NuclearNewswire

A call to action

Like many of you, I have dedicated my career to the advancement of nuclear energy. We chose this path because clean energy changes lives. If we want to reduce greenhouse gas emissions, end energy poverty, develop a U.S. power grid that is secure and resilient, and ensure national security, nuclear must be a significant part of the mix.

John C. Wagner

But let us acknowledge the reality of our situation. Nuclear power plants continue to close. New reactor projects are too often delayed by cost overruns and red tape. Not having solved the politics for a permanent repository, spent fuel sits at shut-down reactor sites.

We find ourselves perpetually running the hamster wheel, building paper reactors, and grinding our teeth as critics cloud public discourse by regurgitating old fears and clinging to the tired tropes of a bygone era.

There has been progress. Plant closures have been avoided. Advanced reactor projects are progressing, especially small modular reactors and microreactors. The national laboratories, working with industry, are pursuing revolutionary concepts such as integrated systems to power manufacturing and transportation.

But it's not happening quickly enough. We need to act with urgency. We need to focus on major outcomes, such as getting the next 100 GWe online. We need to be honest about what is not working and change it. And we need to take advantage of an unprecedented window of opportunity lest it close.

I say we have a window of opportunity for several reasons. The first is climate change. We see, across the political spectrum, a growing desire to meaningfully address global warming by dramatically reducing carbon emissions. As energy secretary Jennifer Granholm stated in June, "Carbon-free nuclear power is an absolutely critical part of our decarbonization equation."

We have bipartisan support for nuclear energy. Policymakers in Washington, D.C., and in state capitols across the nation are increasingly looking to nuclear as a clean, affordable, and dependable source of energy. In Idaho National Laboratory's backyard, the NuScale small modular reactor continues to progress. And our neighbors in

Wyoming and Montana have expressed interest in adding nuclear to their energy portfolios.

So, what do we need to do to take advantage of this window of opportunity? Several things. Let's begin with establishing a sense of urgency. The climate change timetable may be shorter than we thought, and the U.S. electrical supply is looking more vulnerable.

Many believe that advanced reactors will not be available quickly enough to combat climate change. We can address this concern by demonstrating to the public and policymakers that advanced nuclear technologies can be rapidly and safely deployed.

We've done this before. There are many examples. We need to "clear the deck" and repeat our early history of nuclear innovation.

This will require us to reimagine the future of nuclear energy. We must evolve the nuclear energy ecosystem into one that is relentlessly innovating, and not just in technologies but also in operations, policies, and regulations. While protecting the public and the environment, we need to take calculated risks and fail safely to develop the best technologies, as companies such as SpaceX have done.

We need to be hyper-focused on results. We get there by innovating broadly, rethinking the status quo, being receptive to change, and delivering projects the private sector wants and the nation needs.

The technology innovations and demonstrations that underpin the commercial nuclear industry were largely developed by researchers in the national labs, many working in the Idaho desert. The time has come for us to usher in a new era of nuclear energy. As INL director, I commit our organization to these objectives by focusing on what is needed and delivering results that industry can deploy. We are doing this through our leadership of programs that support the current fleet, directly support reactor demonstrations on accelerated time frames, and develop innovative uses of nuclear energy beyond electricity.

Given the pressing need to rapidly develop and deploy advanced clean energy technologies, policymakers must be willing to be bold and go big. For seven decades, nuclear has produced reliable and clean electricity for our nation while creating tens of thousands of jobs and adding billions of dollars to our economy. As a nation, we need to invest in the advanced nuclear technologies that will usher in a new era of economic prosperity and environmental stewardship.

That becomes more palatable to some when they understand that a strong and viable nuclear energy industry enhances U.S. national security.

America's historic leadership role has meant that we set the world's safety and nonproliferation standards. But our inability to build new reactors, and export advanced

technologies, threatens this. Our competitors are catching up, or arguably, have surpassed us. Russia and China are developing reactors and exporting technologies, something that begins a 100-year relationship with another country. U.S. policy must be updated to do what is necessary to enable the deployment and export of U.S. technologies for our nation to retain its position of global leadership and influence. Or we can watch Russia and China expand their influence while we have little say on how the world handles nuclear materials.

Another aspect of this is regulation. America's regulatory system is the gold standard for providing safe operation of existing nuclear plants. For decades, regulators have done an outstanding job protecting public health and safety. But we need to make sure regulations do not impede innovation. Without compromising health and safety, we must focus on efficiency and rethink our regulatory process to support a new era of rapid innovation and deployment.

Finally, all of us who are passionate about nuclear energy and the primary role it must play in creating a better world for future generations must do a better job of talking about it.

We can no longer afford to exist in echo chambers. The stakes are too high, and our window of opportunity too small. No more preaching to the choir. We need to be out there, in our communities, educating friends, neighbors, and family members; addressing the public's view of nuclear energy; and correcting misinformation that too often goes unchecked.

Like every energy source, nuclear has strengths and weaknesses. None of us should be reluctant to address these because, as we all know, any fair assessment will show that nuclear energy's strengths far outweigh its weaknesses.

Albert Einstein once said that the fate of nuclear energy will be decided in the town square. Let us make sure that this decision is made with the facts in mind and an understanding that nuclear energy, working in concert with renewables, can transform the American economy, mitigate the effects of climate change, and strengthen national security.

We have arrived at a tipping point. For the future of nuclear energy in this nation, it's now or never. We will either embrace the innovations needed to rapidly develop and deploy a new generation of advanced reactors, or watch this vital American industry recede into the background. It's time to step through our window of opportunity and create the kind of world we want our children and grandchildren to inherit.

Let us act every day as though the future of the planet depends on our ability to achieve results, because it does.

John C. Wagner is director of Idaho National Laboratory.