

Remarks by the Honorable Ray Mabus  
Secretary of the Navy  
Harvard Business School Association of Boston  
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Thank you so much, and thank you all for being here tonight.

I'm going to take a moment of personal privilege before I start my remarks.

One of the great things about this job is I get to meet and visit with some of the outstanding people that this country has produced. Admiral Tom Hudner is one of those people. He graduated from Annapolis, a native of Massachusetts, and was a surface Sailor for a while before he went into the flying business. And during the Korean War, he was flying in support of Marines and Army around the Chosin Reservoir.

His wingman, Jesse Brown, was shot down and crash-landed on the side of a very cold, very exposed mountain. And the admiral thought that Ensign Brown had been killed. But they – as they circled - they saw him wave to them. And so they all tried to figure out a way to help him. It was pretty clear he was trapped in the wreckage of the airplane.

Admiral Hudner crashed his own plane, in a wheels-up crash-landing, and jumped out and ran after his wingman. The plane was smoldering. There was fuel everywhere. He tried to put it out in the snow. His wingman, and his friend, Ensign Brown was hurt very badly.

A rescue helicopter finally arrived. They tried to rescue Ensign Brown with an ax and made no progress. Ensign Brown was badly wounded, in and out of consciousness, and finally lost consciousness altogether. He could not save Ensign Brown.

But one of the things that makes the story even more poignant was that Ensign Jesse Brown was the first African-American aviator the Navy had. He grew up in my home state – born in Hattiesburg, Mississippi, in the segregated South in an era of Jim Crow laws, and had to fight to be one – to be the only African-American in a school of 600 aviators going for naval aviation.

To know somebody like Tom Hudner is an absolute honor and privilege. So thank you for being here tonight.

The last time I spoke at Harvard was to formally re-establish naval ROTC at Harvard after a 40-year gap. And it's very appropriate that Naval ROTC is back at Harvard. Harvard has more Medal of Honor recipients than any school in the country save Annapolis and West Point. And the fact that ROTC was not here and people were denied the ability to help defend this country was an oversight that I'm glad has been corrected.

That was one of the first calls I made when I became Secretary was I called the president of Harvard, and I said, can we work on getting ROTC back? Naval ROTC – I don't know about the other two. And she said, absolutely; it's just we've got one little problem: "don't ask, don't

tell.” And I said, we’re going to repeal that. And we did. And once that was repealed, Harvard came right along.

And pretty amazing – the day after we announced Harvard, I got a call from the president of Yale and the president of Columbia. And they both have naval ROTC units now, too. But once again, Harvard was first.

I’ve always considered Harvard and Cambridge almost a second home. I’ve lived here longer than anyplace outside of Mississippi. I joined my ship, the USS Little Rock, in Boston Navy Shipyard in Charlestown over 40 years ago. And as I was driving to my first day of work to report aboard that ship, going down the shipyard drive, they used to have a big time and temperature sign. And it was minus three. And I was going to live on an unheated ship in a shipyard. And I wondered what in the world I had gotten myself into.

As I’ve told you earlier, my daughter Elisabeth, who’s a senior, will graduate in four months. And that’s even more astounding than even the fact that I was once here.

And Boston has an incredibly strong connection to the U.S. Navy, home to the USS Constitution, whose captain is here with us tonight, the world’s oldest commissioned naval vessel still in active service, still with an active-duty Navy crew. It was built in the late 1790s under the first secretary of the Navy, Benjamin Stoddert. When Benjamin Stoddert became secretary of the Navy, he had no ships. But being an – evidently, a pretty fair politician, he built six frigates in six different shipyards in six different states.

The Department of the Navy, which I head, was established in 1794 as part of President Washington’s Cabinet. And it was established to face many of the same issues we’re facing today: piracy, freedom of navigation, the right to be able to go where you need to go and do commerce where you want to do commerce. In fact, one of the reasons we operate under the government that we operate today is because under the Articles of Confederation, we could not raise a navy. And then we couldn’t fight the Barbary pirates and so one of the main impetuses leading Philadelphia and the Continental Congress was wanting to have the ability to raise a national navy.

Today’s Navy and today’s Marine Corps, work together as a team, form the Department of the Navy. And they represent the most formidable expeditionary fighting force the world has ever known.

Now, I was invited to talk about energy security and about the things the Navy is doing about energy. And I will. But I want to take just a moment to talk about the new defense strategy that the president announced about a month ago and our budget, which we are in the process of – Secretary Panetta announced some of the bigger parts of it end of last week. Anyway, we are in the process of beginning to move that to Capitol Hill and have our hearings and begin the debate over that budget.

The fiscal challenges that America faces are not going to be easy. And the military cannot be exempt from bearing part of the responsibility for easing those challenges. And whether our Navy remains the greatest navy in the world depends a lot on the improvements that

I think we've already started on how we get and use energy, how we design, purchase and build new platforms, how we increase the use of unmanned systems. But we have to strike a balance between fiscal responsibility and keeping faith with our Sailors, our Marines and their families, who have borne the burden of a decade of war.

We have participated in two ground wars for a decade. And whether we had hit a fiscal crisis or not, we needed to reconsider America's national strategy. We needed to pivot away from those two wars. We're out of Iraq. We're coming down in Afghanistan, and our combat troops will be out by 2014. And the President of the United States, working with the Secretary of Defense, the three Service Secretaries and the now five members of the Joint Chiefs of Staff, worked together to come up with a new strategy.

And this was pretty astounding. The President – for the first time in memory of anybody at the Pentagon, the President was personally involved in this new strategy. It puts focus on the Western Pacific and on the Middle East. But at the same time, we have to maintain our partnerships, our engagement with other parts of the world, with Europe, with Africa, with South America. This new strategy calls for a flexible, agile, small-footprint, responsive force to meet an incredibly broad array of missions.

I think you just heard the definition of the U.S. Navy and Marine Corps.

Once that strategy was laid out, we had to craft a budget to meet that new strategy as well as be in compliance with the Budget Control Act the Congress passed that said that over the next 10 years \$487 billion will be cut from the defense budget, and 249 [billion dollars] of that 487 [billion dollars] will come in the next five years.

Now, at the Pentagon, see, we put in budgets for five years. It's called an interyear defense program, and nobody ever says a future year's defense program – so it's FYDP – it's a five-year rolling thing. I asked one day, I said, when is it not budget day in the Pentagon? Never. We're always worried about the budget, and in fact, one of the real challenges is figuring out what year you're in. A month ago you were in calendar year '11. We were in fiscal year '12. And we were preparing the FY '13 through '17 budget. And just figuring out what date to write down on checks, to me, was a pretty big challenge.

Secretary Panetta has said achieving a \$487 billion cut over the next decade is hard, but doable. We in the Navy are used to taking the long view. When we build a ship, it's going to have a service life of at least 40 years. So the ships we're building today, the last captain of those ships very likely has not been born yet.

The Enterprise, the oldest nuclear-powered aircraft carrier that we have, just celebrated its 50<sup>th</sup> birthday. We got our money's worth out of it, just like we did out of the Constitution.

But the bottom line is that the new strategy calls for a global, world-class Navy/Marine Corps, and what this budget does is deliver one.

Navy and Marine Corps are uniquely positioned to give value to every one of 10 different critical mission areas that are identified in the new strategy. We can do everything from high-

end conventional warfare to irregular warfare to humanitarian assistance and disaster relief to partnership engagement, and we do it with the same people, we do it with the same platforms, we do it without taking up an inch of anybody else's soil.

You have seen some of the things – and they've gotten a good bit of publicity – that Navy does. Early last May, a group of SEALs finally brought Osama bin Laden to justice. Just 10 days ago, another group of SEALs rescued two hostages from pirates in Somalia.

At the same time we were doing those two things, we've had 20,000 Marines in combat in Afghanistan and 4,000 Sailors on the ground in Afghanistan. We had Naval Air operating on carriers, providing a third of the air support in Afghanistan.

At the same time, last spring, at the beginning of the Libyan operation, the first day, two submarines and a surface ship shot 122 Tomahawk missiles into Libya. That same day we had five ships off the Horn of Africa fighting pirates. That same day, the Ronald Reagan Strike Group – Carrier Strike Group, which had been on its way across the Pacific to do the close air support over Afghanistan, turned; in less than two hours and went to Japan after the tsunami and used exactly the same target techniques that they were going to use over Afghanistan to make sure that the right stuff got on the right airplane in the right order going to the right place. That same day the Marine Amphibious Ready Group that normally operates out of Okinawa and had been off the coast of Indonesia doing training was also in Japan, ferrying troops and supplies, mainly from Hokkaido, down to the damage zone.

That same day we had a ship circumnavigating Africa, from the Africa Partnership Station, building relationships with maritime countries around Africa. That same day we had ships in the Caribbean and in Eastern Pacific interdicting drugs. That same day we had a hospital ship going around South America in Continuing Promise, doing medical, dental and veterinary work. And that same day we had another ship going through the South Pacific doing the same sort of humanitarian assistance.

All those ships when they left port really didn't have any idea that they were going to be doing what they ended up doing. And the one thing that I tell captains and strike group commanders and amphibious ready group commanders when they head out is that the only certainty that you're going to face is that you will have something that you did not anticipate and you will have to rely on your training, you will have to rely on your Sailors and your Marines, but I'm confident and so far have never been disappointed that they can face anything that comes over the horizon.

So despite what you may hear or read, the United States Navy and Marine Corps are not in decline. We will continue to be the most powerful expeditionary fighting force in the world.

But you have to do things smart. You have to do more with less.

Nat talked to you about some of my priorities. One of the things – we're trying to build things cheaper, quicker, but more effectively.

My first job, elected job – I was state auditor in Mississippi. So like the people from Harvard Business School, I can read a balance sheet. I can figure out a DNL. And I can also pretty much tell you when money's being wasted.

So we've come up with some pretty straightforward things. We're not going to build a ship unless the technology's mature, the design's stable, and we have given industry a look into what kind of ships and when we're going to build them, so that they can make the investments they need to in infrastructure and training. But in return, from industry, we expect them to make those investments, and we also expect that every ship of the same class or aircraft of the same class is cheaper than the one before. There's got to be a positive learning curve here.

And it's also the reason why I'm convinced that now more than ever we've got to reform the way that we use and produce energy.

Now being efficient is part of that, and we're doing a lot in efficiencies. We're doing everything from new hull coatings to changing light bulbs to LEDs. We're doing smart grids. We're doing smart meters. And we're finding out where we're using energy and we're cutting back on it.

But we've got to go past just being more efficient. And I don't think anybody that reads the news or watches it can doubt that we buy too much fossil fuel from places that are actually potentially volatile, from folks who may not be our friends, from people who may not have our best interests at heart. All you've had to do is turn on the TV in the last two weeks with the threats to close to the Straits of Hormuz.

We are too vulnerable. Our supply lines through Pakistan have been closed into Afghanistan. We are too vulnerable.

We would never allow these countries to build our ships, our aircraft, our ground units, but we give them a say on whether these ships sail, these aircraft fly or ground vehicles operate because we buy fossil fuels from them that we have to have.

And increasing our domestic production of oil, natural gas is great, but even if we tapped every domestic source, it's not enough. We don't have enough to meet our needs over time. A statistic that you've heard over and over again: We use 25 percent of the world's oil, we have 2 percent of the world's oil reserve. And even if we could produce enough domestically, oil is a global commodity, and the price is set globally. Every time the price of a barrel of oil goes up a dollar, it costs the Navy \$31 million in additional fuel costs.

So, when the Libyan uprising started, the price of oil went up almost \$40 a barrel, just overnight. That's a \$1.1 billion bill that the Navy has to pay. And the only place – the only place I have to go get that money is out of operations. So we steam less, we fly less, we train less because of that. Experts have predicted if the Straits of Hormuz ever get closed, the price of oil could go up by 50 percent in a matter of days.

And our dependence on fossil fuels costs us a lot more than money. We import gasoline into Afghanistan more than we import any other single thing. It and water are the two – by far –

the two things we import the most. For every 50 convoys, we lose a Marine – killed or wounded. That's too expensive.

So the Marines have embraced alternative energy in a way that nobody else has. And I'm pretty sure that nobody, the first thing they think about when they think about the United States Marine Corps, they don't think about ardent environmentalists. But the Marines in Afghanistan are now using solar panels to power their headquarters tents. They've reduced the amount of fuel that they use by 25 percent or more in those headquarters. And in their forward operating bases, some of them are down 90 percent or more in fuel usage.

They're doing things like, every Marine in some companies now carries a solar blanket that they can unroll and power their radios, their GPS, all their small electronics. It saves gasoline for generators. It also saves 700 pounds of batteries for one Marine company. And it takes them out of having to be resupplied. It makes them better warfighters, lets them get on with what they were sent there to do.

When you run a military organization, one of the things you do is look for vulnerabilities. You look for vulnerabilities in your potential adversary, but you'd better also look at vulnerabilities of your own. And when I was nominated for this job and began to be briefed on the Navy and the Marine Corps, our energy dependence jumped out as one of the biggest vulnerabilities that we have today. The reason we're doing this, the reason we're moving to alternative energy is that it's a matter of national security. It makes us a better military force.

Now, there are some side effects. It makes us better stewards of the environment. It reduces our carbon footprint. But the reason we're doing it is it makes us better warfighters. That's what we exist for, and that's why we're doing it. And we've made some progress. In fact, I think we've made some pretty stunning progress.

In October of 2009, I announced five goals for the Navy, the broadest of which is that by no later than 2020, at least half of all Navy energy, both ashore and afloat, will come from nonfossil fuel sources. That's a pretty big goal, but I'm absolutely confident that we're going to meet it. We've already flown every single aircraft the Navy and Marine Corps flies on biofuels, and we've certified them on it.

The first one we did was the F/A-18 Hornet, the so-called Green Hornet. And you all may have seen the movie about it. But it flew 1.7 times the speed of sound. The plane didn't notice the difference. The next group that flew it was the Blue Angels. They flew using a 50-50 blend of biofuel and aviation gas. And if you've ever been to a Blue Angels' show, you know they depend on pretty high-performance aircraft and fuel.

Since then, as I said, we've completed testing on all aircraft, and by the summer we'll be through with all our surface fleet. And this summer, in July, at the Rim of the Pacific exercises, which is the biggest naval exercise in the world, off the coast of Hawaii, we're going to have a carrier strike group that we've dubbed the Great Green Fleet, and it's going to be operating on biofuels and nuclear power. All our carriers, all our submarines, are already nuclear. All the aircraft and all the surface ships that surround and protect a carrier strike group will be operating on biofuels.

We made the biggest purchase, we think, in American history of biofuels to support this, in December – 10,000 barrels of biofuel. And we didn't have many requirements, but we sure had some. One is it had to be a drop-in fuel. We've got the fleet we're going to have. We've got the aircraft we're going to have. We can't afford to go through and change engines out. We've got to just replace the fuel that we're using today.

Second, it's got to be grown in America. I don't want to trade one source of foreign energy for another source of foreign energy. And third, it can't take any land out of food production, so that we don't put pressure on prices for food and we don't put pressure on supplies for food.

And we're not the only one doing this. The commercial airline industry is looking at it too. In November, United Airlines and Atlantic Airlines completed the first biofuel-powered commercial flight in the United States. The European Union just announced that it's going to start taxing airlines for the carbon that they use coming into the EU. But for them to use biofuels, being in the private sector, biofuels have to be absolutely competitive in price with fossil fuels.

And that's where the Navy comes in. We can create a market. In April, President Obama tasked Department of Agriculture, Department of Energy and Department of the Navy to come up with a nationwide, geographically dispersed, competitive biofuels industry. The three of us have signed a memorandum of understanding to do that. What the Navy brings to the table, number one, is the market. We're willing to guarantee we will buy this fuel.

But the second thing we bring is something called the Defense Production Act, which says if there is an industry that America needs that we do not have and we need it for the military, we can invest along with the private sector in that. And so the three agencies are going to invest up to half a billion dollars, to be matched by the private sector, to create this market.

The Navy has a long history of doing this. In 1808, we were buying all our steel from Europe, mainly Germany and England. We could buy it for between \$100 and \$200 a ton. The average was about 150 [dollars]. But we decided – the Navy decided, Navy leadership at the time decided – I'm sure they took a lot of heat from Congress for paying too much – they decided we needed a domestic supply of steel, so they offered U.S. steelmakers \$300 a ton. Nobody would take it. They offered 350 [dollars]. Nobody. Four hundred [dollars]. Nobody.

They finally got the U.S. steel industry to supply some steel for \$462 a ton, more than twice, almost three times what they were paying for imported steel. But 20 years later, on the verge of World War One, we not only had one of the great navies in the world, made out of American steel, we had the greatest steel industry in the world at the time. That's what demand from the military can do. That's the market we can bring.

We are doing a lot of other things. We are a seagoing service, but we also have 3.3 million acres of land, 72,500 buildings. The president in his State of the Union last week announced the Navy is going to purchase a gigawatt of renewable energy for some of our shore-based things. That's enough energy to power 250,000 homes or enough energy to power a city

the size of Orlando. And we're going to do it by spending no tax money. We're going to do it in partnership with industry. We're going to do public-private ventures, and we're going to do – we'll let you build your plant on our base, and we'll guarantee we'll take the energy. We'll give you a market, and in exchange, we will cut ourselves free of a dependence on foreign fossil fuels.

We're just doing a myriad of things. We've just announced a program of study at the Naval Postgraduate School in Monterrey in alternative energy. We're cooperating with the Small Business Administration to make sure that small businesses come in and know how to navigate the federal procurement system, which I understand can be confusing. And the last one I'll mention is we started an initiative called the Defense Venture Catalyst Initiative to work with venture capitalists in alternative energy. The military loves above all else, acronyms, and so the Defense Venture Catalyst Initiative is DeVenCI.

We're making better warfighters. We're making forces that will protect the United States. In fact, we're also making forces that will represent the United States better when countries call upon us for humanitarian assistance or disaster relief. The Navy and Marine Corps gets a request, on average, once every three weeks to respond to a disaster somewhere in the world. We're the only country in the world who can respond to it. We can respond anywhere, we can respond quickly, and we can respond effectively.

You know, there have been lots of naysayers in this. It's too big. Why are you doing this? You're paying too much. Well, I just suggest that people look at history. The Navy has led the change in energy in the United States every step of the way. We went from sail to coal in the 1850s. We went from coal to oil in the early part of the 20<sup>th</sup> century. We pioneered the use of nuclear in the 1950s. And every single time – every time there were folks who were saying, this is never going to work; you're trading one very proven source of energy – and in the case of the wind, it's free – for one you don't know about, and it's expensive.

There was a group of admirals and a former secretary of the Navy in the 1840s who said, we will never turn our Navy into smoke-belching monsters; we will stay with the wind. When we went from coal to oil, there was this great hue and cry about, look, you've established coaling stations all around the world; you're going to waste that money; the infrastructure is going to be gone – every single time. When we went in the 1950s to nuclear – it's not safe, and oh, by the way, you can't make it small enough; who ever heard of a nuclear reactor on a submarine? Every single time there were people who said it couldn't be done, and every single time they were wrong. And I am absolutely confident they're going to be wrong again because when faced with a new challenge, what the Navy and Marine Corps do, what our history has shown that we do, what our heritage and the things that the Navy and Marine Corps represent, we innovate, we adapt, and we come out on the other side victorious.

Thank you.