



**Senate Bill 316
Position: SUPPORT**

Testimony of Dennis Cakert, on behalf of National Hydropower Association, to members of the Senate Finance Committee on SB316 *Renewable Energy Portfolio Standard – Hydroelectric Power*

National Hydropower Association (NHA) thanks Chair Kelley, Vice Chair Feldman, and members of the Senate Finance Committee for the opportunity to provide comments and testify in support of SB316 and the continuation of Maryland's Tier 2 RPS program.

NHA is a non-profit trade association dedicated to promoting hydropower as a renewable, zero-carbon, reliable energy resource that can help states achieve emissions reductions at least cost to consumers. NHA represents more than 68,000 workers at more than 245 organizations nationwide, many of which are located in Maryland and other PJM states.

1. Environmental Conservation Groups and the Hydropower Industry Agree – Hydropower is an Important Part of Addressing Climate Change

A multi-year dialogue between major environmental conservation groups and the hydropower industry last year concluded that hydropower is an important renewable energy resource, both in terms of its baseload renewable generation and its flexibility to integrate higher levels of wind and solar (see appendix).¹ At the same time, the hydropower industry is committed to restoring healthy rivers and supporting the biodiversity and recreational opportunities provided by our nation's waterways.

Reauthorization of Maryland's Tier 2 RPS program aligns with the mission of this partnership between industry and conservation groups and will advance both renewable energy generation and environmental restoration.

2. Wind, Solar, Hydropower and Storage Form the Backbone of a Renewable and Reliable Electric Grid

Within the next decade, more than half of the electricity generated in the United States can come from wind, solar, hydropower and energy storage.² The different clean energy industries have agreed to build a more resilient, efficient, sustainable and affordable grid, reduce carbon emissions, and increase competition through fair market rules.

Reauthorization of Maryland's Tier 2 RPS program will ensure hydropower is included as a part of Maryland's clean energy goals.

¹ U.S. Environmental Community and Hydropower Industry Issue Joint Statement of Collaboration, Stanford Woods Institute for the Environment (October 2020). Available [here](#).

² U.S. Renewable and Clean Energy Industries Set Sights on Market Majority (June 2020). Available [here](#).



3. While NHA Favors a Technology-Neutral Clean Energy Standard that Treats All Zero-Carbon Generation Sources Equally, Reauthorization of the RPS Tier 2 Program is Necessary at This Time

RPS laws passed by this Committee and by other states over the past two decades deserve credit for transforming the electricity system by driving multi-billion markets for wind, solar, and other nascent renewables. However, as these technologies have matured and the climate change crisis has become more urgent, a new goal has emerged: the transition to a 100% clean energy grid at lowest cost to consumers. An outcome-based target that values the performance of zero and low emission generation resources enables greater competition than antiquated RPS programs that artificially pick winners and losers.³

While NHA supports a clean energy standard for Maryland, we understand that such a proposal is still being evaluated and is unlikely to be enacted during this legislative session. As such, reauthorization of Maryland's Tier 2 RPS program is a critical step in the right direction.

Conclusion:

Hydropower is more than merely cement in the ground; it is a vibrant industry that provides zero-carbon electricity to an estimated 30 million Americans and has grown more than 2,000 megawatts since 2005 through upgrades to existing facilities and non-powered dams.⁴ Reauthorization of Maryland's Tier 2 RPS program is essential to ensure ongoing maintenance and improvements are made to these zero-carbon resources, both related to power generation and environmental and recreational improvements.

NHA supports SB316, thanks the Committee again for the opportunity to speak today, and is happy to respond to any questions.

Sincerely,

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³ "America's 'First' Renewable Resource Overlooked as States Embrace Clean Energy" by Malcolm Woolf, Greentech Media (January 2020). Available [here](#).

⁴ Department of Energy Hydropower Market Report (2017). Available [here](#).

Executive Summary

U.S. Hydropower: Climate Solution and Conservation Challenge

Stanford University Uncommon Dialogue
October 13, 2020

The “*Joint Statement of Collaboration on U.S. Hydropower: Climate Solution and Conservation Challenge*” (Joint Statement), represents an important step to help address climate change by both advancing the renewable energy and storage benefits of hydropower and the environmental and economic benefits of healthy rivers.

The *Joint Statement* is the result of a two-and-a-half-year dialogue, co-convened by Stanford University’s Woods Institute for the Environment, through its Uncommon Dialogue process, Stanford’s Steyer-Taylor Center for Energy Policy and Finance, and the Energy Futures Initiative, to bring together the U.S. hydropower industry and the environmental and river conservation communities. The parties, listed on page three of this executive summary, are motivated by two urgent challenges. To rapidly and substantially decarbonize the nation’s electricity system, the parties recognize the role that U.S. hydropower plays as an important renewable energy resource and for integrating variable solar and wind power into the U.S. electric grid. At the same time, our nation’s waterways, and the biodiversity and ecosystem services they sustain, are vulnerable to the compounding factors of a changing climate, habitat loss, and alteration of river processes. Our shared task is to chart hydropower’s role in a clean energy future in a way that also supports healthy rivers.

There are more than 90,000 existing dams throughout the country, of which about 2,500 have hydropower facilities for electricity generation. In the next decade, close to 30 percent of U.S. hydropower projects will come up for relicensing. As such, the parties focused on three potential opportunities:

- *Rehabilitating* both powered and non-powered dams to improve safety, increase climate resilience, and mitigate environmental impacts;
- *Retrofitting* powered dams and adding generation at non-powered dams to increase renewable generation; developing pumped storage capacity at existing dams; and enhancing dam and reservoir operations for water supply, fish passage, flood mitigation, and grid integration of solar and wind; and
- *Removing* dams that no longer provide benefits to society, have safety issues that cannot be cost-effectively mitigated, or have adverse environmental impacts that cannot be effectively addressed.

The potential development of new “closed loop” pumped storage to increase capacity to store renewable energy, including variable solar and wind, was also a focus of the dialogue. Closed

loop pumped storage systems do not involve construction of a new dam on a river, but they may have other impacts that need to be avoided, minimized or mitigated, including to surface and ground water.

The parties found inspiration in the precedent-setting 2004 agreement involving Maine's Penobscot River where the Penobscot Nation, the hydropower industry, environmentalists, and state and federal agencies agreed on a "basin-scale" project to remove multiple dams, while retrofitting and rehabilitating other dams to increase their hydropower capacity, improve fish passage and advance dam safety. After project completion in 2016, total hydropower generation increased, more than 2,000 miles of river habitat had improved access for the endangered Atlantic salmon and other species of sea-run fish, and the Penobscot River again helps support the realization of treaty rights and other aspects of tribal culture for the Penobscot Nation.

Driven by the urgent need to address the twin challenges of climate change and river conservation, the parties have identified seven areas for joint collaboration, detailed in the Joint Statement:

1. Accelerate Development of Hydropower Technologies and Practices to Improve Generation Efficiency, Environmental Performance, and Solar and Wind Integration
2. Advocate for Improved U.S. Dam Safety
3. Increase Basin-Scale Decision-Making and Access to River-Related Data
4. Improve the Measurement, Valuation of and Compensation for Hydropower Flexibility and Reliability Services and Support for Enhanced Environmental Performance
5. Advance Effective River Restoration through Improved Off-Site Mitigation Strategies
6. Improve Federal Hydropower Licensing, Relicensing, and License Surrender Processes
7. Advocate for Increased Funding for U.S. Dam Rehabilitation, Retrofits and Removals

Over the next 60 days, the parties have agreed to invite other key stakeholders, including tribal governments and state officials, to join the collaboration, and to address implementation priorities, decision-making, timetables, and resources.

In sum, the parties agree that maximizing hydropower's climate and other benefits, while also mitigating the environmental impact of dams and supporting environmental restoration, will be advanced through a collaborative effort focused on the specific actions developed in this dialogue. The parties commit themselves to seizing these critical and timely opportunities

Parties to the Joint Statement of Collaboration

American Rivers



World Wildlife Fund



Union of Concerned Scientists



Great River Hydro



American Whitewater



Natel Energy



National Hydropower Association



Eagle Creek Renewables



Low Impact Hydropower Institute



Rye Development



Hydropower Reform Coalition



Hydropower Foundation



Conveners of the Joint Statement of Collaboration

Stanford Woods Institute for the Environment



Steyer-Taylor Center for Energy Policy and Finance



Energy Futures Initiative

