# National Hydropower Association

## Alaska Power Association Meeting
## August 2015

# Advancing the U.S. Hydro Industry

## Vision

- **Double the contribution** of hydropower - America's largest, most trusted and flexible renewable energy resource – to drive economic development and help achieve a sustainable and secure clean energy future

## Mission

- Champion the resurgence of hydropower, in all of its forms, as **America's premier carbon-free renewable energy resource.**
- Focus on growth, operational excellence, streamlined licensing, environmental stewardship, and improved market recognition.

# NHA's Strategic Goals 2014-2018

1. Drive legislative and regulatory **policies that improve the efficiency and certainty of hydropower licensing/permitting**; enhance hydro's economic viability, expand hydro's clean energy role.

2. Strengthen the **positive opinion of hydropower** among policy makers, opinion leaders and the public

3. Achieve a **strong, healthy, effective, and growing** National Hydropower Association.

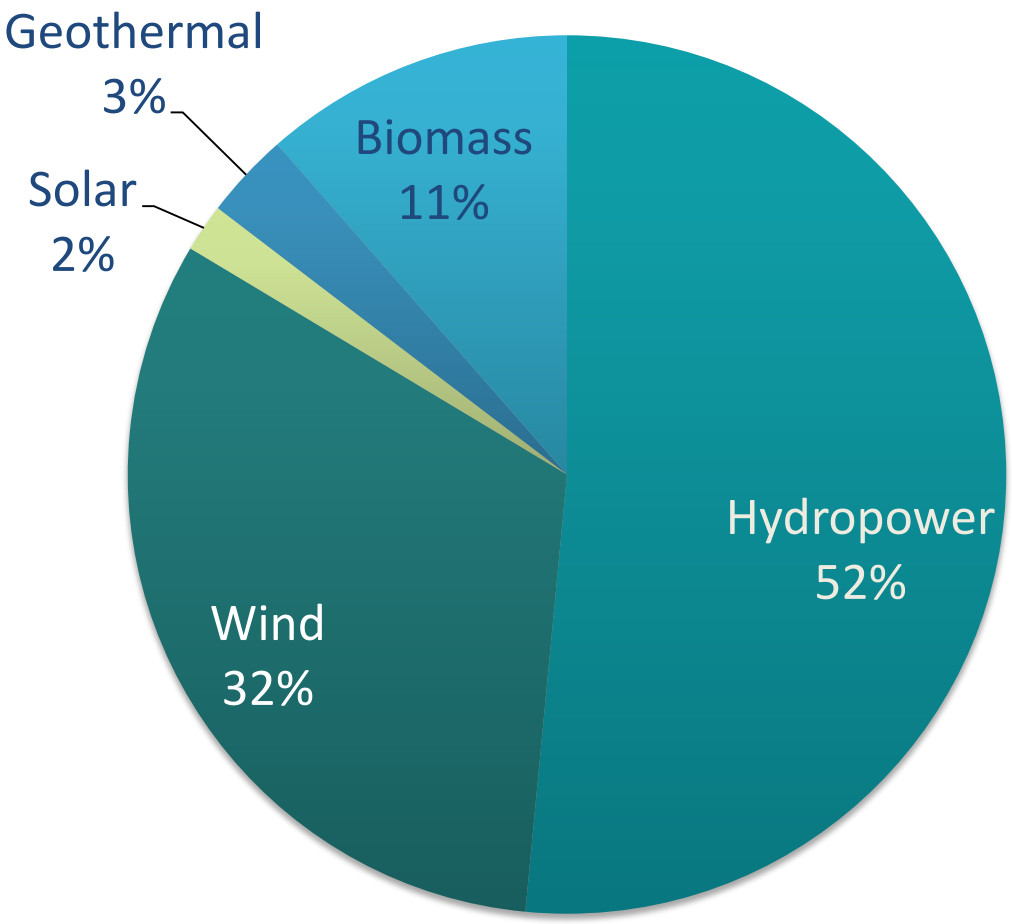
4. **Meet member needs toward achieving strong, healthy and successful** member hydropower programs.

# NEW in 2014: Marine Energy Council

In 2014, **NHA formed the Marine Energy Council** to provide a home for the marine energy community, cementing NHA's role as the unified trade association representing the full spectrum of water power technologies.

NHA's Marine Energy Council unites technology developers, academic institutions, consultants, component suppliers and service providers representing the wave, tidal, ocean current, and riverine sectors and focuses attention on the potential growth opportunities of emerging technologies, share information among industry members, and provide a forum in which to discuss the various challenges ocean, tidal, hydrokinetic and emerging water technologies face.

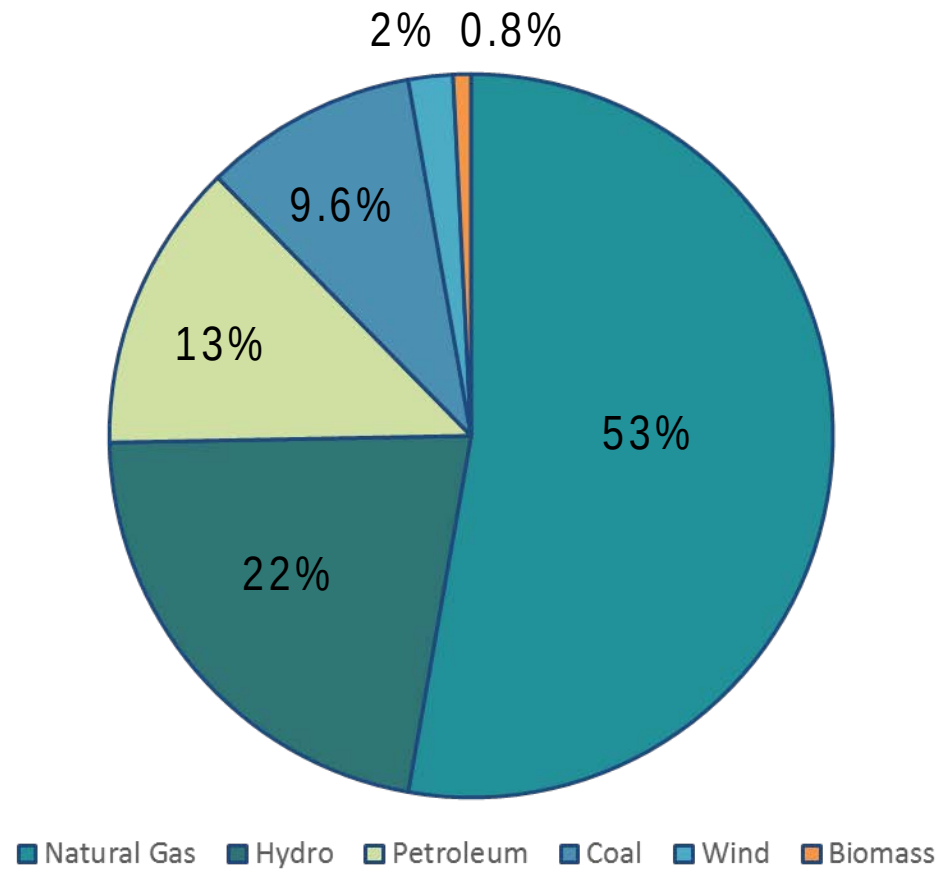
## U.S. Renewable Electricity Generation 2013




Hydro is the largest source of renewable electricity in the U.S., and made up **7%** of overall electricity generation and the majority of renewable electricity in 2013.

Approximately **100GW** of existing capacity, includes **22GW** of pumped storage.

## Alaska Electricity Generation 2013




Hydro makes up over **20 percent** of state's electricity.

Two hydro projects are in the top 10 of Alaska's plants by generating capacity: **Bradley Lake** at 126 MW (#5) and **Snettisham** at 78 MW (#7).

# Policy Opportunities

# NHA Messages to Policymakers

| | |
|---|---|
| Regulatory Improvements | • Provide for a more efficient regulatory process for hydropower licensing, both new and existing projects. |
| Incentives | • Provide continued tax policies that incentivize hydropower growth recognizing the specific needs of the industry due to the long lead time for project deployment. |
| Funding | • Support technology advancement and project deployment through continued robust appropriations in FY 2016 for the DOE Waterpower R&D program and the federal hydropower owners' budgets. |
| Clean Energy Programs | • Include hydropower in programs designed to spur clean electricity growth. |

# Recent Policy Successes for Hydropower

## Regulatory Improvements

- **August 2013:** two bills to promote small hydro and conduit projects signed into law
- **June 2014:** WRRDA language to address USACE permitting delays for non-federal projects signed into law
- **December 2014:** 2nd BuRec small conduit bill signed into law

## Incentives

- **Jan. 1, 2013**: PTC/ITC "begin construction" provision amended to include hydropower
- **Jan.1, 2013**: Extension of bonus depreciation
- **Apr. 2014:** Hydro/pumped storage added to DOE loan program
- **Dec.2014:** Hydro PTC-ITC 1-year retroactive extension for 2014

## Funding

- Continued high level appropriations for the DOE Water Power R&D program for fiscal year 2015 – (**$61 million**)

# State-FERC MOU Case Studies

**Colorado** – Signed MOU to streamline and simplify the authorization of small scale hydro projects (mainly conduits).

**California** – Signed MOU on coordinating the pre-application activities for non-federal hydro project proposals.

**Oregon and Washington** – Signed MOUs to coordinate state review of hydro projects using emerging marine and hydrokinetic technologies.

**Other Actions:** Washington expanded its RES for conduit power. Maine conducted a state hydro resource assessment.

These states, along with Alaska, California, Massachusetts, Rhode Island, Missouri, Virginia, Wyoming and Vermont all have all passed laws, created administrative workgroups, or have PUC initiatives to examine ways to grow their hydro resources.

# 2015 Policy Work Highlights

- **Hydro 2.0.** NHA's goal in 2015/2016 - secure additional regulatory process improvements to hydro licensing. Follow-up to the 2013 bills.
    - NHA has worked and continues to work with both sides of the aisle, agencies, and stakeholders.
- **Financial/tax incentives.** NHA seeks extension of hydro and MHK PTC and ITC; reauthorization of EPAct Section 242 hydropower production incentive; and is monitoring comprehensive tax reform proposals for 2015.
- **EPA Clean Power Plan.** NHA submitted extensive comments in November 2014 and has conducted outreach to EPA/DOE/state organizations.

# 2015 Policy Work Highlights

- **DOE Hydropower Vision Report.** NHA is the lead partner with the Department of Energy on this first-of-its-kind examination of hydro's contributions to the nation's energy portfolio as well as future growth.
    - DOE working with AEA specifically on Alaska potential.
- **Regulatory Activities.** NHA has filed comments on these initiatives:
    - **May 11 –** FERC 2015 biennial staff memo on existing regulations
    - **June 1 –** joint resource agencies proposed rule on EPAct 2005 trial-type hearings and alternative mandatory conditions
    - **June 19 –** FERC D2SI Revision 3 security program for hydro projects
    - **July 21 –** FERC proposed rule on changes to annual charges

# Hydropower Legislation

- **Bipartisan Senate Energy Legislation.** (Sens. Murkowski and Cantwell)
  - The Energy Policy Modernization Act has a significant section on hydro. Provisions include:
    - FERC as lead agency; setting licensing schedule.
    - Stronger documentation of equal consideration requirement.
    - Improvements to trial-type hearings and alternative conditions.
    - Start construction deadline extension.
    - Credit for energy & environmental improvements mid-license.

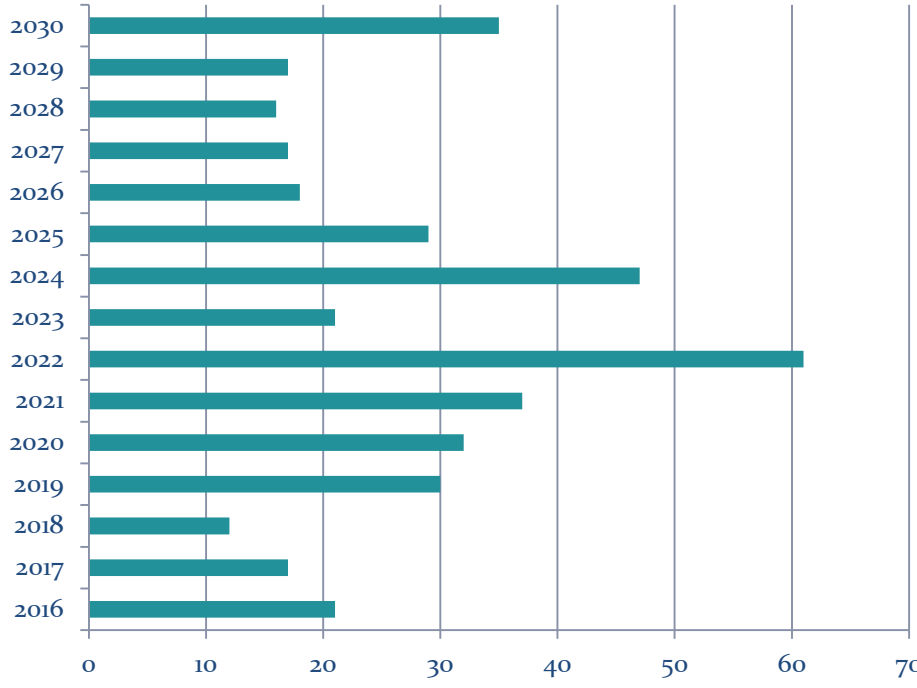
  - **Other Provisions of Interest to Alaska**
    - Sense of Congress hydro is renewable for federal programs.
    - Hydro included in EPACT 2005 federal procurement mandate.
    - MHK R&D provisions

Also draft hydro legislation in the House – Rep. McMorris Rodgers (WA) and Energy Committee Chairman Upton (MI).

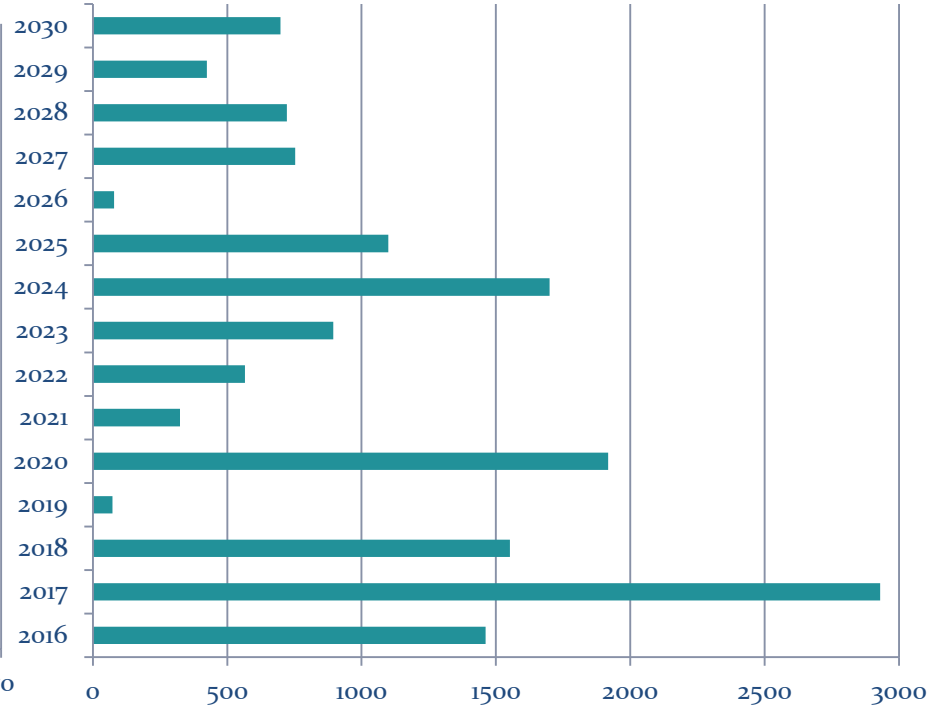
# Nationwide Relicensing

- 412 Projects - 18,708 MW of capacity

**Number of Projects by Fiscal Year**




**Capacity by Fiscal Year (MW)**

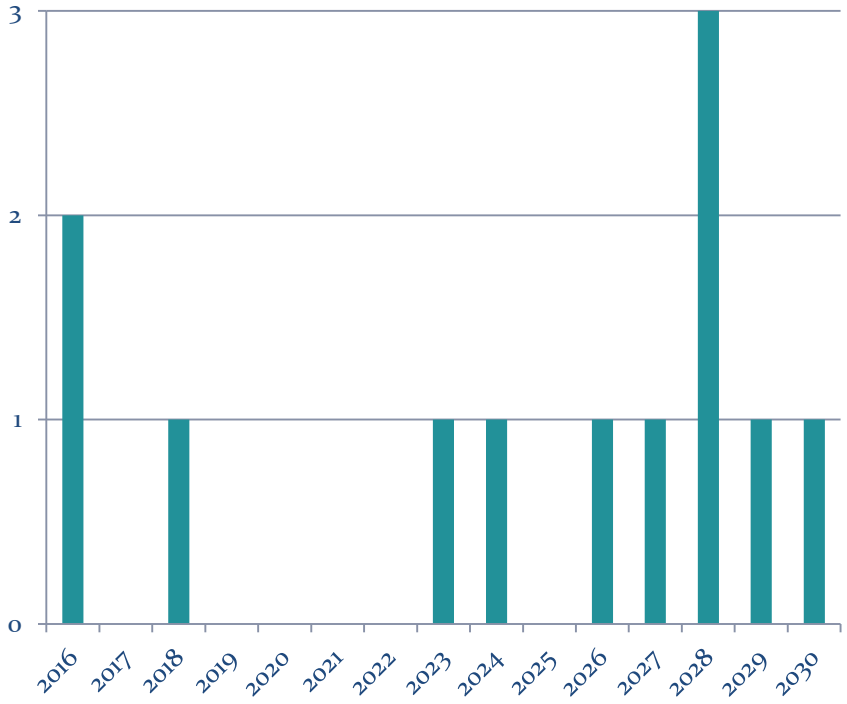



**Proposed development: 170 projects combining for 26,000 MW of capacity**

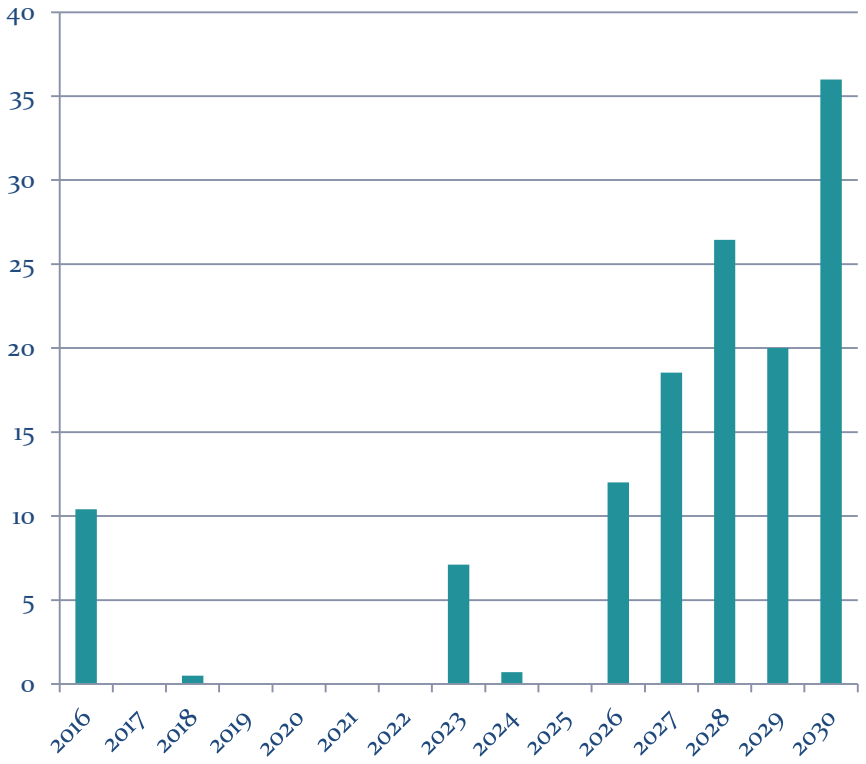
# Alaska

Total Number of Projects*: 12
Total Capacity*: 131 MW

## Number of Projects by Fiscal Year




## Capacity (MW) by Fiscal Year



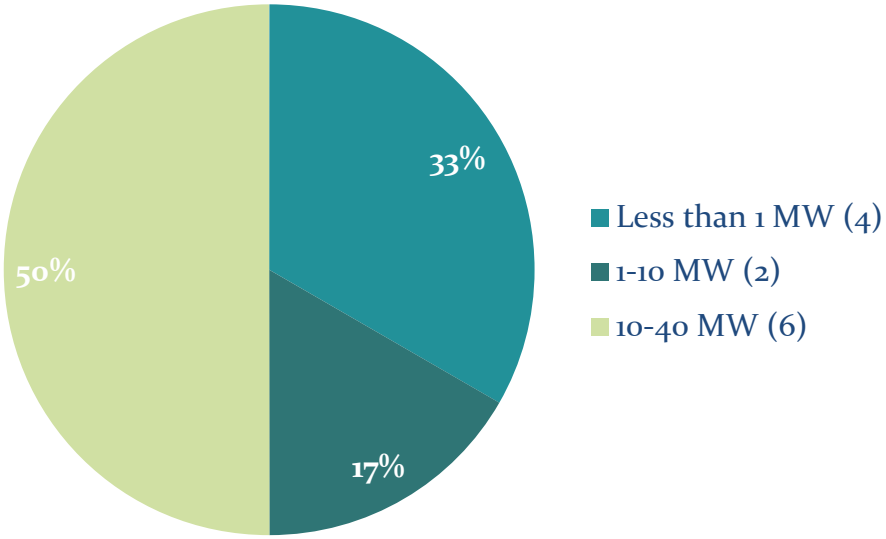

*of projects filing for relicensing from 2015-2030

# List of Projects

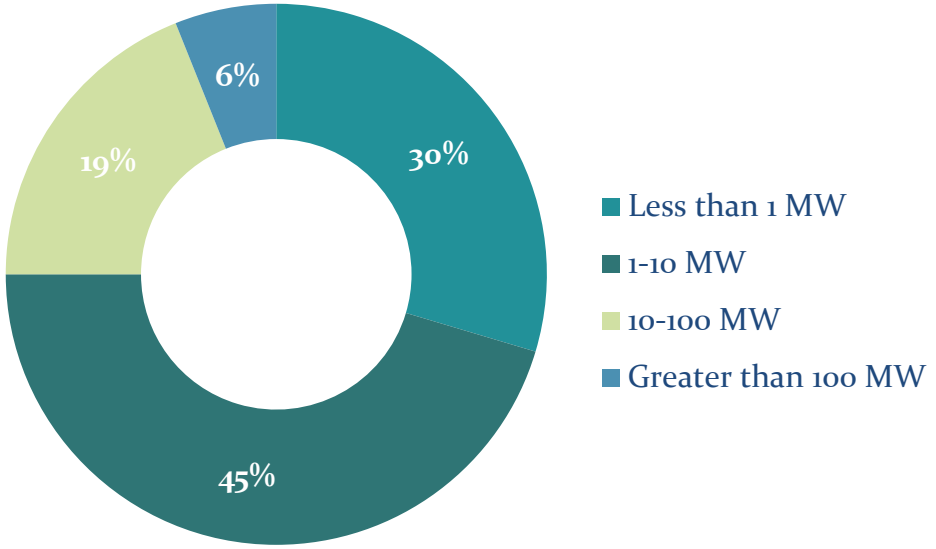
| Project Name` | Licensee | Waterway | Exp date | P# |
|---|---|---|---|---|
| Whitestone | WHITESTONE POWER & COMMUNICATIONS | TANANA RIVER | 09/30/2017 | 13305 |
| SALMON CREEK | ALASKA ELECTRIC LIGHT&POWER CO (AK) | LOWER SALMON CREEK | 08/31/2018 | 2307 |
| DRY SPRUCE BAY | PB ENERGY, INC. | DRY SPRUCE BAY | 05/31/2020 | 1432 |
| BEAVER FALLS | KETCHIKAN CITY OF (AK) | BEAVER FALLS CR | 10/31/2024 | 1922 |
| PELICAN | CITY OF PELICAN, AK | PELICAN CREEK | 09/16/2026 | 10198 |
| SOLOMON GULCH | COPPER VALLEY ELECTRIC ASSN. | SOLOMON GULCH | 05/31/2028 | 2742 |
| GREEN LAKE | SITKA CITY OF & BOROUGH OF (AK) | VODOPAD R | 03/31/2029 | 2818 |
| SWAN LAKE | SOUTHEAST ALASKA POWER AGENCY | FALLS CREEK | 06/30/2030 | 2911 |
| JETTY LAKE | ARMSTRONG KETA INC (AK) | JETTY LAKE | 06/30/2030 | 3017 |
| KETCHIKAN LAKES | KETCHIKAN CITY OF (AK) | KETCHIKAN CREEK | 07/31/2030 | 420 |
| TYEE LAKE | SOUTHEAST ALASKA POWER AGENCY | TYEE CREEK | 07/31/2031 | 3015 |
| TERROR LAKE | KODIAK ELECTRIC ASSN INC (AK) | TERROR RIVER | 10/31/2031 | 2743 |

# Relicensing Comparison

## AK Projects by Size




## Nationwide Projects by Size




*of projects filing for relicensing from 2015-2030

# New Alaska Development

| Project Name | Expiration Date | Licensee | Description |
|---|---|---|---|
| | | | |
| TURNAGAIN ARM TIDAL | 01/31/16 | TURNAGAIN ARM TIDAL ENERGY | Conventional Permit |
| IGIUGIG RISEC | 03/31/16 | IGIUGIG VILLAGE COUNCIL | HydroKinetic-Inland Permit |
| SOULE RIVER | 04/30/16 | SOULE HYDRO. LLC. | Conventional Permit |
| SWEETHEART LAKE | 03/31/16 | JUNEAU HYDROPOWER, INC | Conventional Permit |
| EAST FORELAND TIDAL ENERGY | 05/31/16 | ORPC ALASKA 2, LLC | HydroKinetic-Tidal Permit |
| YAKUTAT ALASKA | 12/31/15 | RESOLUTE MARINE ENERGY, INC. | HydroKinetic-Wave Permit |
| CROOKED CREEK AND JIM LAKE | 06/30/16 | COMMUNITY OF ELFIN COVE | Conventional Permit |
| LAKE 3160 | 06/30/17 | ALASKA POWER AND TELEPHONE CO. | Conventional Permit |

# New Development Continued

| Project Name | Expiration Date | Licensee | Description |
|---|---|---|---|
| WEST CREEK | 05/31/17 | ALASKA POWER COMPANY, INC. | Conventional Permit |
| FOURTH OF JULY | 10/31/17 | CHUGACH ELECTRIC ASSN INC (AK) | Conventional Permit |
| TALKEETNA RIVER | 11/30/17 | GLACIAL ENERGY, LLC. | Conventional Permit |
| CARLO CREEK | 02/28/18 | CC ENERGY, LLC. | Conventional Permit |

# Clean Power Plan

- **EPA 111(d) proposed rule for reducing CO2 emissions from existing fossil plants.** NHA drafted comments to EPA on the proposal discussing: benefits of hydro past, present and future in achieving carbon emissions reductions; growth potential; inclusion as a compliance option under state implementation plans.

**Concerns**

- Will this rule actually provide market value to hydro.
- Will that market value be comparable to other renewables.
  - Both for new and existing hydro.
- Compliance concerns
  - 2012 as baseline year was high hydro year, particularly in NW.

# Clean Power Plan – Initial Review

- **EPA heard our concerns and made changes that improved the recognition and treatment of hydropower under the final rule.**
  - All existing clean, renewable generation treated in the same manner.
  - New hydro generation (**of any kind**) is clearly included as a compliance option to meet state goals.
  - 2012 as baseline: EPA made a hydro-specific accommodation to address that 2012 was a high hydro year in many states.

**Still getting feedback from our members.**

- Comments on the Clean Energy Incentives Program – new program only for wind, solar and energy efficiency.

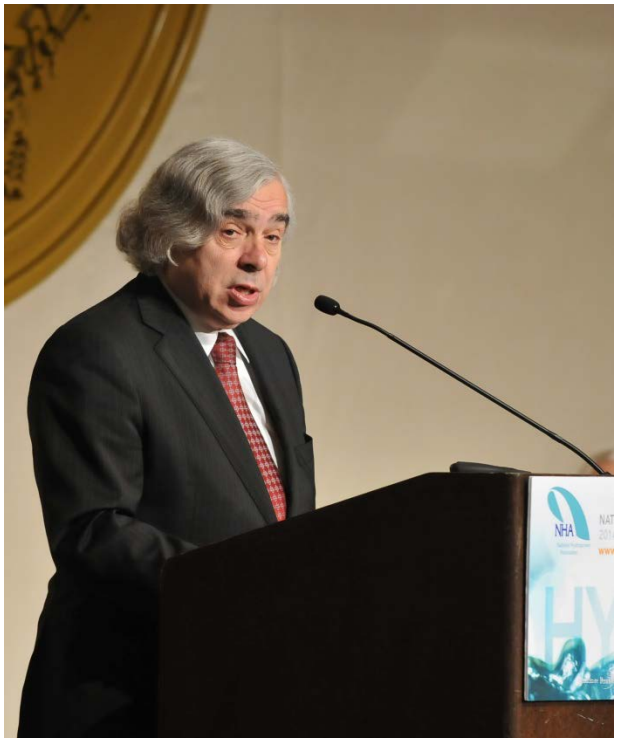
# Clean Power Plan – Alaska Impact

- Proposed rule would have required Alaska to cut its power plant carbon dioxide emissions 26 percent from 2012 levels by 2030.

- **Final Rule <u>EXEMPTS</u> Alaska from CPP…for now.**
  Isolated energy infrastructure
  Limited grid system
  Not enough information on what reductions are feasible at this time.

EPA will set goals for Alaska in the future, but has not set a deadline for doing so.

# DOE Hydropower Vision Report



"Hydropower can double its contributions by the year 2030. **We have to pick up the covers off of this hidden renewable that's right in front of our eyes** and continues to have significant potential."
– Dr. **Ernest Moniz**, Secretary of Energy

## Objectives

- Lead the development of a **cohesive long-term vision** for the benefit of the broad U.S. hydro community
- Analyze a range of **aggressive, but attainable industry growth scenarios**
- Provide **best available information** to address stakeholder interests
- Provide **objective** and **relevant information for** use by policy and decision makers

## Product

- Close examination of the **current state** of the industry
- Discussion of the **costs and benefits to the nation** arising from additional hydro
- A **road map** addressing the challenges to achieving higher levels of hydropower within a sustainable national energy mix.

- **Working w/ AEA on Alaska-specific outlook!**

# Other Opportunities

White House / DOE Quadrennial Energy Review – Year 2 on valuation

Clean Power Plan outreach to state/regional DC organizations

DOE Water Power R&D program appropriations

WRRDA improvements for development on Corps dams

**Operational Excellence – www.hydroexcellence.org**

**Public Affairs – LeRoy Coleman, LeRoy@hydro.org**

NHA Annual Conference

International Marine Renewable Energy Conference

## Contact

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# Questions?