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July 11, 2014

The Honorable Lamar Smith  
U.S. House of Representatives  
Chairman, House Committee on Science,  
Space, and Technology  
2409 Rayburn House Office Building  
Washington, DC 20515

The Honorable Cynthia Lummis  
U.S. House of Representatives  
Chairman, Subcommittee on Energy,  
House Committee on Science, Space,  
and Technology  
113 Cannon House Office Building  
Washington, DC 20515

The Honorable Eddie Bernice Johnson  
U.S. House of Representatives  
Ranking Member, House Committee  
Science, Space, and Technology  
2468 Rayburn Office Building  
Washington, DC 20515

The Honorable Eric Swalwell  
U.S. House of Representatives  
Ranking Member, Subcommittee on,  
Energy, House Committee on Science,  
Space, and Technology  
501 Cannon House Office Building  
Washington, DC 20515

Dear Chairman Smith, Chairman Lummis, Ranking Member Johnson, and Ranking Member Swalwell:

I am writing to you regarding your July 11 hearing in the Energy Subcommittee of the House of Representatives Committee on Science, Space, and Technology on “Fusion Energy: The World’s Most Complex Energy Project.”

The American Security Project (ASP) is a nonpartisan, national security organization created to educate the American public and the world about the changing nature of national security in the 21st Century. We know that security in this new era requires harnessing all of America’s strengths: the force of our diplomacy; the might of our military; the vigor and competitiveness of our economy; and the power of our ideals.

One of the largest threats that our country faces in the long-term is our energy security. Some may believe that a domestic oil and natural gas boom has ‘solved’ our energy problems, but ASP’s research shows that we are still dependent upon global market fluctuations caused by Middle East instability. Others believe that government support for renewable energy technologies like solar or wind power will completely replace fossil fuels, but ASP’s research also shows that there are real logistical difficulties to scaling-up these technologies to meet a significant portion of base load electricity demand. The truth is that our current energy system is broken, and we do not yet have the technology to fully move into a cleaner system that is more sustainable – both for our foreign policy and for the environment.

We must develop energy technologies that will power America's economy for the next generation – technologies that are clean, safe, secure and abundant. One that holds great promise in meeting our needs is energy from fusion. The same process that powers the sun, it will completely revolutionize the world's energy system when commercialized.

Fusion emits zero greenhouse gases and is not variable like other renewable sources of energy. For the long-term energy and environmental security of future generations, developing fusion energy is critical. As fusion power will be affordable, plentiful, and 'always on,' base load energy provided by fusion power could be harnessed for many uses other than today's electricity; biofuels, desalinization, or fertilizer production could all be supported by fusion power.

It is not an exaggeration to say that fusion power would revolutionize America's economy.

That is why, on Thursday July 10, ASP updated its "Fusion White Paper 2014 – 10 Year Plan for American Energy Security" to provide a Ten Year plan for fusion development. This plan is available in full on ASP's website. This plan calls for a sustained national investment into fusion research of \$30 billion over 10 years. While that sounds like a great deal in these times of tight budgets, columnist George Will, in his December 22 article "A Dazzling Bright Future Dawns in New Jersey" notes that it is less than what the U.S. spends on energy in one week.

If Congress chooses not to reach this level of investment, we must ensure that the U.S. maintains a strong fusion research program in both the international program (ITER) and our domestic program. The Administration's FY2015 Budget request of \$405 million for Fusion Energy Sciences was inadequate to maintain this leadership, harming both the domestic program and the U.S. contribution to ITER. The House Appropriations Committee has recommended \$540 million in their FY2015 Energy and Water Appropriations bill. This amount of funding would ensure that the U.S. continues to play a leading global role in developing fusion.

However, we cannot afford to sit back; the rest of the world is not waiting. The Chinese, South Koreans, Russians, Japanese, and Europeans are moving forward quickly with fusion research. Despite the impressive progress that fusion scientists are making in American laboratories, the U.S. is ceding leadership in fusion energy to other countries. Many of the magnetic fusion facilities in other countries have surpassed the technological capabilities of the best American labs. International plans for power-plant deployment are

also substantially more advanced.

## ITER

One of the main topics of this hearing will be management and budget issues with the ITER project. ASP strongly supports ITER, and understands that large, international projects often fall behind schedule and over-budget. However, that is not an excuse. The U.S. presence as a full-partner in ITER can help to bring their project-management ability up to the highest levels, while also working with other countries to bring costs down.

Being a part of ITER has great benefits to the United States. First, ITER is a great return on investment: The U.S. only contributes about 9% but reaps 100% of the research that ITER produces. Second, ITER provides business opportunities and creates jobs: About 80% of the funds for the ITER project are spent within the U.S. The ITER Organization predicts that between 2014 and 2017 there will be around 3,000-4,000 workers added to the existing 1,000 employees. In addition, the project anticipates an estimate of \$1 Billion in future contracts for the United States. Already, ITER contracts extend over 38 states, with jobs created across the country.

ASP believes that America must lead in the pursuit of our common goals and shared security. We must confront international challenges with our partners and with all the tools at our disposal and address emerging problems before they become security crises. To do this we must forge a bipartisan consensus here at home. Our international commitment to ITER is a method of practicing diplomacy through science. During the Cold War, Mikhail Gorbachev and Ronald Reagan saw fusion energy as a solution to bridge the divide between the Soviet Union and the U.S. Today, this consortium brings together countries representing over half of the world's population. We cannot withdraw from such a project without a significant blow to our international credibility.

## Conclusion

America faces a crisis in its declining support for Research and Development. The next generation of America is in danger of inheriting a country that is no longer the world's leader in science or engineering; the very skills we know will be the building blocks of 21st Century prosperity.

This crisis is paired with a coming crisis in energy: our economy depends on reliable sources of power, but over the next few decades, almost all of the power plants in the U.S. will need to be replaced, and America's dependence on fossil fuels presents serious national security concerns – they sap our economy, exacerbate climate

change, and constrict our foreign policy.

America needs to produce energy that is clean, safe, secure and abundant. We see that energy from fusion has huge potential.

With direction from Congress, America's scientists could begin today to build the next-generation of facilities that will develop and prove the feasibility of fusion power. We know that our competitors in China and Russia have begun work on these facilities. Our superior scientific expertise means that we can beat them: but we first need to get to the starting line.

Achieving practical fusion power will cement American leadership in solving some of the world's critical problems, and drive American competitiveness in the coming decades.

Other countries (like China, Russia and South Korea) already have ambitious plans to develop fusion. The U.S. will be left behind if Congress and the President fail to make the smart investments we know are necessary. Fusion power is possible and America can do it. The payoff will prove to be a revolution in America's energy system.

ASP looks forward to working in a bipartisan fashion with Members of the House Science, Space, and Technology Committee to bring about a breakthrough in fusion energy research. ASP's staff and board stand-by as a resource for you on this and other issues of national security.

Yours sincerely

A handwritten signature in black ink, appearing to read "Stephen A. Cheney". The signature is fluid and cursive, with a large loop at the end of the last name.

**Stephen A. Cheney**  
BGen USMC(Ret)  
**Chief Executive Officer**