



**Opening Statement
Hearing on Geothermal Energy
Chairman Lisa Murkowski
June 20, 2019**

Good morning, everyone. The Committee will come to order as we begin our hearing to examine opportunities and challenges for advanced geothermal energy development in the United States.

We're going to have an opportunity this morning to talk about something this morning that I have great, great enthusiasm for. My only regret is that we're not seeing enough- in my view- focus on the issue of our extraordinary assets that are below our Earth's surface. And this is Geothermal.

So as we welcome our panelists to the dais here this morning or table here this Again, I want to thank colleagues for their interest in this. We had an opportunity just a few weeks ago to go to the arctic, yet again with several colleagues.

We were in Iceland had the opportunity to see the extraordinary potential of a nation that has decided that they are going to take advantage of their renewable resources with a goal and a vision to be 100% renewable. And it's not all through geothermal, the vast majority of renewable comes to them through their hydro resources. But then they supplement that with geothermal and the opportunity to not only use geothermal for heating, to thaw the ice and the snow off their sidewalks for their public swimming pools.

But for everything is innovative as drying the bones and skins of cod that come from the processing facility so that they can be spent over to African nations as a protein base is what they're able to do when they have this extraordinary resource. And just a good example of the almost limitless power of the Earth's internal heat.

Countries like Iceland, the Philippines, Kenya, and El Salvador that have realized the enormous potential of this emissions-free resource, and have made it a majority source in their energy supply mix. Unfortunately, outside of several states in the west, geothermal has historically been overlooked here in the country.

It's interesting that on this committee we have so many members that actually have geothermal interests in their states. Senator Lee from Utah, Senator Risch from Idaho, Nevada enjoys the benefits of geothermal recently have it in Alaska. But we have great opportunities throughout the country and being able to identify these opportunities I think should be a priority.

Whether it is used for heating our homes or keeping the lights on, geothermal provides clean and always-on energy that requires no external backup. And we talk a lot about how we got great potential for the wind but what happens when the wind isn't blowing. We got great potential for the sun and solar, but what happens when it's nighttime and the suns not out?"

You won't hear a similar concern with geothermal. These resources are constant and reliable. There is no such thing as fluctuating, intermittent earth heat. And that's a big advantage. A new report from the Department of Energy, Entitled *GeoVision: Harnessing the Heat Beneath Our Feet*, calls that geothermal the untapped energy giant. And they have determined in this report that geothermal could represent a much larger percent of the U.S. energy mix by 2050, we could be looking at nearly a 26-fold increase from where we are today. This rivals the growth of solar, wind, and hydraulic fracturing. So the potential is out there, I think

that's pretty extraordinary. I was a little disappointed in that report that Alaska I was not featured in it, but we'll work on that. But setting that aside, I still look forward to hearing more about what went into the report, and I found it quite useful as a roadmap for what could lie ahead.

GeoVision does a good job of laying out the technical and non-technical barriers that have kept us from realizing geothermal's potential. And it shows that if we can address them, through policy and innovation, this resource can make a huge contribution to America's future.

When I talk to folks about geothermal one of the things they tell me is, well its challenging because we're viewed as a "mature" renewable. And so if you're mature there's not a lot of interest in doing something new because what's new? This is stuff that's been around forever and what more can be done to enhance it? And I think that's part of the reason for the conversation here today.

Regulatory reforms alone, we understand, could double geothermal capacity. And technology improvements focused on exploration, discovery, development, and management of these resources could increase geothermal electric power generation nearly 26-fold from where we are today. I think that's significant.

In Alaska, we got a pretty abundant supplies of geothermal. I tell people you got an Aleutian Chain down there that's nothing more than a string of volcanoes around the South Central area. Great potential for geothermal there. At an estimated 2.4 gigawatts of possible generation, the most current assessment ranks us behind only California and Nevada in generation potential. And we're starting to take advantage of this resource around the state.

I think you've been to Chena Hot Springs haven't you Mr. Simmons? If you haven't Dan Brouillette has. We have several other from the Department of Energy that have come to our renewable energy fair and seen the benefits of a low temp geothermal there at Chena. That provides heat and power to the small resort far below the cost of diesel electricity.

In Juneau, geothermal heat pumps support the airport.

We also have promising regions on the Seward Peninsula interest with what is going on just North of Nome and of course I mentioned the Aleutian Islands. These are exciting prospects for a state where the cost of power generation is a significant challenge and a clean, reliable resource like geothermal could go a long way toward easing that burden.

I'm looking forward to our panel this morning. This is the committee's first hearing on geothermal since 2006. How could that possibly be? We have five experts who can tell us more about the findings in the new GeoVision report, as well as other recent developments in geothermal energy:

- Mr. Daniel Simmons, the Assistant Secretary of Energy for the Office of Energy Efficiency and Renewable Energy;
- Ms. Katherine Young, the Geothermal Program Manager at the National Renewable Energy Laboratory;
- Mr. Tim Spisak, State Director for New Mexico, Oklahoma, Texas, and Kansas at the Bureau of Land Management;
- Mr. Tim Latimer, the Founder and CEO of Fervo Energy; and
- Mr. Paul Thomsen, Vice President of Business Development for Ormat.

We welcome all of you.

Senator Manchin?

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