# Has America's Nuclear Renaissance Stalled?

## Remarks prepared by Senator Pete Domenici
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More than 12 years ago, at Harvard University, I proposed a new energy paradigm: resurgence of nuclear power. At that time, interest in nuclear power in the United States was stagnant. That is no longer the case. Both the American people and the international community show renewed interest in nuclear energy. This is a tremendous opportunity -- and represents a crucial challenge. As the global renaissance takes shape, we must ensure that America doesn't fall behind.

Yet, I fear that America's nuclear renaissance has stalled.

The United States lags in the development and deployment of new nuclear technologies. Worldwide, 53 new nuclear reactors are being constructed. China alone is currently building 18. The United States is constructing only one. By 2030, as many as 300 new reactors will be up and running worldwide. Less than 10 percent of these will be in the U.S. We are quickly falling behind and will forfeit our historical leadership on this issue if current trends continue.

America is stalled in thinking about used nuclear fuel. Other countries have developed, or are in advanced stages of developing, strategies to address waste and non-proliferation concerns. Countries like France and Japan have been applying recycling technology to reduce waste volume by 75 percent or more. They have been tackling this challenge for years. We are stuck in policies that are more than 30 years old.

### Jumpstarting Our Domestic Resurgence

As a long-time advocate of nuclear power, I was pleased by the bipartisan work that led to passage of the Energy Policy Act of 2005. That law included significant support for nuclear power. Since then it has become clear that even more needs to be done if the American nuclear industry is to provide an increasing supply of reliable, economical, and clean electricity.

Implementation of the Energy Policy Act of 2005 provisions reveals a mixed bag. Some provisions are working well. For example, 18 companies have applied for new combined operating licenses to build and operate 26 reactors. These applications show a serious commitment by American utilities to expand nuclear power in America. Approval of the first of these applications should occur in 2011. This is a good step forward, but many other pieces need to fall into place before we can call the licensing process a complete success.

We have failed, however, to effectively implement the Act's innovative energy technology loan guarantee program. The loan guarantee program for low-carbon energy technologies may have been one of the most potent provisions in the Act -- but four years later we still find those policies entangled in bureaucratic disputes and bickering in Congress. I fully support Secretary Chu's recommendation to double the size of the loan guarantee program, and I believe we could go even further, but such a pronouncement won't have much impact if we can't even execute the present loan guarantee program in a timely fashion.

I find it especially perplexing that the Department of Energy and the Office of Management and Budget are still negotiating the level of the credit risk fee -- the amount a project sponsor must pay to the government in advance to essentially "guarantee the guarantee." If the fee is set too high, we will never build the next generation of nuclear plants, or any of the other clean energy technologies that can use the loan guarantee program. An appropriate fee, and one that we judged correct in 2005 based on loan repayment rates in other programs, would be close to 1 percent of the total guarantee. At that rate, the loan guarantee provisions will prove a forceful driver for nuclear technology.

More than most, I am familiar with the debate on budgetary impact of loan guarantees within the appropriations process. Our intention in structuring the program -- and the way we wrote it into law -- was to have a minimal risk to the federal budget while spurring deployment of advanced, low-carbon technologies. The United States has a long history of monitoring federal loan guarantee programs and officials should have resolved these disputes long ago -- and they need to be resolved quickly if we are to move nuclear energy forward.

## The Need for a Waste Management Strategy

Two challenges that I highlighted in that Harvard speech 12 years ago have become more urgent: nuclear waste disposal and global non-proliferation concerns. In that speech, I said that we should not advocate use of nuclear energy, unless we were willing to get serious about the nuclear waste problem. During the last 12 years, America has moved backwards, not forward, in addressing this challenge.

We need to be realistic here. Yucca Mountain, once chosen as the site for permanent disposal of nuclear waste, is dead. We need to move beyond Yucca, not only as a site, but as a concept. At some point America will need a permanent nuclear disposal site, but for the time-being, the temporary use of nuclear reactor sites seems safe. Leaving Yucca behind means turning to more productive policies.

We hurt our competitive position by claiming that "we don't yet know how to effectively recycle nuclear waste," and simply throwing up our hands in frustration. I strongly disagree

that we don't know how. More accurately, we haven't tried what we already know and we haven't gotten serious about learning more.

I believe that we should take the $23 billion in the Yucca Mountain Trust Fund, paid for by rate-payers in the various states, and use that money for a pilot project on recycling used nuclear fuel.

This fund sits unused for its original purpose, despite the pledges we made to the various utilities and their rate-payers. With the consent of the fund contributors, the United State should use the $23 billion to construct a pilot plant -- with an associated research and development effort -- for advanced recycling technologies to expeditiously and thoroughly address nuclear waste and non-proliferation issues.

We must fully engage the public in this effort. A Blue Ribbon Commission, like that discussed within the Administration, could be an important part of that public debate. The Blue Ribbon Commission has been discussed but has no legitimate momentum. We must quickly make this Commission a reality.

Let me give you an example of how such a public debate can take place. We have a model in the state of New Mexico, the spectacular success of the Waste Isolation Pilot Project (WIPP), which has just celebrated its 10-year anniversary. We had years and years of public debate, at all government levels, before we embarked on WIPP. The public endorsed the project, after it learned that transuranic waste would lie in 3,500 feet of salt, which hasn't moved in 40 million years, and that we would get to the site using the most advanced transportation system ever developed for this purpose. WIPP has suffered no failures of any kind, no accidents, and has received recognition for the extraordinary engineering used in the project.

We need the same type of pilot project for recycling nuclear waste. If we strategically engage our scientific and engineering community, we can develop research and development plans that will push the frontier of waste minimization, toxicity reduction, and non-proliferation strategies. As it is now, we stand almost paralyzed while nuclear energy becomes the energy source of the future for many developing nations. For example, research has already shown that high-level military and non-military waste can be safely stored in salt, as we do with less toxic waste at WIPP. But, we have made no effort to apply that research. We have become almost passive observers of the nuclear energy renaissance, while other nations move forward.

For a moment, let me discuss how we got here. In President Carter's term, he decided that we should not pursue reprocessing because reprocessing could produce plutonium, a material we did not want other countries to develop. The theory was that if America took the high road and rejected reprocessing, then other nations would follow. History has proven this theory

wrong – other countries are reprocessing and America as fallen behind. So in order for the United States to be an effective international leader, a dramatic policy shift must occur here. Deployment of a strong domestic capability is necessary to provide the foundation for the United States to participate in any meaningful way in the global management of used nuclear fuel.

No nuclear technology can ever be perfectly "proliferation-proof." But, we can take significant steps, both in science and in international diplomacy, to chart a strategic path forward. We need to start immediately on those steps. The announcement by Iran that it will have as many as 10 nuclear sites within months, even if over-stated, dramatizes the urgency.

## Providing Credible International Leadership

The global resurgence of nuclear power is a reality. We need to recognize that and provide leadership in the areas of non-proliferation and waste treatment. Sadly, much of our policy framework is frozen in time, accommodating domestic nuclear plants and waste already in existence, but offering nothing to meet the challenges ahead. The United States can acknowledge reality or we can continue to bury our head in the sand while nuclear waste, and nuclear proliferation dangers, build up throughout the world.

We have an opportunity to pro-actively address this challenge. We can provide a safe and reliable global nuclear energy infrastructure that accommodates growth of nuclear power here and abroad. An important recent example is the Section 123 Agreement for peaceful nuclear cooperation between the United States and the United Arab Emirates.

In short, UAE wants to actively develop a civilian nuclear energy program to produce secure and reliable electricity to support its developing economy. This U.S.-UAE agreement that recently went into effect contains the strongest non-proliferation conditions ever agreed to by a foreign nation. The UAE has accepted a legally binding obligation not to pursue its own uranium enrichment. Instead, they will receive guaranteed long-term fuel contracts with international suppliers. The UAE has also agreed to refrain from pursuing recycling. Instead, the spent fuel will be returned to the international parties, the United Kingdom and France in this instance.

This is a model that, with modifications, may work in future agreements with other nations. However, this model requires adequate international infrastructure to responsibly manage used fuel through arrangements for take-back, treatment, recycling, and storage of spent fuel. America's present domestic policy is out of step with our demonstrated technology and scientific abilities.

The concept of a fuel bank, an exciting idea that I proposed several years ago in the Senate, offers a real chance for greater American involvement in the global nuclear renaissance. This concept of a "cradle to grave" fuel service enjoys widespread support from the United States, the International Atomic Energy Agency, and the Nuclear Threat Initiative. International reliance on a secure fuel bank will require our leadership and engagement with key nuclear partners. For example, Russia already has and will continue to play a critical role in global nuclear issues. In order to be true partners in managing nuclear waste, the United States and Russia should sign a Section 123 agreement. The last U.S.-Russia agreement sent to Congress was withdrawn after the Russian invasion of Georgia. I hope this Administration will re-submit this agreement so that we can begin to develop the international capacity to implement the fuel bank concept.

Perhaps as important, the U.S. proposal to provide cradle to grave services requires a "grave" -- something we have not effectively pursued. Deployment of domestic recycling technologies can provide the foundation for our nation to powerfully participate in the global management of used nuclear fuel. Only through our active international participation and long-overdue policy shift can we lead by example on waste solutions.

We can continue to pursue a long-outdated policy and try to avoid real participation in the new global nuclear reality. Or we can seize the opportunity to act now.