



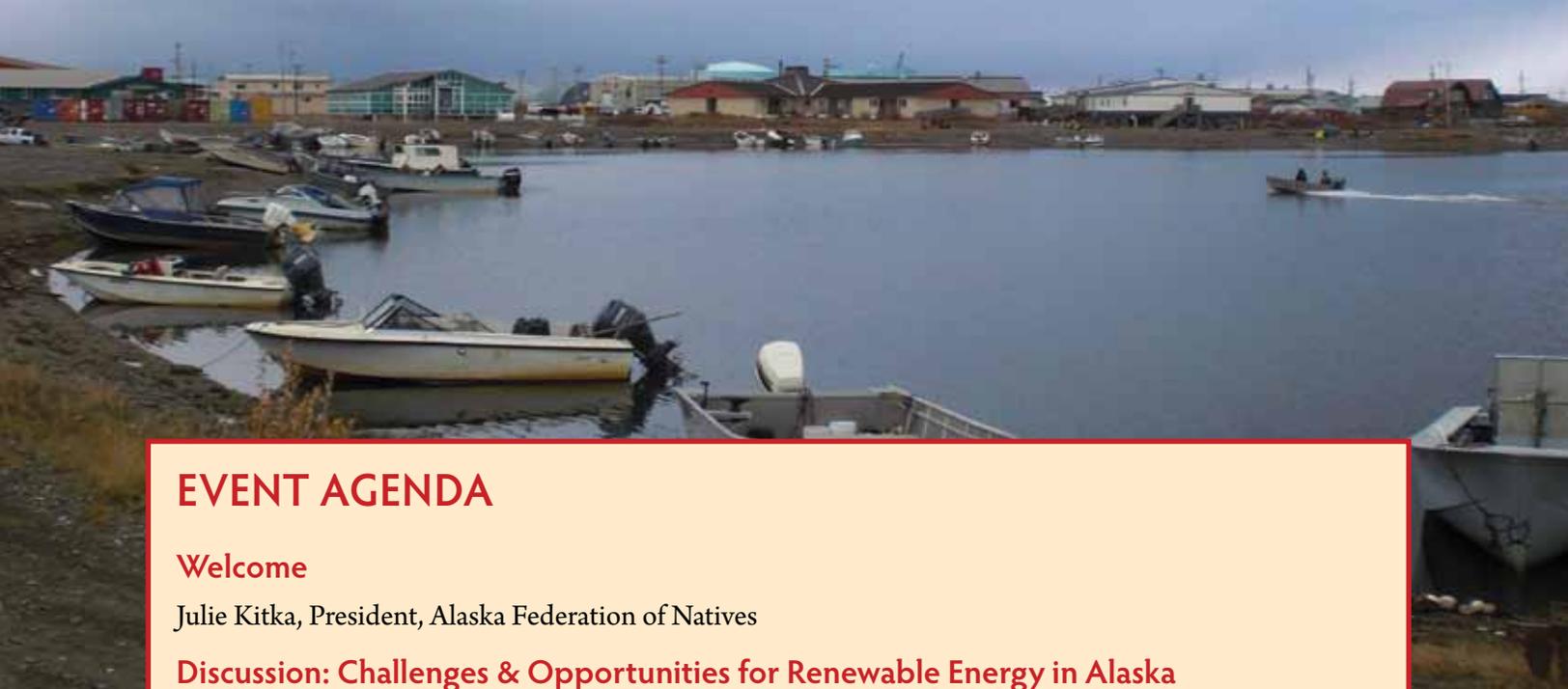
# REPORT TO AFN BOARD

## Challenges & Opportunities for Renewable Energy in Alaska



**Alaska Day at  
The Center for American Progress  
May 24, 2012**

1333 H St. NW 10th Floor Washington, D.C.



## EVENT AGENDA

### Welcome

Julie Kitka, President, Alaska Federation of Natives

### Discussion: Challenges & Opportunities for Renewable Energy in Alaska

Senator Lisa Murkowski (R-AK), Ranking Member, Senate Committee on Energy and Natural Resources

Senator Mark Begich (D-AK), Chairman, Senate Democratic Steering and Outreach Committee

*Moderated by* John Podesta, Chair, Center for American Progress

### Panel I: Outlook from the Federal Government

Steven Chalk, Deputy Assistant Secretary for Renewable Energy, U.S. Department of Energy

David Hayes, Deputy Secretary, U.S. Department of the Interior

*Moderated by* Carol Browner, Distinguished Senior Fellow, Center for American Progress

### Panel II: Outlook from Outside the Beltway

Scott Borgerson, Managing Director, CargoMetrics, Inc.

Marie Greene, President & CEO, NANA Regional Corporation

Gwen Holdmann, Director, Alaska Center for Energy and Power, University of Alaska Fairbanks

Byron Mallott, President & CEO (Retired), First Alaskans Institute

Ethan Schutt, Senior Vice President, Land & Energy Development Cook Inlet Region, Inc. (CIRI)

*Moderated by* Tom Kenworthy, Senior Fellow, Center for American Progress

(L-R) John Podesta, David Hayes, Carol Browner, Senator Mark Begich, Senator Lisa Murkowski, Julie Kitka, Christy Goldfuss



photo courtesy of Center for American Progress

## MESSAGE FROM AFN PRESIDENT JULIE KITKA

AFN is very concerned about the high costs of energy to all Alaskans, especially those in rural Alaska. We all know that “energy is the oxygen of the economy,” so it is no surprise with our high cost of energy, that we have underdeveloped local economies. In order to address our energy needs, AFN felt it was important to develop new and healthy forms of collaboration that can cross boundaries, including national, public-private, cross industry, business–nonprofit, and tribal entities.



AFN noted that President Obama issued a Presidential Executive Order in July of 2011 to coordinate federal agencies on Alaska energy issues. The Interagency Working Group on Alaska Energy was created and is chaired by Deputy Secretary David Hayes, U.S. Department of the Interior.

AFN met with Deputy Secretary Hayes and suggested that we collaborate and do an Alaska Day at the Center for American Progress to further engage the Alaska Native community. Deputy Secretary Hayes agreed. AFN then contacted John Podesta, Chair of the Center for American Progress (CAP), and asked if they were willing to partner with us to start a dialogue. AFN is delighted that John Podesta, former chief of staff to President Bill Clinton, remembered AFN and accepted immediately. Christy Goldfuss, the Public Lands Project Director at CAP, was assigned to the project, and we began our work immediately. Our collaboration was called “Alaska Day at the Center for American Progress.”

More than 200 people gathered in a standing room only crowd at the D.C. headquarters of the Center for American Progress to listen to the discussion about the energy crisis in rural Alaska, affordable energy concerns and renewable energy opportunities.

We would like to thank the Ford Foundation for their generosity, which enabled a number of people from our villages to travel to Washington, D.C. to participate in this important meeting. We hope to build on the ideas that were shared at this historic event.

Sincerely,

A handwritten signature in black ink that reads "Julie E. Kitka". The signature is written in a cursive, flowing style.

Julie E. Kitka, President

## EXECUTIVE SUMMARY & RECOMMENDATIONS FOR ACTION

A few resounding messages emerged from the Alaska Day at the Center for American Progress. First, the rural energy crisis in Alaska is severe. Second, bold and urgent action is needed within the next five years in order to preserve this remote but vital corner of our great nation. Third, Alaska Natives bring tremendous expertise and knowledge about how to get things done in rural Alaska. The following Recommendations for Action arose from the important dialogue that began at this event and continues to evolve over time.

### 1. Major Initiative to Solve Rural Energy Crisis

AFN should engage local, state and federal governments, and the private sector, around the priority of affordable energy in rural Alaska. A major communications effort should be designed to build excitement and momentum toward solving the energy crisis in rural Alaska. AFN should articulate the position that the energy crisis is solvable—it just needs leadership, political will and resources.

### 2. Marshall Plan for Rural Alaska

AFN and its membership should develop a “Marshall Plan” for rural Alaska and draft legislation to accelerate action by the federal and state governments. This plan should include rebuilding rural economies, completing needed rural infrastructure, installing efficient and affordable energy systems, and reconfiguring rural housing and facilities to new energy standards. The core concepts of the plan must be based on 1) the maximum self-determination of Alaska Native people and 2) the direct involvement of Alaska Native corporations and Alaska federally recognized tribes and tribal consortiums, and 3) a new collaborative arrangement between Alaska Native people and the federal and state governments.

### 3. 2013 AFN Energy Conference

AFN should convene an energy conference in 2013, in Juneau during the legislative session, to further discussions and develop stronger partnerships with the U.S. Department of Energy, U.S. Department of the Interior, Alaska Energy Authority, Renewable Energy Alaska Project, Cold Climate Housing Research Project and others. Further, AFN should request that the Alaska State Legislature hold hearings during this time frame to gather input into their legislative process.

### 4. Launch X-Prize Competitions

AFN should assist in assembling private and public partners to support the creation of two X-Prize competitions to focus on creating new technologies and ideas that are designed specifically for rural Alaska energy needs. The first prize would focus on developing a specific renewable energy resource to lower the cost of electricity in rural Alaska villages. The second prize would solicit proposals in advanced housing design, weatherization and electrical efficiency to reduce the demand of energy in rural villages.

## Discussion: Challenges & Opportunities for Renewable Energy in Alaska

John Podesta, the Chair of the Center for American Progress, opened the day's first discussion with Alaska's U.S. senators by sharing some compelling statistics about Alaska's commitment to renewable energy, and the state's tremendous capacity for developing it:

"The reality is that even in an oil and gas rich state like Alaska, the state has embraced renewable energy. It already provides nearly ¼ of its electricity, mostly from hydro. It has set a goal of producing 50% of its electricity from renewable resources by 2025. Some communities, like Kodiak, have set a goal of producing 95% of its electricity from renewable resources—wind and hydro—by 2020. Alaska has remarkable renewable resources—not just hydro, but wind, geothermal, tidal and wave resources—some of the most important water resources in the country. Nearly 90% of the hydro resources in the U.S. are in Alaska."

Mr. Podesta also highlighted the particular importance of the shift from fossil fuels to renewable energy for rural villages, because of their dependence on burning diesel, which is so costly for villages and everyone living there. He explained that all of the energy opportunities proposed for rural Alaska must ensure not just cleaner energy for villages, but cheaper and more reliable energy, while also creating economic opportunities for rural residents.

**"Alaska has remarkable renewable resources—not just hydro, but wind, geothermal, tidal and wave resources—some of the most important water resources in the country. Nearly 90% of the hydro resources in the U.S. are in Alaska."**

John Podesta, Chair, Center for American Progress



(L-R) John Podesta, Senator Lisa Murkowski, Senator Mark Begich  
photo courtesy of Center for American Progress

In the ensuing discussion about how the state is doing in realizing its goals, Senator Murkowski explained that the state's aggressive standards for converting to renewable energy sources for its electricity are not being realized in most small villages, except for possibly hydro projects in Southeast. She discussed rural Alaska's lack of any true grid system, for the most part, and the huge expenses that result in trying to develop a regional intertie system in such a vast geographic area with villages that are so far from each other.

Senator Begich agreed, stating that the fund that the state has set up is not reaching rural Alaska, and that 70% of that money has gone to urban areas. When funds do reach rural areas, they are not moving fast enough, or aren't sufficient to cover these projects' huge permitting and transportation costs. Senator Begich did mention progress in cold weather construction in Quinhagak as an example of lowering and stabilizing energy costs in rural Alaska, but he agreed that the conversion to renewable energy is not reaching rural Alaska quickly enough.

Both senators explained the challenges of trying to convince federal agencies that their resources would be well spent in rural Alaska when there are no economies of scale, like in urban areas, where federal dollars typically reach many more people at a time. Yet both senators also made powerful pleas to use Alaska as a "testing ground" for renewable energy demonstration projects, with Senator Murkowski claiming, "If you can make it work here in Alaska, where our costs are higher than anywhere in the country, then you can make it work anywhere."

**"When you still have communities along the river system that are paying ten and a half dollars a gallon, as they are out in Chignik... you ask the people in those communities what kind of progress we're making, and I think they'd say less than satisfactory."**

Senator Lisa Murkowski

*photo by: Angela Bourdukofsky, Akutan*



Alaska’s senators both discussed the significant financial opportunities for private investors who are willing to help small Alaskan villages. Senator Murkowski described her work trying to connect the community of Buckland with water and sewer systems for the first time—a multi-million dollar project—and she proposed the prospect of taking a successful model for connecting rural villages with good, potable water to similar rural communities overseas, as an example. Senator Begich shared information about “off-the-shelf” technology he saw at the forward operating base in Afghanistan, and he suggested that the federal government could also utilize renewable remote access energy sources that could reduce their high casualty rate along convoys moving diesel fuel to those areas.

Both senators explained to the D.C. audience the extraordinary differences between the different regions in Alaska, and the need to capitalize on the best resources in each region. In western Alaska, it’s wind. The Aleutian Islands are ripe for geothermal development, as is the Interior, while Yakutat and Fort Yukon have successful biomass projects underway. So what may work well with hydro projects in Southeast, for example, simply cannot be considered for other regions that have different renewable resources to work with, or those that don’t have an intertie system in place.

Unfortunately, Alaska’s vast, challenging geography creates one of the biggest challenges for renewable energy development in the state. Both senators agreed that the location of a renewable resource is often not necessarily where your customer base is, so the cost of transmitting that resource to the customer base becomes extraordinarily expensive.

The senators discussed a variety of biomass projects in the state, including the Sealaska building, a Ketchikan federal building, and a privately owned pellet plant in Fairbanks, along with some Coast Guard projects. Senator Murkowski expressed disappointment that the wood pellets in the federal projects are not being locally sourced in the Tongass but are instead being imported from Washington and Canada, and she believes that we still have a ways to go before we can call it a success.

Finally, the senators discussed the urgent need for the Interagency Working Group to bring the various agencies together on a regular basis to troubleshoot any overlapping or contradictory regulations that often inadvertently kill or weaken worthwhile renewable energy projects.

*photo by: Teresa Lord, Nenana*



## PANEL ONE: OUTLOOK FROM THE FEDERAL GOVERNMENT

Carol Browner, the longest-serving administrator in the history of the Environmental Protection Agency (EPA), moderated a fascinating discussion with David Hayes, Deputy Secretary of the Department of the Interior (DOI), and Steven Chalk, Deputy Assistant Secretary for Renewable Energy at the Department of Energy (DOE), about a new Interagency Working Group that Hayes is leading to coordinate the federal government's approach to conventional and renewable energy development in Alaska.

### The Interagency Working Group Tackles Renewables

David Hayes explained that the Interagency Working Group was created in July 2011 through an Executive Order that President Obama issued to better coordinate energy efforts between the various federal agencies, which typically operate as silos that are disconnected from one another. Four working subgroups have been established to streamline communications around renewable energy development. The Hydro subgroup is being chaired by Ann Castle, DOI Assistant Secretary; a Biomass subgroup is being led by Deputy Secretary Butch Blazer from the Department of Agriculture (USDA); Pilar Thomas, DOE's Deputy Director of the Office of Indian Energy Policy and Programs, and Karen Atkinson, DOI's Director of Indian Energy and Economic Development, are chairing the Rural Alaskan Villages subgroup. Dorothy Robyn, Deputy Under Secretary of Defense for Installations and Environment at the Department of Defense (DOD), is heading up a Federal Facilities subgroup.

One of the primary goals of the Working Group is to partner and coordinate with the State of Alaska, which has invested up to \$51 million a year in renewable energy. In the short term, Hayes explained that there are real opportunities for renewable energy progress with federal facilities. The DOD did an inventory and discovered that the federal government is a huge user of Alaska energy, close to 9 Billion BTUs.

Mr. Hayes agreed with Senator Begich's suggestion that the military is well positioned to push for technology innovations around renewable energy. He acknowledged Chris McNeil's leadership at the Sealaska Corporation in biomass, and the Coast Guard's involvement there, while also suggesting that efforts to "get smaller wind projects that are replicable, and that are affordable" have huge potential for getting renewable energy to remote villages that are off the grid.

#### What is the Interagency Working Group?

The Deputy Secretary-level Working Group was established by Executive Order 13580, signed by the President on July 12, 2011, and works to coordinate the efforts of federal agencies responsible for overseeing the safe and responsible development of onshore and offshore energy in Alaska. The goal of the group is to improve the efficiency of the federal government, ensuring that resource development projects in Alaska comply with health, safety, and environmental protection standards while reducing our dependence on foreign oil.

#### Interagency Group Members

U.S. Department of the Interior  
U.S. Department of Defense  
U.S. Department of Commerce  
U.S. Department of Agriculture  
U.S. Department of Energy  
U.S. Department of Homeland Security  
U.S. Environmental Protection Agency  
Office of the Federal Coordinator  
Council on Environmental Quality  
Office of Science and Technology Policy  
Office of Management and Budget  
National Security Staff

Steven Chalk explained that his organization “does research and development on behalf of the federal government for all renewables: solar, wind, geothermal, water power—which includes tidal—biofuels and hydrogen.”

## Economies of Scale the Main Challenge in Rural Alaska

Echoing Senators Murkowski and Begich, Chalk identified the main challenge in Alaska as the scale issue, explaining, “there’s not enough pull from the private sector because the projects are too small, and if you take the typical village, it might only use 500 kilowatts. That’s probably not enough to entice folks to go up there and develop the area and do a purchase power agreement.”

**“So I think the real key here is how do we scale this—can you aggregate some of the demand, which would require villages working together?”**

Steven Chalk, Deputy Assistant Secretary for Renewable Energy, U.S. Dept. of Energy

Mr. Chalk mentioned that five Alaska communities would be given awards through his department’s START Program (Strategic Technical Assistance Response Team) to “jumpstart” their energy planning with strategy development assistance from national laboratories that would help them identify the best renewable resource opportunities for their situation, while also providing them with expertise to help get additional grants. He suggested that we use these five communities as a model that might be replicated, to band them together to scale the investment.

The panelists also discussed the health hazards of villages using “dirty diesel” in their current power generation, and the added public health benefits of replacing diesel with clean, affordable energy options.

(L-R)Carol Browner, David Hayes, Steven Chalk photo courtesy of Center for American Progress

background photo by: Gina Pope, Fairbanks



David Hayes reiterated that he thinks the biggest opportunity for remote villages is to capture wind power and make it work. He mentioned that he, Julie Kitka, Ralph Anderson, some companies and others would be meeting soon in Anchorage, and he challenged them “to create a model, small-scale energy project in a harsh environment that could be replicated the world over within a year.” Carol Browner pushed him to make it a six-month challenge, saying, “We don’t want to wait a year. These people have waited an awfully long time.”

### **Wind Resources Throughout Alaska**

Alaska’s best wind resources are located in western Alaska and in coastal portions of the state, but many strong pockets of potential wind resources exist in every part of the state. Wind turbines, along with hydropower, are one of the most harnessed forms of renewable energy used today. There are many wind projects already working throughout Alaska, and many more are being built and planned. With today’s technology, just a few wind turbines are able to meet the demands of many small communities throughout rural Alaska.

“Certs Microgrid Concept.” Consortium for Electric Reliability Technology Solutions, <http://certs.lbl.gov/certs-der-micro.html>, 2012

### **Waste-to-Energy Strategies Show Promise**

Carol Browner asked about sludge technology for electricity generation, and Steven Chalk discussed how underutilized waste-to-energy technology is, in general. Whether it’s anaerobic digestion, methane or sludge, Chalk believes there are “lots of opportunities for small villages in the waste-to-energy area,” and he noted that they are also very cost-effective right now, so it’s more commercial than other technologies, which provides a big opportunity.

### **What is Biomass or Waste-to-Energy?**

Waste-to-energy systems convert biomass (biological material, such as organic landfill waste, agriculture, fish and forestry byproducts) into fuel as sources of energy. These systems include the collection of methane gas from landfills, wood from forests and oil from fish that can be processed into sources of energy, such as biodiesel. Often these systems act as part of larger energy systems to help ease fuel costs and to create cleaner waste disposal and landfills.

Alaska Energy Authority, Renewable Energy Atlas of Alaska, August 2011

Mr. Chalk also shared his belief that a lot of the work currently being done on micro-grids by DOD and DOE through their national renewable energy laboratory can actually transfer over to rural villages. In particular, he mentioned that their national lab ENRELL has a new facility being built which will be able to test and simulate micro-grids with various distributed energy, whether it's in wind or fuel cells, or wasted energy. They will reportedly be able to test that hardware and simulate a micro-grid, which will take away some of the risk when DOE goes to a rural village, helping to ensure that they're not essentially the guinea pigs of something that might not work.

### What is a Micro-Grid?

A micro-grid is a self-containing electrical grid that is powered, transmitted, consumed and monitored on a smaller, more efficient scale than larger power grids. They can be paired with a larger grid, but micro-grids can also be disconnected and operated independent of one another. Micro-grids are often paired with renewable resources such as wind turbines for more efficient use, and they can be separated from other power generation systems when needed. Micro-grids are imperative to rural Alaska for more efficient energy use as more renewable energy projects are being funded.

Alaska Energy Authority, Renewable Energy Atlas of Alaska, August 2011

### Small Hydro Projects Need Consideration

David Hayes wanted to ensure that small hydro projects got discussed, and he mentioned visiting a small hydro project in King Cove, a run of the river project, that supplied nearly half of the energy for the village. He explained that in serving Alaska Natives and small villages, you need to be opportunistic, and you do not need to be thinking huge-scale. Small-scale projects can be huge, but they have typically not gotten the attention of federal agencies. He reiterated that they are trying to change that with the new Interagency Working Group.

### Interagency Communication Will Reduce Permitting Delays

Both federal officials discussed efforts to minimize the permitting challenges faced by renewable energy projects at the local, state and federal levels. The Hydro Power subgroup is currently creating an inventory of all of the projects in the permitting process, which has apparently never been done before. Simple communications among agencies dealing with applicants ahead of time can prevent costly delays that can often kill worthwhile projects, so there are numerous efforts to communicate better and work across federal and state agencies. The need for state assistance with citing and distribution for geothermal development was mentioned, and Chalk mentioned that DOE is currently working with other agencies to ensure a transparent process that minimizes surprises when citing geothermal projects.

Mr. Chalk mentioned a new technology called pyrolysis, "where they can make diesel fuel from cellulose materials like wood, which Alaska certainly has a lot of. If we can use clean combustion technology, we can use that in the villages now and replace diesel fuel, which can also be used in the transportation as well," he said.

## Solar Energy is Part of the Puzzle

When asked about the potential for solar energy development in Alaska, both officials suggested that it should be included as part of the array of renewable options, but that it is not necessarily the most cost-effective or reliable component for Alaska, given its latitude. Hayes suggested that the most promising place for solar development in Alaska is with the military, and the leader of their Federal Facilities subgroup is leading that charge across the Pentagon. Chalk suggested that each community must do a feasibility study to determine which approach or approaches makes the most sense for their specific situation, and he believes that wind is much more cost-effective year round than solar in Alaska.

## Energy Efficiency & Weatherization Can Save More Than 30% Off Utility Bills

Alaska has a very good weatherization program that comes from the federal government. They go into residential areas and do the highest rate of return retrofits with insulation, caulking and weather stripping, and it can save homeowners more than 30% on their utility bills, which makes a big difference in rural Alaska.

## Creating Energy Efficiency Requirements for New Construction in Alaska

Both officials discussed the American tendency to make very short-term consumer decisions (how much will it cost me now) versus smarter longer-term decisions that weigh life cycle costs, for instance. The life cycle approach would indicate that spending more money to build an energy efficient building will save you significant money over the life cycle of a commercial or residential building.

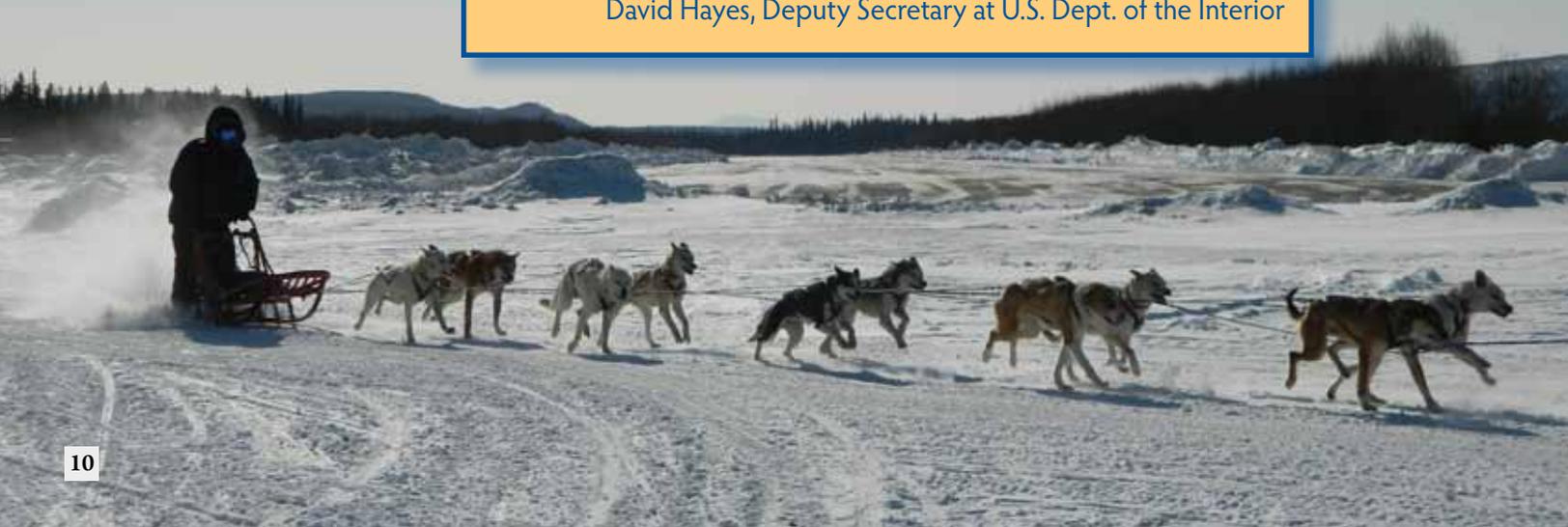
## Production Tax Credit's Impact on Wind Development in Alaska

Congress is debating whether to extend the Production Tax Credit, or PTC, for wind development in the United States. David Hayes explained that in the last few years, the U.S. has been responsible for literally half of the world's wind development and it has been powered by this tax credit. In terms of the impact of the tax credit on Alaska, only the larger projects are affected by it, like the one in Kodiak. Hayes suggested that a new economic model is needed to incentivize the very small projects being discussed for rural Alaska, especially since the expensive capital costs and tiny customer base are real problems for anyone wanting to invest in small projects in remote villages. He suggested approaching companies who are engaged in natural resource development in Alaska and asking them to invest back in the state if they plan to be there long term. He has received good feedback from corporations about this idea.

**"It's extremely powerful that the state has invested in renewable energy, and in a pretty remarkable way. What we hope to do is to help institutionalize it on the federal side and proliferate it with a special focus on Native Alaskans."**

David Hayes, Deputy Secretary at U.S. Dept. of the Interior

photo by: Angela Gonzalez, Hughes



## PANEL TWO: OUTLOOK FROM OUTSIDE THE BELTWAY

The event's final panel involved a fascinating, wide-ranging dialogue about the urgent need for private sector investments in rural Alaska; the role of ANCSA corporations in helping villages; the importance of partnering with Alaska Natives who know rural Alaska best and can share their knowledge; the incredible opportunity for innovation in the Bush and the need for a new economic model; and even the strategic importance of Alaska in protecting our nation's national security interests, as Norway has recognized by prioritizing people who live in its rural outposts.

### Private Capital & Innovation are Needed for Broad Impact

Ethan Schutt, the Senior Vice President for Land and Energy Development at Cook Inlet Region, Incorporated kicked off the panel by sharing his perspectives about the challenges and opportunities for private investors in rural Alaska. Ethan pointed out that while there have been a number of successful installations of small hydro, wind and geothermal technologies throughout rural Alaska, making sure that it is broad-based and hitting all of the communities is the most challenging problem. He reiterated that most opportunities are typically far too small to attract private enterprise, especially with all of the barriers discussed. Ethan has been trying to aggregate projects and facilitate getting private capital deployed in rural Alaska communities. Instead of broadening the pool of incentives that exist for rural renewable projects, Ethan believes that "getting private factors into this (rural) space actually brings a whole different set of skills, experiences, contacts, discipline, and most importantly, innovation."



(L-R) Ethan Schutt , Marie Greene , Byron Mallott, Scott Borgerson, Gwen Holdmann, Tom Kenworthy  
*photo courtesy of Center for American Progress*

## Regional Collaboration Focused on Energy Crisis

Marie Greene, the President & CEO of the NANA Corporation, shared her region's recent work since 2007 addressing the energy crisis that has created enormous barriers and grassroots challenges for people throughout the region. They developed a statewide energy plan, convened a Regional Energy Summit and created a collaborative Northwest Arctic Leadership Team, comprised of four regional organizations, to explore potential solutions to the crisis.

**"Now, it's funding that we need. So we told ourselves one of the things that we need to do is really work hard to increase our partnerships."**

Marie Greene, President/  
CEO of NANA Regional Corporation

Marie explained how NANA has partnered with the second largest zinc mine in the world, and with Kivalina, its closest neighbor, to develop wind energy. She also mentioned the Cosmos Hills project, a hydro project that NANA is hoping to move forward with, along with a renewable copper project in the Upper Kobuk area. She emphasized their commitment to developing meaningful partnerships with state and federal agencies as well, with the goal of securing funding for their projects.

## ANCSA Corporations are Investing in Villages

Next, longtime Alaska Native leader Byron Mallott explained that ANCSA corporations are the largest private landowners in the state, and he described their unique, profound cultural imperative to be responsive to their tribal member shareholders as Native peoples. He talked about the corporations' commitment to improving things for folks at the village level, even as they are in a process of rescaling to bring their strength back home. Byron also spoke about the Sealaska Corporation's subsidiary called Haa Aani, "Our Land," which Sealaska invested \$5 million of capital into, with a goal of attracting another \$5 million of NGO or philanthropic capital, and additional private capital, to focus on being a catalyst for opportunity at the village level. He emphasized the resiliency of Alaska Native villages, explaining that people are committed to being on their own lands, and that "when our people leave, much of the ultimate imperative is to move back when the opportunity becomes possible."

## Will Rural Alaska Communities Exist in 50 Years?

Byron painted a vivid picture of Alaska as "like no other place on earth . . . with Native peoples who still live on their own lands, who are still attached to it spiritually, culturally, and who still derive their sustenance physically and spiritually from that land." He then prodded the room to "imagine a time 50 years from now, when those places don't exist anymore, because that can be a distinct possibility in our country's future." Since CAP is a progressive institution probing issues that are so important to us as a nation, Byron encouraged everyone to think carefully about what that would say about the United States as a country, to squander "this incredible beauty and richness and diversity."

**"When fuel costs...in some instances triple within half a decade, and there are no other options because much of rural Alaska's energy comes from diesel, it is a crisis."**

Byron Mallott, President & CEO (Retired), First Alaskans Institute

## Alaska and the Arctic: the World's Most Exciting Emerging Market

Boston entrepreneur and maritime policy expert Scott Borgerson followed Byron Mallott's eloquent speech about saving rural Alaska with a fascinating macro view of Alaska in the Arctic in what he describes as "the world's most exciting emerging market from an investor and entrepreneur perspective." He gave a detailed explanation of his reasons for this claim, including Alaska's strategic location astride strategic shipping lanes, and he described the Bering Sea as the "gate to the future, this whole new ocean."

He went on to explain that Alaska and the Arctic are attractive by traditional investment standards, since both are experiencing faster aggregate growth rates than lower latitudes, and they both have very attractive fiscal balance sheets. Alaska's \$60 billion in assets and its very high triple A or at least double A rating puts its budget situation above that of the United States as whole.



Scott Borgerson, photo courtesy of Center for American Progress

**"I think Alaska is poised in a macro sense to experience really exciting growth. I think it needs capital... I think you need the private sector and entrepreneurship there."**

Scott Borgerson, Senior Fellow,  
Institute for Global Maritime Studies

Mr. Borgerson views Alaska as a safe haven for capital investment because of its lower unemployment rates, the fact that it's growing and its demographics are attractive, it has a younger population, etc. He thinks that Alaska is poised in a macro sense to experience really exciting growth, but it needs capital. He envisions the potential for some really nice risk adjusted rates of return, and he echoed Ethan Schutt's plea for more private sector involvement and entrepreneurship in Alaska.

## Lessons from Norway & Iceland

Scott also referenced lessons to be learned from Norway and Iceland. Norway has a sovereign wealth fund and has taxed North Sea hydrocarbons to create a \$600 billion financial engine in which to invest its next chapter of growth. Iceland has tapped geothermal and harnessed their natural and renewable energy to create a really interesting aluminum smelting industry and other high-energy intensive businesses that provide meaningful employment for local Iceland folks.

## Formulating a New Economic Model

Borgerson also shared his belief that "Alaska desperately needs a new model for investment, a macro strategic picture on how this capital could be deployed, how it could work with Native corporations, local communities, and state and federal leadership." He admitted that he doesn't know what that model is, but he also hasn't seen a pipeline of investment ready projects, renewable or otherwise, that are ready for capital if it was to arrive.

He pointed to Africa and Southeast Asia as having valuable lessons for Alaska in terms of the microfinance success stories there. He also suggested that Alaska "look at larger investment projects, in mining and other places, and build renewable or other energy centers off of the back of those that then serve these rural communities, and make that a holistic part of the project, and think about tax credits or maybe federal money to backstop debt guarantees or programs on the condition that then there are spinoffs that then serve these rural communities."

**“No one understands the environment that they’re operating in better than Alaskans, and I think that’s really what I want to get out of this conversation, it is not tech transfer. We don’t need to come in and even develop pilot projects. We need to work with Alaskans as a group for technology solutions. ”**

Gwen Holdmann, Director, Alaska Center for Energy and Power, University of Alaska Fairbanks

## **Leveraging Alaska’s Significant Federal Dollars**

Prompted by Senator Begich’s comments about Afghanistan and Iraq, Borgerson further suggested that the significant DOD dollars that are being spent in Alaska should be leveraged with the private sector to facilitate innovation, and that Alaska should “use those checks being written to segue and jumpstart renewable technologies in rural Alaska.” Finally, he suggested that Alaska needs to “harness the pace of innovation” that exists in start up and entrepreneurial places, and he proposed an innovation competition with cash prizes, similar to the Alaska Marketplace competition, which he was completely unaware of.

## **The University’s Vital Role in Alaska’s Renewable Future**

The last panelist of the day was the Alaska Center for Energy & Power’s Gwen Holdmann, who is based at the University of Alaska Fairbanks. Gwen brought the soaring global macro-economic dialogue back to earth as she discussed specific renewable energy projects that she and the university’s center are working on in Alaska. She also explained that the university often serves to fill the gaps that exist between federal and state agencies. She sees them as an intermediary that can connect opportunities with needs, to some degree, which is an important role for the university to play.

*photo by: Bartz Englishoe, Anchorage*



## Alaska's Geothermal Success: Cold as a Resource

A project engineer by profession, Gwen helped develop the world's lowest temperature geothermal project six years ago. It's surprising success contains lessons for Alaska in terms of the power of utilizing local knowledge and innovation. A fat DOE report had stated that "you cannot generate power from this resource- it is not hot enough, and it is not big enough." Yet the people that wrote the report were thinking of the geothermal resources in desert climates of the western U.S., which have high, ambient temperatures. Holdmann explained that her research team realized that Alaska had its "cold" as an actual resource and as an advantage, and they worked with the private sector to develop a product that has been very, very successful. She also shared that the first time that geothermal energy, other than steam, was ever used to generate power was in Alaska at Manley Hot Springs in 1979, so Alaska has played a part in innovating geothermal energy.

## Alaska is Vital to U.S. National Security

A fascinating question came from the audience about whether the federal government ought to get more involved in helping Alaska develop thriving rural communities for national security reasons, given the emerging economy that is rapidly developing across the Arctic region?

Scott Borgerson explained that he thinks the United States is asleep at the wheel as it relates to the national security imperative in Alaska. Canadian Prime Minister Stephen Harper and Russian President Vladimir Putin both speak about their country's Arctic sovereignty and Arctic national security in significant ways that prioritize it, whereas the U.S. presidential campaign candidates won't be discussing it. He believes that having flourishing communities throughout rural Alaska has broad strategic geopolitical consequences. He explained how Canada appropriately pushes sovereignty and responsibility out to its rural communities to be front lines of defense, and it empowers them as members of the national security establishment. The U.S. uniform services have problems with this approach, and Borgerson believes that they should strive for more of a partnership with rural communities, in that sense.

## Norway Respects & Invests in Rural Communities

Gwen Holdmann shared a story about a group of Alaskans who visited Norway to learn lessons from them. They told her that rural residents are actually given higher voting status, and the government puts a lot of funding into rural infrastructure, for national security reasons. They explained that it is very important to Norway to have people in rural locations because they want to make sure that those areas are staked out as being part of their sovereign land, since they've been invaded. "Their investment in rural communities is a big part of Norway's equation, yet it is not something that is talked about on a regular basis in Alaska," she said.

Scott Borgerson explained that "the Secretary of Defense, the Secretary of State, the Chairman of the Joint Chiefs of Staff, all of the major military leaders are acutely aware of Alaska and the Arctic and the national security implications for our nation's sovereignty."

## Closing Thoughts

Scott Borgerson made an impassioned plea to bring all of the speakers from the day's panels to the Cambridge Innovation Center at the Massachusetts Institute for Technology, or MIT. It's a hotel of entrepreneurs and venture capitalists who he claims are "dying to find projects and opportunities. You have real exciting opportunities and challenges, and they have capital and energy. I think it could be a beautiful marriage."

## Urgency Demands a Focus on Broad-Based Projects

Ethan Schutt closed with an urgent plea to figure out a way to get all of this done more broadly in rural Alaska, since there have been many successful one-community projects. He would like to see something implemented quickly in 100 communities, since the real enemy is time. He suggested going after the low hanging fruit, the easiest things, including the development of inter-village interties, swapping out old and inefficient diesel generators, and increasing energy efficiency through insulating buildings. He also mentioned that in many rural communities, the State of Alaska itself is the largest consumer of energy, so there are many pieces to the puzzle.

## A Billion Dollar Investment is Needed Within 5 Years

Byron Mallott echoed the urgency of solving rural Alaska's energy crisis, suggesting that the goal should be no further out than 5 years from now. Byron also boldly suggested that the federal and state governments should make a billion dollar expenditure in seed money between them to attract outside capital.

His comments perfectly summed up the day's overriding focus on partnerships. "More than anything, we need brains. We need people who can come and work with us, and use our collective talents and our collective capacity to really deal with this, such that, when it's done, we have the opportunity for the kind of thriving communities that have been referenced here more than once. But time is of the essence, it really is."





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