

To meet demand for rural power, communities can look to nuclear energy

By Lisa Murkowski and Jay Faison

🕒 Updated 10:35 AM ET, Fri June 8, 2018

Nuclear fusion: the end of our energy problem? 03:30

Editor's Note: Editor's Note: Sen. Lisa Murkowski (R-Alaska) is chair of the US Senate Committee on Energy and Natural Resources. Jay Faison is the founder and CEO of the ClearPath Foundation, a nonprofit organization that backs conservative approaches to clean energy. The views expressed in this commentary are their own.

(CNN) — In 1994, the Clinton administration shut down a small sodium reactor that had operated without incident at Idaho National Laboratory for 30 years. This small reactor was termed "walk-away safe" because when the liquid sodium coolant got too hot, it expanded and [shut itself down](#).

Now, entrepreneurs are bringing it back from the dead.

These sodium and other advanced microreactors could be a godsend for those in Alaska communities [who spend up](#) to half of their annual income on energy. Costs are so high in some remote Alaskan villages that mothers have had to choose [between heating](#) their homes and buying formula for their babies, a burden that most of the US cannot fathom and a choice that families should not have to make.

More than 200 of Alaska's communities receive power from [isolated microgrids](#), often relying on diesel generators to meet their power needs. Diesel is expensive to deliver and has among fuel sources for generating power one of

the highest levels of emissions. A number of communities are integrating renewables like hydro, wind, and biomass to lower costs and decrease emissions, but many others lack the financial means and resources to do so.



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run without refueling for years at a time. Most importantly, it has the ability to cut electricity bills in half without harmful emissions that contribute to climate change.

Think of what that could mean for Alaskan communities that would have enough affordable power to heat their homes, schools, and clinics -- possibilities that are currently only dreams.

Think of what it could mean for remote military installations, which require reliable power to keep our nation safe. Think of what it could mean for areas such as hurricane-ravaged Puerto Rico, where thousands of people are still without power.



Photos: Japan looks toward a sustainable future

developers will be forced to buy from Russia and China.

The House recently approved a bipartisan plan led by Rep. Randy Weber and other senior Science Committee members that would authorize the Department of Energy to construct a fast-spectrum versatile research reactor, a crucial tool that will accelerate licensing times and allow innovative technologies to test fuel.

What if technological innovation could upend this reality -- offering a future of clean, cheap, safe, and reliable power options to microgrids everywhere from Kaktovik, nestled on the Arctic Ocean, to Puerto Rico?

Enter entrepreneurs like Caroline Cochran and Jacob DeWitte of Oklo -- MIT graduates with experience at GE and Sandia National Laboratories. They have taken proven advanced nuclear concepts off the shelf, improved them into a new product the size of a shipping container, and entered promising early-stage discussions with the Nuclear Regulatory Commission.

Their microreactor concept could be shipped by truck or barge to a location, buried in the ground, and right-sized for local power demand. It requires less equipment and maintenance to ensure safety than existing plants, and can

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This new paradigm could attract billions in new capital investment and rapidly deploy energy-dense and efficient nuclear power across the country -- and perhaps the world.

So what is holding us back? Venture capital isn't always enough. Nuclear power must be regulated, but sometimes those regulations are not right-sized. And the long-standing debate over nuclear waste must be successfully resolved.

Congress [recently extended tax credits](#) for nuclear power, which is a start. But even for advanced reactors, there are several easy and obvious steps that have not been taken.

For example, there is no supply chain for the fuel that advanced reactors from Oklo, TerraPower, and other operators will require, but inexpensive policy changes could help. Without domestic supplies of advanced nuclear fuel,

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The federal government should also enable public-private partnerships with nuclear developers and set clear, ambitious, and achievable goals to demonstrate reactors. The Advanced Nuclear Energy Technologies Act, a bipartisan plan authored by Sens. Jeff Flake and Cory Booker, sets 2028 as the goal for



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demonstrating at least four new advanced nuclear designs. The bill was recently advanced by the Senate Committee on Energy and Natural Resources. We need the Department of Energy to establish such audacious, yet attainable goals for pushing US advanced reactor technologies to market.

We need these and additional policies that will unleash entrepreneurs like Caroline and Jake to rebuild America's nuclear industry.

While efforts to mitigate climate change are heating up, China is rushing to grab the strongest foothold in the clean energy race. China is already constructing and operating advanced reactors while we have none. The US -- once the pioneer and undisputed champion of nuclear power and other breakthroughs -- is falling behind.

This is not just an economic trade problem. It is a national security problem. Leadership in nuclear technology development allows leadership in nuclear regulation and safeguard regimes. A robust and healthy American nuclear sector is a prerequisite for national security in today's world.

Our private sector is working hard to innovate, with many new concepts in development. But, these US companies need the federal government to be a committed partner.

Together, we must reestablish US global leadership in nuclear power.

There's no time to waste, for Alaska or America.