/10 7:30 AM EDT**

JAKARTA, INDONESIA — U.S. Commerce Secretary Gary Locke encouraged Indonesia on Wednesday to harness its sunshine, wind and sea for energy as he completed an Asian trade mission focused on selling clean energy technology.

Locke, who arrived from China a day earlier, said the developing nation has key resources to tap into and a growing population for which to provide more efficient energy.

"Indonesia has the potential to be one of the biggest users and producers of renewable energy," Locke told an American Chamber of Commerce luncheon. "Indonesia has tremendous potential to tap into hydropower, wind and solar resources."

He said those technologies were ideal for smaller-scale localized generation, important in a country spread out on 17,000 islands.

Indonesia, which has more active volcanoes than any other nation, is also thought to hold more than 40 percent of the world's geothermal energy potential. Locke said only 4 percent of that is being tapped.

"A stumbling block for not just Indonesia but for all countries is that we're so used to how we're supplying or getting our energy now," Locke said. "Making that shift is not easy for anybody."

Locke commended Indonesian leaders for the ambitious environmental goals they have set but suggested the private sector needed to be mobilized to tap into the resources and technology.

Indonesian President Susilo Bambang Yudhoyono has pledged to reduce greenhouse gas emissions 20 percent by 2020, and to more than double renewable energy production from 7 percent to 15 percent of total energy production by 2025.

"These are big, ambitious but very critically needed important steps," Locke said. "But it's only the beginning of what must be done. Even with these historic efforts, coal and other fossil fuels still provide the majority of our energy."

Two years ago, Indonesia had to withdraw from OPEC, the group of major oil exporting countries, because it was consuming all of its fuel and no longer exporting.

Locke said the cost of new technologies could often seem prohibitive, especially to developing countries, but said Indonesia had embraced clean energy and the reduction of greenhouse gasses.

"We cannot be so concerned about the initial cost," Locke said. "Ultimately, the cost will go down, the technology will improve and the benefit to the planet, and to our health, and to the quality of life of today's people and future generations is so critical."

Locke led a trade mission of 10 companies interested in providing clean energy technology to Indonesia. Coordinating Economic Minister Hatta Rajasa said Tuesday that the companies had expressed interest in investing in geothermal development and power plants on outer islands.

Experts say Indonesia is currently generating 1,200 megawatts of electricity from geothermal sources, just a small percentage of the 28,000 megawatts of estimated potential. Both the United States and the Philippines generate more.

Last month, Yudhoyono said that by 2025 he wants about 9,500 megawatts — about 5 percent of the nation's entire energy needs — to be provided through geothermal means.

Read more at the Washington Examiner: <http://www.washingtonexaminer.com/economy/us-commerce-secretary-indonesia-has-great-potential-for-renewable-energy-production-use-94909904.html#ixzz0tVgeFnA5>



## Heart-Healthy Bacon = Environmentally Sustainable Hydropower?

Written by [Jeff Opperman](#)

Published on May 27th, 2010



“I am for hydropower because I’m an environmentalist.”

So began the remarks of U.S. Secretary of Energy Steven Chu at a recent Washington meeting about hydropower that I attended. His eyes twinkled mischievously — surely knowing that, to many environmentalists, his statement would ring as true as simultaneous support for bacon and arterial health.

Here’s the tension in his statement: Despite the fact that hydropower is the largest current source of [renewable, low-carbon electricity](#), its development has exacted a [heavy toll on rivers and fish populations](#) and precipitated several of the most [bitter battles in the history of the environmental movement](#).

And while large-scale sources of renewable energy are desperately needed to reduce emissions of greenhouse gases, rivers in the United States — and worldwide — have been more fragmented and degraded [and lost more species than any other major habitat type](#).

The Washington meeting saw Secretary Chu, Secretary of the Interior Ken Salazar, and Assistant Secretary of the Army Jo-Ellen Darcy [sign an agreement](#) for their agencies to collaborate on increasing hydropower in the United States, with an emphasis on expanding energy production from existing dams.

Secretary Chu followed his opening salvo with an acknowledgment that environmental protection and hydropower are usually pitted as mutually exclusive objectives.

“But this is a false choice,” he added, going on to highlight a number of [technological advances that DOE has supported](#), such as the development of “fish-friendly turbines.”

When given a chance to speak at this meeting, I picked up on Secretary Chu’s concept of “false choices” and described the Conservancy’s strategy for moving beyond traditional conflicts between hydropower and environmental protection: **Expand the search for solutions to large geographic scales.**

What do I mean by this? Perhaps it’s easiest to illustrate by starting with a negative example:

- The development and operation of energy projects generally **addresses environmental protection at the scale of a single project**, such as an individual hydropower dam.
- At this scale, **balancing between environmental and energy benefits can quickly hit a zero-sum wall**: gains for the environment come at the expense of energy, and vice versa.
- **But at larger spatial scales**, such as an entire river basin, a much broader set of solutions becomes available and the possibilities for win-win solutions increase.

Want an example? On the [Penobscot River basin in Maine](#), a range of interests — including the Penobscot Indian Nation, state and federal agencies, and conservation organizations — have worked with a hydropower company in recent years to identify **possible solutions for both energy and ecosystem restoration at the scale of the entire river basin.**

The resulting plan features the removal of two dams on the main river and the addition of state-of-the-art fish passage facilities on a third dam. As a result, biologists predict that **migratory fish** — currently blocked by dams and restricted to the lowermost part of the river — **will have access to most of the river basin.**

Due to the vast increase in habitat, the biologists estimate that **the Penobscot’s populations of American shad will increase** from near zero currently to two million and **Atlantic salmon will increase** from 2,000 to 12,000. (See a feature article on the Penobscot in [The Nature Conservancy magazine’s summer 2010 issue](#), along with photos, a video and aerial tour).

And even though two dams will be removed, turbine additions and other changes at the remaining dams will result **in a slight net increase in energy generation from the Penobscot basin.** By moving beyond project-by-project debates, the various partners developed an alternative that will provide basin-scale benefits for both energy and the environment.

So can the United States expand hydropower while protecting — or even *restoring* — its rivers? Two elements of the agreement between the agencies suggest yes:

- First, the agreement emphasizes the expansion of hydropower by [adding powerhouses to dams that don't currently produce electricity](#) and through [capacity and efficiency upgrades at those that do](#). In other words, a great deal of additional hydropower can be brought to the grid without adding new dams.
- Second, the agreement calls for “basin-scale opportunity assessments” — in the simplest terms, searching for more outcomes like the Penobscot that make the most of our existing infrastructure and achieve innovative solutions at large geographic scales.

These concepts can go a long way toward **greatly improving the environmental sustainability of hydropower**.

The Conservancy has much to offer this effort, drawing on its tradition of [large-scale conservation planning](#) and [collaborating with water-management agencies](#), such as the Corps of Engineers, to restore river ecosystems. We look forward to working alongside these agencies to improve the sustainability of hydropower in the United States.

Just like individual pieces of bacon (delicious, yet high in artery-clogging cholesterol), individual dams will always be a mix of benefits (low-carbon electricity) and impacts (lost fisheries).

But if managed smartly, even bacon — in moderation, carefully selected and strategically [deployed as part of a broader mix](#) — can be part of a heart-healthy diet.

(OK, the metaphor is strained by the fact that some individual dams are like a 75-pound piece of bacon. But you get the picture.)

*(Image: Wilted spinach salad. Image credit: [HarlanH](#)/Flickr through a Creative Commons license.)*





May 27, 2010 – Vol.15 No.10

## **Verdant Power and the China Energy Conservation Environment Protection Group Sign MOU to Develop Tidal Energy Power Projects in China.**

The memorandum of understanding between the leading U.S. tidal power developer and a leading renewable energy company in China is the first of its kind between China and the U.S. involving marine and hydrokinetic power projects.

The MOU establishes tidal and river power devices as a new stream of U.S. exports to international markets. It will also spur economic development and job growth in the U.S. and build momentum for a domestic tidal energy market.

U.S. Department of Commerce Secretary Gary Locke, and U.S. Ambassador to China Jon Huntsman, were on hand to witness the signing. The MOU marked a stop on Secretary Locke's three-day clean energy trade mission in China. Secretary Locke traveled with several U.S. businesses to focus on opportunities for U.S. renewable energy technology developers in China's growing energy market.

"Marine kinetic hydropower is an energy resource that is greatly underused -- but which must play a greater role in the future if 'sustainable hydropower' is to be achieved," stated Ronald Smith, CEO of Verdant Power. "This historic signing is a significant first step for both countries in the collaborative development of this type of renewable energy."

The U.S. Department of Energy estimates that the undeveloped hydropower potential of the U.S. is more than 250,000 megawatts. China's Ministry of Water Resources and Electric Power estimates that the undeveloped hydropower potential of China is nearly double that of the U.S. at more than 475,000 megawatts.

Verdant Power is currently developing sustainable tidal power projects in the U.S. and Canada. In New York City's East River, the Roosevelt Island Tidal Energy (RITE) Project will be the first grid-connected project that will provide New York City and the metropolitan area with up to 500 megawatts of pollution-free electricity from a field of underwater MHK turbines.

The CECEP-Verdant Power MOU will provide a framework for the effective collaboration of siting and operating the aforementioned tidal and river power systems on an international scale.

China Energy Conservation Environment Protection Group ([www.cecic.cn](http://www.cecic.cn)), referred to as CECEP (formerly CECIC), was established in 1988 in response to the second oil crisis. Since its establishment, CECEP has been working to promote energy saving and environmental protection technology and projects. It is responsible for the investment of RMB 23 billion yuan in national

energy conservation capital construction projects, brings more than RMB 30 billion yuan local investment, and has accomplished more than 3,000 major projects. CECEP, the only national-level state owned enterprise, specializes and focuses in energy conservation and environmental protection in China.

Verdant Power, headquartered in New York City, designs and develops innovative solutions for harvesting the energy-generating capacity of flowing water resources. (5/26/10)



## New alliance seeks to spur growth of green businesses in New Orleans

Published: Sunday, May 30, 2010, 6:08 AM Updated: Friday, May 28, 2010, 7:04 PM

[Masako Hirsch, The Times-Picayune](#)

Greater New Orleans Inc. launched GreenN.O. last week, a collaborative effort to propel the growth of green business in New Orleans. Through GreenN.O., the nonprofit economic development agency plans to bring new investment, businesses and jobs to the area.

Michael Hecht, president and CEO of Greater New Orleans Inc., said interest in green business practices has been growing, especially since Hurricane Katrina.

Although the agency was aware of this trend, it had no quantitative data to support that New Orleans was moving in this direction. A recent study conducted by consultancy McKinsey & Co., however, found that up to 90,000 jobs could be created in Louisiana in sustainable industries, with many of the jobs likely to be in the New Orleans area.

"Once we had this analysis, we knew that we had a robust future sector that was going to be supported by the state," Hecht said.

Hecht said GreenN.O. will be modeled after the [Digital Media Alliance, which Greater New Orleans Inc. launched in 2008](#). The goal of the alliance was to bring together companies that were working in digital media. Through the Digital Media Alliance, Hecht said, companies were able to introduce new policies and products.

Hecht said he hopes GreenN.O. will operate in the same way, as a confederation of groups involved with sustainable economic development. Through peer-to-peer marketing, companies will be able to draw more green businesses to the area. GreenN.O. will also serve as a support network for businesses in the area.

"It's really social networking, I guess," Hecht said.

By green and sustainable business, the agency is referring to companies that are sensitive to their environment, Hecht said.

New Orleans has a special association with the environment, Hecht added, first with Hurricane Katrina and now with the Deepwater Horizon oil spill. New Orleans is the "environmental canary in the coal mine," he said.

"We are on some of the most dynamic geology in the world," he said. "Our very existence depends on our understanding of how to exist in harmony with the environment."

GreenN.O. will focus on four areas: water management and hydrology, sustainable building, coastal restoration and disaster mitigation -- all of which will be from an economic development perspective.

"I think by taking it in an economic development approach, we're helping to make it mainstream," Hecht said.

GreenN.O. has reached out to a wide range of sustainable businesses in the area, which have all supported the agency so far, Hecht said.

[One such company is Free Flow Power, a Massachusetts-based hydropower company whose goal is to generate clean renewable energy without harming the environment. Last year, the company started an office in New Orleans and began developing a hydrokinetics system for the Mississippi River Basin.](#)

Guidroz said Free Flow Power hopes to use GreenN.O. to develop its work force.

The first initiative for GreenN.O. will be a trial program called "Growing a Green Workforce," which will look at the development of green industries and the need for a strong workforce to support them. Through the program, GreenN.O. will partner with local universities to establish "green" curriculums, under which students will graduate with knowledge in sectors of sustainable industry.

"Louisiana has a lot of potential for sustainable business," said Jon Guidroz, director of project development for Free Flow Power. "There's a huge amount of industry that can easily make a transition."

Prisca Weems, the founder and principal of FutureProof, a sustainable design consultancy, said there has been tremendous growth of green business in the area since the company started in February 2005. There has also been more political support in the state for sustainable development.

"Hopefully GreenN.O. will help continue that trend," Weems said.

GreenN.O. will hold its first meeting for interested individuals and businesses June 3. Hecht said the meeting will give green businesses a chance to meet.

"It's our job to be the facilitators and the conveners," he said. "We do not necessarily want to be up front."

*Masako Hirsch can be reached at [mhirsch@timespicayune.com](mailto:mhirsch@timespicayune.com) or 504.826.3330.*



## Hydropower Moving Forward, Slowly

Posted Thursday, June 10, 2010 ; 06:00 AM | [View Comments](#) | [Post Comment](#)

**The number of hydropower projects licensed for construction in West Virginia has fallen.**

By Pam Kasey

[Email](#) | [Bio](#) | [Other Stories by Pam Kasey](#)

Looked at broadly, hydropower development in West Virginia might seem to have retreated during the past several years.

Existing generation remains at about 310 megawatts, while projects in planning have dropped from 275 megawatts to 261.

But behind the scenes, projects are changing hands and moving forward -- and a new type of project is proposed.

### Licensed, Not Yet Operating

The number of projects licensed for construction and operation by the Federal Energy Regulatory Commission has indeed fallen.

Four licensed projects totaling 130 megawatts in 2007 are now just two projects totaling 41 megawatts.

American Municipal Power of Columbus, Ohio, has a 35-MW project at Willow Island Lock & Dam in Pleasants County.

And Brookfield Renewable Power of Quebec plans to rehabilitate a century-old, 6-MW Glen Ferris generator in Fayette County that has been out of operation since 2003.

Licensees abandoned two projects: a 49.5-MW Pike Island L&D project at Ohio County and a 37-MW New Cumberland L&D project in Hancock County.

### Permitted Projects

The big change during the past three years is in the number and type of permitted projects.

A FERC preliminary permit gives developers three years to study a given site and offers them priority for licensure.

In 2007, only four West Virginia hydropower development projects were permitted, totaling 50 megawatts.

Now, 16 are permitted for a total of 159 megawatts.

Three of these, about 50 megawatts in total, are permitted to subsidiaries of Advanced Hydro Solutions of Fairlawn, Ohio: a 29-MW project at Tygart Dam in Taylor County, an 8- to 14-MW project at the R.D. Bailey Dam on the Wyoming-Mingo county line and a 13-MW project at the Jennings Randolph Dam in Mineral County.

For Tygart and Bailey, "We expect license applications toward the end of the first quarter next year, which would hopefully give us licenses by the first quarter of 2012," said AHS Vice President Clifford Phillips.

Construction could be complete by December 2013, Phillips said.

The Jennings project is further along.

AHS expects to open an operations center in Morgantown to service the two northern West Virginia projects and one in Pennsylvania and a satellite office in Mingo County.

Another permitted project is under study by Brookfield, which already operates the 102-MW Hawks Nest generation facility: a 12-MW Sutton Dam project in Braxton County.

Brookfield surrendered permits for the Opekiska and Hildebrand L&Ds south of Morgantown earlier this year because the projects did not appear to be economically viable, according to spokeswoman Julie Smith-Galvin.

Three projects are under study by separate entities.

AMP plans to submit a license application later this year for a 48-MW Robert C. Byrd L&D hydroelectric project, according to its FERC filings.

A 36-MW New Cumberland L&D project is newly permitted to Lock+TM Hydro Friends Fund XXX of Houston, Texas, following surrender by the city of New Martinsville of its license, and a 9-MW Morgantown L&D project is under permit to Morgantown Hydro of Logan, Utah.

And an intriguing new set of projects has been permitted in recent months: nine "hydrokinetic" generators to be installed near Ohio and Kanawha River dams by McGinnis, Inc. of South Point, Ohio.

Unlike conventional hydropower generators, these tiny projects -- just 0.35 megawatts each -- would consist of turbines suspended from anchored barges.

Two Additional Projects

Seeking a FERC permit for the Pike Island L&D site where the city of Orrville, Ohio, surrendered its license in February are competing applications for 45-to-50-MW projects filed in March by the city of Oberlin, Ohio, and by FFP Missouri 1 of Gloucester, Mass.

And outside FERC jurisdiction is the Tri-Cities Power Authority Bluestone Dam project in Summers County -- a project in the planning for almost two decades.

The project has been delayed once again, this time by safety upgrades to the dam, according to Cris Meadows, city manager of Tri-Cities member Hinton, and has been reduced from 24 to 14 megawatts.

TCPA is pursuing a development contract with AMP and does not expect to be under construction until after 2012, Meadows said.

"We're really positive this project's going to happen, and we're going to push for it as long as we're in office," he said.

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## North American Clean Energy

### [National Hydropower Association Drafts Legislation to Boost Hydro Development](#)

The National Hydropower Association is proposing draft legislation titled “Hydropower Renewable Energy and Jobs Act of 2010,” telling HydroWorld.com the bill is intended to significantly boost hydropower development and spur industry jobs growth.

“The purpose of the bill is to raise the profile of hydropower priorities and promote the resource's many benefits as action moves ahead in Congress on a potential energy and or climate bill,” Jeffrey Leahey, senior manager of government and legal affairs for NHA said in a HydroWorld.com interview.

The draft legislation contains energy policy and tax provisions designed to incentivize investment in hydropower, NHA reported. Increasing capacity at existing hydro projects, powering non-powered dams, exploring new development options in pumped-storage hydropower and hydrokinetic projects all are backed by the draft legislation.

A recent study by Navigant Consulting Inc. estimates the hydropower industry could add 60,000 megawatts of new capacity by 2025. Up to 700,000 jobs could be created by 2025 if the potential for new capacity is met, the study suggests.

Linda Church Ciocci, NHA executive director, stated: “NHA is working to bust the myth that the US hydropower potential is tapped out. The recent study by Navigant Consulting demonstrates that there is a significant growth opportunity for hydropower, particularly by maximizing existing infrastructure and pursuing pumped storage and new ocean, tidal and instream hydrokinetic technologies. This growth not only advances our nation's environmental and domestic energy security goals but will also support hundreds of thousands of good-paying, family-supporting jobs in the hydro sector over the next 15 years.

“However, in order to see this renewable energy developed and the jobs potential fully realized, policy matters. Enactment of the economic incentives and energy policy provisions contained in the bill is needed to ensure that hydropower competes on an equal footing with other renewable and clean energy resources in the marketplace for investment. NHA is calling on Congress to include these provisions as part of any potential energy and or climate bill that moves ahead this year.”

The NHA bill incorporates many policies already supported by NHA, as well as some new proposals, Leahey said.

Hydropower Renewable Energy and Jobs Act of 2010 would:

- Establish a national goal and policy of the United States to substantially increase the nation's capacity and generation of sustainable hydropower and to improve environmental quality, supporting over 1.4 million American green energy jobs.
- Extend and/or expand several key tax incentives for hydropower development (PTC, ITC,



CREBs, Section 1603 grants). The bill would also make some substantive changes to these programs (for example, PTC parity for hydropower and hydrokinetics, allow public power to utilize Section 1603; include energy storage technologies, including pumped storage, under the ITC and CREBs programs).

- Require a FERC rulemaking to institute a two-year licensing process for “minimal-impact” hydro projects, in particular development at existing dams, and closed-loop, off-river pumped storage.
- Require the Corps of Engineers and Bureau of Reclamation to evaluate their processes for improvements to support increased development at federal facilities.
- Support other hydro-related programs for R&D, loan guarantees and worker training, among others.

*This article was written by HydroWorld.com Online Editor Shaun Epperson.*

National Hydropower Association  
[www.hydro.org](http://www.hydro.org)



## **Portland General Electric wins Edison Award for hydro project fish passage work**

HOLLYWOOD, Fla., U.S. 6/22/10 (PennWell) --

The Edison Electric Institute has named Portland General Electric a 2010 Edison Award winner for its fish intake and bypass structure at Pelton Round Butte hydro project and dam. The announcement was made at EEI's Annual Convention and Expo in Florida.

Portland General Electric and Public Service Enterprise Group both were named winners of a domestic Edison Award, while British Columbia Transmission Corporation and Hydro-Quebec were honored as joint winners of the international Edison Award, EEI reported.

The Edison Award is presented annually by EEI and recognizes U.S. and international electric utilities for their innovation and role in advancing the industry. A panel of former electric company chief executives selected recipients of the 83rd annual award.

In an agreement with Confederated Tribes of the Warm Springs Reservation of Oregon, PGE in 2009 completed a fish intake and bypass project at its 465-MW Pelton Round Butte Hydroelectric Project dam. For the first time in 40 years, Chinook, sockeye and steelhead salmon will be able to complete their life cycles as the juvenile fish are passed downstream to the Deschutes River basin. PGE co-owns the facility with the tribes.

The project involves what is termed the Selective Water Withdrawal (SWW) Structure, a 273-foot-tall intake facility that attracts fish traveling downstream and provides safe passage for the salmon to be sorted and transferred. The SWW satisfies water quality requirements and reintroduces historical water temperature patterns of the lower Deschutes River, all while maintaining the hydroelectric facility's generating capacity. The SWW is the only known floating surface fish collection facility coupled with power generation in the world.

PGE collaborated with the Confederated Tribes of Warm Springs, and more than 22 local, state and federal agencies, environmental groups, engineering and consulting firms before completing the project.

"The effort by PGE to team up with so many parties and gain the support needed to move ahead with the project is almost as spectacular as the finished product itself," said EEI President Tom Kuhn. "The company's outstanding commitment to improving the salmon's habitat resonates not only with local communities, but with the power industry, which is paying close attention to this

great sustainability achievement via PGE's top-notch engineering."

Jim Piro, president and chief executive officer of PGE, said: "We couldn't have accomplished the project without the collaboration and commitment from the Warm Springs Tribes, our employees, federal and state resources agencies and our contractors. To be able to re-license the project for 50 years ensures that we will retain the long-term benefits of this renewable resource for our customers."

### **Public Service Enterprise Group**

PSEG was recognized by the judges for its bold and innovative growth strategy that is geared toward clean energy, energy efficiency and jobs. Specifically, the company focused on combating climate change and creating jobs through energy efficiency efforts, the development of renewable resources and developing clean central station energy, investing up to \$5 billion dollars in the process.

PSEG is investing in energy audits for thousands of homes and businesses in New Jersey, while also installing innovative energy-efficient and long-lasting streetlights. PSE&G, the company's New Jersey regulated gas and electric utility subsidiary, is installing solar panels on 200,000 utility poles and is constructing the two largest solar farms in the state on company property.

PSEG Power, PSEG's merchant generation subsidiary, is investing more than \$1.5 billion in clean central station power, including the most advanced pollution-control technologies for its New Jersey coal plants, while also expanding capacity and extending the life of its nuclear facilities.

An unregulated subsidiary, PSEG Solar Source is producing electricity at two large-scale solar farms in Florida and Ohio. PSEG is also exploring development of a 350-MW wind farm off the southern coast of New Jersey and has invested \$20 million in compressed-air energy storage. PSEG's collective efforts have created thousands of green jobs for the state of New Jersey.

### **British Columbia Transmission Corporation and Hydro-Quebec**

BCTC and Hydro-Quebec were selected for their joint submission, earning the two Canadian utilities the 83rd annual award.

In an effort to improve reliability, inspections and safety, Hydro-Quebec Research Institute (IREQ) developed LineScout Technology (LST), a robotic device able to inspect high-voltage transmission lines across long passages. IREQ worked extensively with BCTC to implement LST on BCTC's large water crossing transmission lines, some of which were built more than 30 years ago and pose unusual challenges during inspection.

The remote-controlled robot uses cameras to inspect line conditions and discover irregularities, while also employing a smart navigation system to pinpoint locations in need of attention. The LST is able to maneuver obstacles such as splices, hardware components and aviation warning markers. Unlike with conventional transmission line servicing, the robot can service the lines

while they are energized, saving precious company resources, reducing safety risks and downtime.

Hydro-Quebec generates, transmits and distributes electricity. Its sole shareholder is the Quebec government. It uses mainly renewable generating options, in particular hydropower, and supports the development of wind energy through purchases from independent power producers. It also conducts research in energy-related fields, such as energy efficiency.

For more hydropower news and information, [click here](#)

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## Hydro Research Foundation announces hydro fellowship awards

WASHINGTON, D.C., U.S. 6/25/10 (PennWell) --

The Hydro Research Foundation, Inc. has announced the selection of nine recipients of hydro fellowships. Each fellowship will be worth approximately \$94,000 to \$141,000 over the two- to three-year period of study.

The Hydro Fellowship Program is designed to stimulate new student research and academic interest in research and careers in conventional or pumped-storage hydropower. "These new fellows, representing a new generation of hydropower specialists, will provide for exciting new research for the industry," said HRF Executive Director Linda Church-Ciocci.

The fellowships are made possible by a \$3 million, three-year grant from the Wind and Waterpower Technologies Program of the U.S. Department of Energy (DOE). The recipients represent eight universities from eight states. Their areas of research include soil and rock mechanics, hydrologic modeling, operational optimization, water quality and water variability due to climate change. The recipients, their universities and their research topics are:

**Justin Hannon** - University of Iowa, Iowa City IA, Masters Degree Candidate - Proposal for a Computational Fluid Dynamics Study to Examine the Affect of a Karman Gait on Fish Locomotion

**Jordan Kern** - University of North Carolina, Chapel Hill NC, PhD Candiate - Dynamic Hydrologic-Economic Modeling of Tradeoffs in Hydroelectric Systems

**Marina Kopytkovskiy** - Colorado School of Mines, Golden CO, Masters Degree Candidate - The Effects of Climate Change on the Water Resources and Hydropower Production Capacity of the Upper Colorado River Basin

**John Lamontagne** - Cornell University, Ithaca NY, PhD Candidate - Real-Time Forecasting and Hydropower Reservoir Optimization Using Sampling Stochastic Dynamic Programming

**Ann Marie Larquier** - Alaska Pacific University, Anchorage AK, Masters Degree Candidate - Glacial Influences on Water Resources of the Eklutna Basin, Alaska

**Michael George** - University of California, Berkeley CA, PhD Candidate- Rock Scour Evaluation Using Block Theory and the Critical Key Block Concept

**Minal Parekh** - Colorado School of Mines, Golden CO, PhD Candidate - Evaluating Internal

## Erosion in Earth Dams Using Non-Destructive Methods

**John Petrie** - Virginia Tech University, Blacksburg VA, PhD Candidate - Modifying Hydropower Releases to Reduce Riverbank Erosion

**Adam Witt** - University of Minnesota, Minneapolis MN, PhD Candidate – Development of a Technology to Predict Gas Transfer at Low and High Head Structures

The fellowships include a generous tuition allowance, living stipend, professorial honorarium and participation in Hydro Fellows Roundtables. According to Program Manager Deborah M. Linke, another call for proposals will be issued later in 2010 that will be more focused on hydropower engineering. From that, a second round of fellows will be selected.

For more hydropower news and information, [click here](#)

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To access this Article, go to:

[http://www.pennenergy.com/pennenergy-2/en-us/index/power/renewable-generation/display.articles.hrhrw.News-2.2010.06.hydro-research\\_foundation.html](http://www.pennenergy.com/pennenergy-2/en-us/index/power/renewable-generation/display.articles.hrhrw.News-2.2010.06.hydro-research_foundation.html)



## Officials celebrate start of construction of hydroelectric plant along Ohio River

- THE ASSOCIATED PRESS
- Posted: June 30, 2010 at 3:38 pm, Updated: June 30, 2010 at 3:39 pm

### Photos:



Kentucky Gov. Steve Beshear, left, listens as project engineer Tom Leibham explains key points of the construction for the new Meldahl Dam Hydrokinetic Energy Plant Tuesday, June 29, 2010 near Augusta, Ky. (AP Photo/The Ledger Independent, Terry Prather)



Kentucky Gov. Steve Beshear waits to be introduced during a groundbreaking ceremony for the \$500 million Meldahl Dam Hydrokinetic Energy Plant near Augusta, Ky. Tuesday, June 29, 2010. Also shown on left is Col. Robert Peterson of the U.S. Army Corps of Engineers and Bracken County Judge Executive Gary Riggs. (AP Photo/The Ledger Independent, Terry Prather.)

FOSTER, Ky. — Early work has begun on a new plant that will generate electric power from the Ohio River in northeastern Kentucky.

Civic leaders from Ohio and Kentucky gathered at the site of the planned Meldahl Dam Hydrokinetic Energy plant on Tuesday. The Ledger Independent in Maysville reports the plant will be operating by 2014 and produce 105 megawatts of electricity.

American Municipal Power Inc. is building the hydrokinetic power plant in Bracken County. It will employ seven to nine people full-time when completed.

American Municipal Power President and CEO Marc Gerken says the plant and others like it can "harness the energy the river can provide."

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Information from: The Ledger Independent, <http://www.maysville-online.com>





## **New York approves \$460m upgrade for Niagara hydropower plant**

Published: July 2, 2010

By [James Cartledge](#)

Plans for a \$460 million upgrade for the Niagara Power Project have been announced by the New York Power Authority.

Work will be carried out to extend the life of the Lewiston Pump Generating Plant and improve the performance of its 12 pump turbine generator units.

The pumped storage facility operates during periods of peak power demand, supporting Niagara's main generating station, the Robert Moses Niagara Power Plant.

Hitachi Power Systems America, based in Basking ridge, New Jersey, has won a \$174 million contract to replace and modify major components of the Lewiston plant.

The New York Power Authority has approved \$131 million of initial funds for the project.

### **Upgrades**

The turbines at Lewiston, which date back to 1961, are expected to see upgrades beginning in late 2012, with plans for the overhaul of a turbine generator unit every eight or nine months.

The work is scheduled for completion in 2020.

Michael J Townsend, NYPA chairman, said: "The Life Extension and Modernization Program approved by the Power Authority board will ensure that the LPGP facility continues to be a workhorse in the Niagara project's harnessing of the available water from the Niagara river to produce low-cost electricity for Western New York and various customer groups."

A similar upgrade program, costing \$298 million, was completed at the Robert Moses power plant in 2006.

Together, the two Niagara plants offer 2,441 megawatts of generating capacity.



## Alaska offers grants for development of hydro, other renewables projects

ANCHORAGE, Alaska, U.S. 7/6/10 (PennWell) --

The Alaska Energy Authority (AEA) is soliciting competitive grant applications from qualified applicants for renewable energy projects, including hydro projects, to be funded by the Alaska State Legislature. The Round IV application period opens July 21. AEA must receive Round IV applications no later than 5p.m. on Sept. 15, 2010.

In 2008, the Alaska Legislature established the Renewable Energy Fund and authorized AEA to administer procedures for awarding the grants and distributing grant funds. AEA received more than 350 Rounds I, II and III applications, which were thoroughly evaluated in accordance with criteria set forth in the legislation. Following AEA's recommendations, the Legislature approved 129 Round I, Round II and Round III renewable energy projects totaling \$150 million.

AEA is seeking to recommend projects based on applications that clearly demonstrate a public benefit from the proposed project. From Round IV applications received, AEA will make project recommendations to the Legislature for FY2012 funding.

Starting July 21, a new link to the Round IV web page will be available from AEA's home page, [www.akenergyauthority.org](http://www.akenergyauthority.org). The link will access the Request for Application, application forms and all supporting information. Applicants may also contact Renewable Energy Fund Grants Administrator Butch White by e-mail at [re\\_fund@aidea.org](mailto:re_fund@aidea.org), or telephone (907) 771-3048.

This year marks the second Renewable Energy Fund construction season. Seven projects across Alaska are completed, and twenty additional projects are scheduled for completion this year. For the first \$125 million appropriated in Rounds I and II, 97 grants to successful applicants are in place. AEA expects to have Round III grants in place in early July.

For more hydropower news and information, [click here](#)

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[http://www.pennenergy.com/pennenergy-2/en-us/index/power/renewable-generation/display.articles.hrrhw.regulationandpolicy.general.2010.07.alaska-offers\\_grants.html](http://www.pennenergy.com/pennenergy-2/en-us/index/power/renewable-generation/display.articles.hrrhw.regulationandpolicy.general.2010.07.alaska-offers_grants.html)

# BANGOR DAILY NEWS

## Maine, Canadian leaders push for tidal power

7/12/10 12:00 am

[By Kevin Miller](#)

BDN Staff

The leaders of Maine and Nova Scotia have signed an agreement pledging closer collaboration on research and development of tidal energy as well as offshore wind energy.

Gov. John Baldacci and Premier Darrell Dexter signed the memorandum of understanding Monday during a meeting of New England governors and Eastern Canadian premiers in Massachusetts.

Also at Monday's meeting, Baldacci signed an agreement with New Brunswick Premier Shawn Graham to create a joint cultural initiative to explore cross-border projects and encourage additional trade opportunities.

The initiative also aims to simplify cross-border processes for artists, cultural institutions and "creative businesses," and identify new or expanded tourism opportunities.

Energy security, energy efficiency and development of renewable energy sources were a major focus of the discussions at the Monday meeting.

Under the energy agreement, Maine and Nova Scotia will "investigate opportunities and areas within which to cooperate on furthering offshore wind and tidal energy technology and application."

The two governments also hope to bring together researchers, policymakers and potential energy developers. As part of that effort, Maine and Nova Scotia will host a Tidal Energy Symposium in conjunction with next year's conference of New England governors and Eastern Canadian premiers in Nova Scotia.

"Maine is forging a path toward clean, renewable, home-grown energy development which will keep hard-earned dollars here at home and provide good paying jobs, all while preserving our valuable natural resources," Baldacci said in a statement. "Premier Dexter shares my commitment to work regionally to address these critical issues, and I'm pleased that we are forging this partnership to explore the opportunities before us."

Much of the recent focus on renewable energy in the Gulf of Maine has been on offshore wind. The region is considered to have some of the best offshore wind resources on the planet, but the technology to capture that wind in the deep, stormy waters of the gulf is still in development.

But the Gulf of Maine and, in particular, the Bay of Fundy have the highest tidal ranges in the world, making it a prime location for industrial tidal energy projects.

As with offshore wind power, there is significant research taking place in both countries — including a pilot project deployed near Eastport — on technologies that harness the power of the tides with minimal impacts on marine life, fisheries and communities.

## **U.S. Rebuilds Power Plant, Taliban Reap a Windfall**

By [YAROSLAV TROFIMOV](#)

LASHKAR GAH, Afghanistan—The U.S. has poured more than \$100 million into upgrading the Kajaki hydropower plant, the biggest source of electricity in south Afghanistan. And it plans on spending much more, in an effort to woo local sympathies away from the Taliban insurgency.

Yet, one of the biggest beneficiaries of this American-taxpayer-financed project are the Taliban themselves.

Since U.S.-funded repairs of a turbine at the Kajaki plant doubled its capacity in October, nearly half of the total electrical output has flowed to districts in Helmand province where the Taliban administer the grid, Afghan officials say. In those districts, residents pay their monthly electricity bills directly to the insurgents, who use the proceeds to fund their war with American and British troops.



*Associated Press*

In 2008, a new turbine was escorted through enemy territory on a 100-vehicle convoy to the power station at the Kajaki Dam in Afghanistan's Helmand Province.

"The more electricity there is, the more money the Taliban make," says Hajji Gul Mohammad Khan, tribal-affairs adviser to the government of Helmand.

Helmand is at the center of the war: It is the Afghan province where massive allied operations, such as the push into the area of Marjah earlier this year, have taken place since President Barack Obama ordered a troop surge in December, aiming to reverse Taliban gains. Helmand is by far the deadliest province for U.S.-led coalition troops, accounting for more than a quarter of total fatalities in the nine years of the war.



Reuters

A hydro-electric turbine is unloaded.

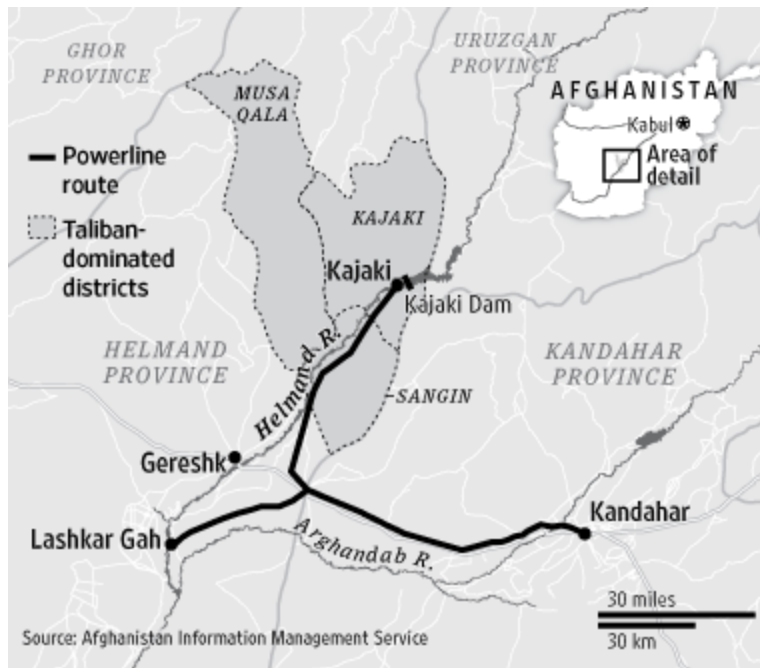
The Taliban's continuing stranglehold over wide swathes of Helmand means that the provincial government here must seek an informal accommodation with the insurgents on sharing Kajaki's juice. A large part of this insurgent electricity network is used for irrigation, Helmand officials say, boosting the area's main crop—opium poppies.

"It's very easy for the Taliban to control electricity because the transmission cables cross the districts where they are in total control," says Ahlullah Obaidi, the Helmand government's director of electricity and water. "We don't cut power to their areas, and we let them collect all the money there."

The paradox of Kajaki illustrates how well-meaning development projects can generate unintended consequences in the intensifying war. The plant's planned further upgrade is one of many large development programs the U.S. is rolling out in Afghanistan, in a bet that economic progress will sway ordinary Afghans into supporting the government of President Hamid Karzai.

Unlike Afghanistan's state power utility, the Taliban don't use meters. Instead, they charge every household in areas they control a flat fee of 1,000 Pakistani rupees (\$11.65) a month. All in all, the Helmand government estimates it loses out on at least \$4 million a year in electricity revenue to the Taliban, this in a country where the monthly wages of an insurgent fighter hover around \$200.

Taliban commanders have every right to collect bills and manage the electricity system, says the rebel movement's chief spokesman in the south, Qari Yusef Ahmadi: "We are the government there—not the puppet government of Kabul."



Severing electricity is often a tactic to pressure the enemy. In Afghanistan, the geography of the war makes a power cutoff more complicated: The Taliban don't fully control a single large section of territory that can be disconnected, but rather areas intermingled with those under government control, with power lines crossing both.

With billions of dollars, some of it in aid money, streaming out of Afghanistan every year, U.S. development programs here are coming under congressional scrutiny. A Congressional subcommittee last month issued a report on how protection payments by Department of Defense trucking contractors have become a "significant potential source of funding for the Taliban," prompting the launch of a military investigation. A separate House panel last month froze some \$4 billion in non-urgent aid to Afghanistan, pending an inquiry into corruption allegations.

The provinces of Kandahar and Helmand—which depend on Kajaki for electrical power—represent the main focus of the allied military effort this year. It is here in the Taliban's cradle that the new coalition commander, Gen. David Petraeus, hopes to deal a knockout blow to the insurgency before the drawdown of American troops slated to begin next July.



Getty Images

An engineer checks a panel in the control room of the Kajaki hydroelectric dam in March of 2007 in Helmand province, Afghanistan.

U.S. and North Atlantic Treaty Organization officials acknowledge that the insurgents benefit from Kajaki's electricity. Yet, they say, winning over the South's population centers—Kandahar city and the Helmand provincial capital of Lashkar Gah—is the overwhelming priority, and providing them with more power for industries and homes furthers that aim.

"Electricity is changing people's lives. Whatever industry we have in Helmand is booming" since the Kajaki turbine was repaired in October, says Rory Donohoe, the U.S. Agency for International Development field program officer for Helmand. The number of ice-making factories in Lashkar Gah went from one to five, he says, and the local marble polishing plant works three shifts a day instead of just one, all of this providing gainful employment.

Mark Sedwill, NATO's senior representative in Kabul who serves as the civilian counterpart to Gen. Petraeus, adds that some compromises are inevitable in such a complex conflict.

"We always want to be in a situation where the government of Afghanistan has full authority over every square inch of its territory—but that's not yet the situation," he says.

American civilian and military officials in Afghanistan have been arguing for months over whether further investment is warranted in Kajaki. Civilian officials point to the hydropower plant's sustainability and long-term potential, while military commanders are pressing to remedy the rolling blackouts that strike Kandahar and Lashkar Gah through a quick fix of installing diesel-fuelled generators in the two cities.

At a recent gathering with President Karzai to discuss the planned drive against the Taliban in Kandahar, local tribal elders named reliable electricity as their main priority, says U.S. Lt. Gen. David M. Rodriguez, the coalition's day-to-day commander in Afghanistan.

"Support from the population is key to success in a counterinsurgency campaign, and rapidly improving the electrical infrastructure in Kandahar city has the potential to be a critical enabler," he said in an email.

Electricity from the generator banks costs 45 cents per kilowatt hour, however, compared with just 3 cents from Kajaki, according to USAID calculations. In a compromise, the fiscal 2011 budget request for approximately \$400 million in U.S.-funded electricity programs in Afghanistan next year includes both the Kajaki upgrade and the Kandahar generator banks, coalition officials say.

Located in the mountainous northern part of Helmand, the Kajaki dam was initially built with American aid money in the 1950s, as part of a vast irrigation project. The USAID-funded hydropower plant went online in 1975, with two turbines of 16.5 megawatts each and built-in capacity for adding more.



USAID returned to the Kajaki plant, which had been damaged after decades of war, following the Taliban regime's downfall in 2001. One turbine was refurbished in 2005, and the other, which broke down in 2008, was fixed last October.

In the fall of 2008, thousands of coalition troops escorted a new, Chinese-built 18.5 megawatt turbine through enemy territory on a 100-vehicle convoy to Kajaki—in one of the largest operations in the Afghan war.

That precious cargo, however, is still sitting in crates at the dam. The Taliban renewed control of the roads after the coalition convoy withdrew. That has blocked the arrival of cement and other material and equipment needed to install the turbine—and prevented the construction of a new road.

The Chinese contractor fled the area. So far, only some seven kilometers of the 35-kilometer road have been built, in part because the Taliban fear it would give coalition troops easier access to the area.

Since the second turbine's repair, some 12 megawatts of Kajaki's output are flowing to Kandahar, 6 megawatts to Lashkar Gah, and the remaining 15 megawatts to the districts of Sangin, Kajaki and Musa Qala where the Taliban control most of the territory, says Mr. Obaidi, the provincial electricity director. A coalition spokesman in Afghanistan, U.S. Air Force Lt. Col. Todd M. Vician, estimates that about 40% of Kajaki's power is now "lost to transmission problems and unauthorized access."

British troops that had attempted to secure these three districts of Helmand have incurred heavy casualties—with Sangin alone accounting for roughly one-third of Britain's 314 fatalities in Afghanistan. The British now are transferring responsibility for the area to the U.S. Marines.

In the pockets under allied control in these districts, Mr. Obaidi says, the Afghan government collects virtually no revenue because of Taliban edicts that anyone paying government electricity bills must pay the same amount to the insurgents.

Through an array of lines strung haphazardly atop bamboo poles, the Taliban have extended power to villages across that area, often earning local allegiance for bringing electricity to the remote countryside.

"Electricity is important not only for us," says Jalil Shams, CEO of the Afghan government power utility, Da Afghanistan Breshna Sherkat. "The Taliban also want to have lights for their supporters. It is also their lifeline."

Locals in Sangin, Kajaki and Musa Qala say they have been paying the Taliban for electricity since 2006, the year the insurgents asserted their influence across southern Afghanistan.

"The unfortunate reality in Helmand is that there are two governments, the official one and the Taliban one, and both of them have electricity departments," says Hajji Abdulaziz, a tribal elder from the Kajaki district. "At the end of the month, the Taliban department sends someone to

knock on the doors to collect the payments. Every collector has wire cutters, and if you don't pay up they cut you off on the spot."

Mr. Obaidi, Helmand's director of electricity and water, says he has never met his Taliban counterpart, the insurgent electricity director who goes by the nom de guerre "Doctor." But Helmand's government has to seek indirect talks with him whenever the transmission line from Kajaki is disrupted, which has happened six times this year.

The worst cutoff was in May. While some of the previous disruptions were accidental, this time the Taliban commanders in the Sangin district deliberately blew up a pylon, Helmand government officials say, and refused access to engineers for repairs. The Taliban deny they intentionally severed the line, saying it was collateral damage from fighting in the area.

In Lashkar Gah, "it was like judgment day" after the cutoff, Mr. Obaidi says, with hospitals no longer functioning, industries idle and the locals unable to dispel the summer heat with fans. The Taliban-held areas enjoyed abundant electricity. "There was power 24/7 in Sangin," says Shamsullah Sarai, a tribal elder from the district.

The situation continued for 11 days. Then, Helmand Gov. Gulab Mangal says he decided to "put pressure" on the Taliban by ordering the Kajaki plant, located in a small enclave under government control, to retaliate by shutting down supplies to Taliban-held zones between the dam and the blown-up pylon. That had an immediate effect.

"The government cutoff put people in big trouble: If you have no electricity here, you can't pump water and your life is in danger," says Hajji Allahdad, a tribal elder from Kajaki district.

A delegation led by the chiefs of the region's main Pashtun tribes—the Alizai, Alokozai and Ishakzai—quickly arrived at the provincial headquarters in Lashkar Gah to seek a compromise between the government and the Taliban, Gov. Mangal says.

A day later, yielding to popular pressure, the Taliban agreed to let engineers repair the pylon, and the two sides worked out an deal under which the insurgent-held areas would cut their power consumption, government officials say. Mr. Ahmadi, the Taliban spokesman, denies there is any accord with the government, but adds: "The Taliban will never cut cables in the future because we don't want to create any problem for the people."

The Lashkar Gah marble factory is busy again, its half-century-old Italian machines, powered by energy from Kajaki, humming as they cut slabs of local stone and carve them into shiny plates, ashtrays and vases. But it isn't clear how long the electricity truce here will last.

"With the Taliban," Gov. Mangal says, "there are no guarantees."

*—Habib Zahori contributed to this article.*

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## **HYDROPOWER: Murkowski unveils 2 bills to boost U.S. electricity from water (07/14/2010)**

Katherine Ling, E&E reporter

The ranking member of the Senate Energy and Natural Resources Committee introduced two bills yesterday to boost federal support for hydropower in hopes of including it in any energy plan the Senate takes up this month.

The bills from Sen. Lisa Murkowski (R-Alaska) would create an Energy Department hydropower research and demonstration program designed to generate up to an additional 75,000 megawatts of electricity, as well as redefining "renewable resource" under federal programs to include hydropower.

"Hydropower is one of our greatest untapped resources for generating clean, renewable electricity," Murkowski said in a statement. "As the Senate turns its attention to energy legislation, I hope we can finally recognize the important contribution hydropower, as a truly renewable resource, can provide to our clean energy goals."

Hydropower would also be an important source of jobs, Murkowski said. "With the proper financing, we could keep a dozen hydro construction companies fully employed in Alaska for a decade or longer."

Murkowski is one of a handful of Republicans considered as a possible vote for an energy and climate bill this session. Senate Majority Leader Harry Reid (D-Nev.) said he plans to unveil a four-part energy and climate bill this month ([E&ENews PM](#), July 13).

The first Murkowski [bill](#) would direct DOE to have an annual \$50 million competitive grant program over four years to develop efficiency improvements at existing facilities, install generation at dams that do not currently provide power, improve pumped storage, address aging infrastructure issues and expand in-conduit projects. DOE would also need to develop and implement a plan to expand hydropower resources by 2015 and the Federal Energy Regulatory Commission to explore hydro licensing changes.

Sens. Patty Murray (D-Wash.), Maria Cantwell (D-Wash.) and Mike Crapo (R-Idaho) co-sponsored the measure.

The second [bill](#) would define hydropower as a "renewable resource" for federal programs and also would allow the generation to qualify for the full production tax credit for renewable energy

and clean renewable energy bonds. The bill expands qualifying hydropower to include new hydropower, small hydropower under 50 megawatts, lake taps and pumped storage projects.

The National Hydropower Association said the bills could create at least 1.4 million cumulative jobs over the next 15 years "in every state in the country."

"This approach focuses on new technologies and new approaches, not necessarily new dams," NHA executive director Linda Church Ciocci said in a statement. "Congress must provide continued long-term incentives for project development to create the stable investment environment developers need to expand America's hydropower resources."



## Senators offer plan to boost US hydropower by 75,000MW

Published: July 14, 2010

By [James Cartledge](#)



**Alaska Senator Lisa Murkowski says the right incentives could open up 200 hydropower development projects in her state alone**

**Two pieces of legislation were introduced to Congress yesterday seeking more federal support for hydropower projects.**

Alaska's US Senator Lisa Murkowski introduced the Hydropower Improvement Act and the Hydropower Renewable Energy Development Act.

The bills propose extra funding for hydropower projects through grants and tax credits, make it easier to secure permits for new projects and boost research and development.

Senator Murkowski said: "Hydropower is one of our greatest untapped resources for generating clean, renewable electricity."

### **Bills**

The Hydropower Improvement Act aims to increase the capacity of the nation's hydropower sources by up to 75,000 megawatts.

It proposes a competitive grants program and requires the US Department of Energy to come up with a research, development and demonstration plan for to increase hydropower capacity.

The bill also allows the Federal Energy Regulatory Commission to streamline the permit process for hydropower projects, and seeks to open up federal land for hydropower developments.

The Hydropower Renewable Energy Development Act aims to make more hydropower projects eligible for federal Production Tax Credits and the Clean Renewable Energy Bonds program.

It is being co-sponsored by Senators Patty Murray (D-WA), Maria Cantwell (D-WA) and Mike Crapo (R-Idaho).

Hydropower supplies 7% of the nation's power and 24% of Alaska's electricity needs. The Republican Senator from Alaska suggested there were 200 additional sites in her state that looked "promising" for further hydropower development.

This approach focuses on new technologies and new approaches, not necessarily new dams" - **Linda Church Ciocci, National Hydropower Association**

Sen Murkowski said: "As the Senate turns its attention to energy legislation, I hope we can finally recognize the important contribution hydropower, as a truly renewable resource, can provide to our clean energy goals."

## **Industry**

The hydropower industry applauded the proposals from the bipartisan group of senators, claiming the measures should help to create 1.4 million jobs nationwide over the next 15 years.

Linda Church Ciocci, executive director of the National Hydropower Association, said the legislation proposed would help make existing hydro resources more efficient, convert existing dams to generate electricity and support both small conduit technologies and pumped storage project development.

"This approach focuses on new technologies and new approaches, not necessarily new dams," she explained.

The industry association said support for federal research and development programs and worker training efforts would ensure the US will continue to bring new technology to market.

Ms Ciocci added that her organization hoped Congress would provide long-term incentives to create the "stable investment environment developers need to expand America's hydropower resources".