

Prepared Remarks of the Honorable Ray Mabus
Secretary of the Navy
Purdue University
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Thank you for that introduction. It is an honor for me to be here at Purdue today. Thank you President Daniels for the invitation to come see your research and facilities. Touring the labs and talking with your engineers and scientists, I was incredibly impressed to see all the cutting edge work that you are doing. The kind of research you are doing here is exactly what President Lincoln envisioned when he signed the Morrill Land Grant Act to create universities, like this one, that led in the “mechanic arts.”

In thinking about what I would say today, I was reminded of what the head of one of our international partner Navies told me during a recent trip to the Pacific. Soldiers of every country, he said, always focus on the ground. They see nothing but boundaries; which in a way leaves them stuck thinking about limits and about the past. Sailors, no matter where they are from, look out over the ocean and see nothing but the horizon, they see what is possible, they see nothing but the future.

Our future is clearly a maritime one. Because over that horizon travels most of the world’s commerce. We live in the most globalized economy in the history of humankind. Today, more than 90% of trade moves by sea. Over 90% of international data transfer occurs not via satellite, but through undersea cables. Eight of every ten people on earth live within 40 miles of a coast, a critical fact to remember as sea levels rise around the globe.

Clearly, freedom of the seas and freedom of navigation are vital to our global economy and to global security. It is no coincidence that global trade, the global economy and global prosperity have risen dramatically since the end of WW II, a period in which maritime security and open sea lanes for every nation engaged in peaceful trade have been maintained by the presence of the United States Navy.

Uniquely, naval forces offer the capability to provide presence, which really just means being in the right place, not just at the right time, but all the time. Presence helps deter potential conflicts, and it avoids escalating the situation when tensions rise.

Naval presence is persistent, meaning we can stay a long time. And we don't take up one inch of anyone's soil, so we don't infringe on anyone's sovereignty. As a result, naval presence uniquely offers leaders a wide range of options, from supporting diplomacy to providing stronger measures. As my favorite recruiting poster says of the United States Navy, "sometimes we follow the storm, sometimes we ARE the storm."

As the Secretary of the Navy I have the privilege to oversee two of our armed services, the Navy and the Marine Corps. From my distinctive vantage point I think that there are four things that make our naval presence possible: People, Platforms, Power and Partnerships. These have been my priorities since I took office almost five years ago. I want to focus for a moment on the third of those priorities: power, and explain why energy is so important to everything that we do.

Actually, I've never understood why people would be surprised that the Secretary of the Navy is so concerned about energy. It seems pretty obvious to me. After all, it was the Navy that switched its source of power from sail to steam in the 19th Century, from steam to oil at the beginning of the 20th Century and we pioneered nuclear power as a propulsion source in the middle of the 20th Century. And, by the way, every single time we made one of these dramatic changes in energy there were naysayers who spoke and worked against the change.

Five years ago, shortly after I took office, I began talking about power and have continued talking and writing and acting on this ever since. It is clearly a major and pivotal issue in many ways. But my main concern is about the national and international security implications, the critical geopolitical role of energy. As a security challenge, access to energy and fuel can be a diplomatic pressure point and can be, has been, and is, used as a geostrategic weapon. Consider, for example, the following: nearly 40 percent of the natural gas and a third of the oil that Europe consumes and over half of the gas that Ukraine uses comes from a single source. Russia.

Even with domestic oil production up, imports declining, and new oil and gas reserves being discovered, energy remains a security and an economic concern for the United States. Even if we were able to produce every single drop of oil or gas that America needs domestically, we cannot control the price. Oil is the ultimate global commodity, and it's often traded on speculation and rumor. As an example, in the aftermath of the chemical weapons attack in Syria last summer, oil prices surged to over \$107 per barrel and remained there for weeks. It is what oil traders call a "security premium." When a crisis anywhere in the world occurs – just look at Egypt, Libya, anywhere – the price of oil spikes.

Each \$1 increase in the price of a barrel of oil results in a \$30 million bill for the Navy and Marine Corps. This has huge implications across the Department of Defense and for our security. DOD is the largest single institutional consumer of fossil fuels on earth and budgets about \$15 billion each year on fuel. But in fiscal years 2011 and 2012 price spikes added another \$3 billion to the DOD fuel bill. The bills from that “security premium” can mean that we will have fewer resources for training, for operations and, if the bill gets too high, fewer platforms like ships and planes.

In addition, the cost of meeting our high fuel demand can also be measured in the lives of those guarding fuel convoys. During the height of operations in Afghanistan, we were losing one Marine, killed or wounded, for every 50 convoys transporting fuel into theater. That is far too high a price to pay.

For all of those reasons, in October 2009, I announced five energy goals for the Department of the Navy in order to improve our energy security, increase our strategic independence, and advance our operational capabilities. The top goal commits the Department of the Navy to generate at least one-half of its energy needs, afloat and ashore, from non-fossil fueled sources by 2020. It will make us better at our jobs, better warfighters, and it will make us, and the world, far more secure.

The Navy has a long and successful history of partnering with industry and our nation’s leading research Universities to promote technologies and designs important to our nation's military and

economic security. From the development of the American steel industry to nuclear power, the Navy has helped the country develop economically while helping Sailors benefit from the cutting edge of technology to defend our nation. Today, one of our major focus areas is diversifying fuel supplies, stabilizing fuel costs and reducing overall energy needs.

Some of the cutting edge research the Navy has been involved with over the last two centuries we've done ourselves, at places like the Office of Naval Research. But many other examples come from our partnership with academic institutions. Today on my tour of the facilities and programs here at Purdue I've seen that scientists and engineers right here in Indiana are working on projects that can help the Navy sail toward that next horizon of innovation.

But by working together to achieve our energy goals, a partnership between the Navy and research centers like Purdue will help us maximize our reach, maintain our global presence, and make our Navy and Marine Corps more combat capable. In short, we as a Navy and we as a Nation will have an edge. We will be stronger and less vulnerable.

So, in closing I'd like to thank President Daniels again for hosting us here today, and to all the faculty, staff, and students who we met that are doing really ground breaking work. Seeing these programs and hearing about Purdue's Military Research Initiative has been great. Teaming up with research centers like yours is an important part of maintaining the strength of the partnership between our Navy and the American people.

I'm looking forward to signing this agreement to share open information and data collected from research, development, and testing programs to alternative fuels and alternative power generation.

From the U.S. Navy: Semper Fortis, Always Courageous.

And from the U.S. Marine Corps: Semper Fideles, Always Faithful.

Thank you.