

THE BROOKINGS INSTITUTION

DEFENSE BUDGETS, AMERICAN POWER AND THE NATIONAL SECURITY INDUSTRIAL  
BASE

Washington, D.C  
Friday, July 15, 2011

PARTICIPANTS:

KEYNOTE ADDRESS:

**Moderator:**

MICHAEL O'HANLON  
Senior Fellow and Director of Research, Foreign  
Policy  
The Brookings Institution

**Speaker:**

ASHTON B. CARTER  
Under Secretary of Defense for Acquisition,  
Technology and Logistics  
U.S. Department of Defense

\* \* \* \* \*

## PROCEEDINGS

MR. O'HANLON: Welcome back, everyone. And again, thank you for being here today. It's my distinct privilege and pleasure now to introduce Dr. Ashton Carter, who, as you know, is under secretary of defense for acquisition, technology and logistics. We all know Dr. Carter well. He's a longstanding friend of Brookings, as well, having written at least four Brookings books in his career and we hope many more to come.

We also acknowledge and admire his work on a wide variety of issues over the years. He's a physicist, he's a professor. He worked with Dr. Perry on North Korea policy after having left the Clinton Administration, where, in the first term, he was the assistant secretary for international security policy. He's a summa cum laude graduate of Yale, a Rhodes Scholar.

And rumor has it, and I'm not sure this has been publicly expressed before, that he was actually the pinch runner in Game 4 of the 2004 American League Series between the Red Sox and the Yankees that led to the great comeback. (Laughter) Now, I'm not sure of that, but I've been told by a recent source.

In addition, his background at Yale typifies and really properly exemplifies the kinds of wide range of skills he has. You may not know that he actually had two majors at Yale, and one of them, of course, was in physics, and Dr. Carter is a physicist. And one of the favorite things of mine that he ever wrote was the Brookings book, *Ballistic Missile Defense* in the early '80s, as well as an article in *International Security* magazine, "Satellites and Anti-Satellites: The Limits of the Possible," which was a classic from 1986.

But, in addition to that, which prepared him very well I think for his current job in technology and acquisition, he was also a co-major in medieval history, which may have been the best preparation one could think of for the Byzantine world of Pentagon politics.

So there could not be a much better man for this job, and certainly a better person for us to hear from today on this topic, so please join me in a big welcome for Dr. Ash Carter. (Applause)

DR. CARTER: Thank you, Mike. It is true, I did write some books for Brookings, and for reasons that I'm not sure of, I hope nobody looks too closely into it, I am still receiving royalties for them; not very large amounts, it seems to be the way Brookings operates, but I'm grateful for everything I can get. And I thank you, Mike, for that introduction; Peter, also, for the opportunity to be with you today and for the work you do in our field for national defense. It's very thoughtful and incisive, prolific, also, and I'm grateful for it.

And to any of those of you out there who are either military or civilians in the Department of Defense, I hope there are a few out there, thank you for what you do. And to our colleagues from industry here, also thank you for what you do.

I want to acknowledge Mike O'Hanlon's "Defense Budgets and American Power," which I guess was written late last year, which is a very thoughtful and now very timely guide to anyone who wants to get a framing of the choices before us, some of which I'll be speaking about this morning.

I wanted to address two things with you this morning. First is support to the wars abroad and the need for the department to build a fast lane that is more agile than the traditional requirements, acquisition, and budgeting system, that first. And second, support to the budget wars here at home, and specifically the need to ensure that everything is on the table, everything is on the table when we come to make choices about how to accommodate the budget reductions we're facing. And at the conclusion of these remarks, I'll be happy to take a few questions.

I always begin by reminding, you know, almost every day, by reminding myself what Secretary -- former Secretary of Defense Gates said to me the day he offered me this job, which was that the troops are at war, but the Pentagon is not, and especially your part. And I took that to heart and we've been striving to change that since then. So my

number one priority, before I get to anything about the budget and going forward, is support to the wars that are going on, that's job one.

And it involves three areas. The first is acquisition and fielding of new capability that's rapidly responsive to urgent needs; second, agile logistics; and the third, effective and careful contingency contracting.

Obviously, the largest instance of the need for such support is in Afghanistan, from which I just returned. The overall objective of my visit there and the focus of our activity now in these areas is to ensure that the force there in Afghanistan, which President Obama has directed be reduced in size, nevertheless, continues to grow in capability. This objective can be sought in three ways.

First, by continuing to provide more enablers, such as ISR and counter-IED capability. It's often overlooked at the surge began -- the President ordered in December of 2009, increased the size of the force in Afghanistan somewhat, but it multiplied the richness of that force and the capability of that force.

The second way we can increase capability is by using fewer deployed soldiers, sailors, airmen and Marines to accomplish tasks that don't require either uniforms or physical presence in Afghanistan. A longstanding example is the way we fly Predator and Reaper from Creech Air Force Base. So reach-back and civilian contractor performance of non-military tasks can compensate for lower force levels.

And the third way of making the security force in Afghanistan more capable in the years ahead is, of course, to continue to build the Afghan security forces so that they can, over time, take over tasks that would otherwise need to be accomplished by U.S. forces.

So that's our overall objective. And with this objective in mind, let me outline some of the actions that we're pursuing today. First, in the area of rapid and responsive acquisition and fielding, a few things. A second surge of equipment to Afghanistan begun by Secretary Gates in January is now delivering, and you can see that everywhere in the country. For example, aerostats, the number of which we're doubling, which provide

persistent ISR, particularly over outlying facilities and roadways, terribly important, and a kind of capability that could never -- we would never have enough fixed-wing ISR to provide.

Other kinds of ISR and all sorts of counter-IED capabilities, ranging from handheld ground-penetrating radars through dogs, which we are acquiring in large numbers. And if you think of us as a -- mostly about acquiring ships and tanks and planes, well, we don't; we have all kinds of things, including bomb-sniffing dogs now.

Secondly, in addition to completing the surge of equipment that we began in December, are continuing to sense and adjust and learn from a changing enemy and from our own experience. I'll give you a few examples of that. We have a big focus now on dismounts and protection of dismounts, because we're increasingly conducting dismounted operations as we clear areas and then find ourselves holding those areas, and they require somewhat different kinds of equipment and tactics than the mounted operations that were the focus initially.

Second, use of other kinds of ISR, unattended ground sensors, which we haven't used much in Afghanistan up till now. But again, once you've cleared area, we're finding them useful.

We're continuing to adapt the MRAP fleet, both in Iraq and Afghanistan. And in the case of the all terrain vehicle, MRAP in particular, we have the opportunity to strengthen its resistance to bombs, and that is, increase the yield resistance of the vehicle by putting on an underbody improvement kit. And that's a task that we intend to accomplish just as soon as possible for each and every one of the MRAP ATV's in Afghanistan to increase their level of protection even higher than it is today.

And then training, I'll be going out to the training ranges in the next couple of months to make sure that troops rotating into Afghanistan have seen and had the experience of training on equipment before they fall in on it in country. And so it's important even as we're surging equipment to the theater, that we reserve some for the training ranges, so that

at the training ranges and home stations, they have an opportunity to learn how to use equipment.

And finally, we're looking ahead to next winter. Not too early to begin to do that and deal with weather issues and so forth, particularly in the East, which we'd like to do better with this year than we did last year.

So in the area of responsive -- rapid and responsive acquisition and fielding, a lot going on, a lot more to be done.

In the area of logistics, what I have called the miracle of 2010 in logistics in which we introduced so much additional force, both people and enablers, and continued to accomplish the rotations of the forces that were in there in a landlocked country with very parsimonious internal lines of communication, also, that miracle continues in Afghanistan. It's amazing what Log Nation is capable of doing and does every day there. So we're continuing to diversify our inter-theater lines of communication, so we have many different ways of getting into and out of Afghanistan with people and equipment and to strengthen our intra-theatre logistic support, so that, for example, we're able quickly to do battle damage repair on vehicles in outlying outposts so that they're not out of action for long.

And, by the way, can't forget, as we're paying attention to Afghanistan, that we have the retrograde from Iraq to accomplish, also, so a huge undertaking for the logistics community and really a very impressive performance.

And finally, in the area of contracting, we do a lot of contingency contracting, always trying there to balance effectiveness and efficiency and make sure we have enough contracting officers, contracting officer representatives. We're still not there yet, we still have work to do on contingency contracting, and we are -- but we are making progress, not using cash payments and otherwise trying to minimize any opportunities for fraud, corruption, or just a bad deal, as we do our contingency contracting.

At the moment, all of this we're doing through an ad hoc mechanism, which we informally call the fast lane and it is formerly called the Senior Integration Group, which I

chair with the director of operations of the Joint Staff. And that is the mechanism that Secretary Gates set up to overcome his frustration with the department's general inability to be agile and quick, which is true. It's true because the system we have is designed to be deliberate and not to be quick. That's a problem all by itself, even in our normal programs. It's completely unacceptable when you're in the middle of a war. You can't do things that way. We would always be behind and depriving our troops of things that we could get them for no other reason than that we had been incapable of getting ourselves together in the department to provide them. We can't have that. That's what the fast lane is all about, and that's what our normal system can't do.

A couple of examples of that, our normal system has an elaborate requirements process, where you have to know exactly what you want before you start doing anything. You can't apply that principal to war. You have to be willing to get started, start acquiring and fielding let us say MRAPs before you know exactly how many you're going to want. If you sit back and spend a lot of time analyzing how many you ultimately need, every day you spend doing that analysis is robbed from the war fighter, and so we have to get going even before we have all the requirements set.

Funding, we still don't have a funding fast lane. That's something that we in the Executive Branch and the Congress need together to have, and we're working on that, as well. So those are the ingredients of the fast lane. And I guess, going forward, we're going to need to institutionalize a fast lane in the department in some way. It's not only necessary for the wars that we're in, it's really necessary for the tempo of technological change and the way the world changes today.

And if the United States is going to continue to be inside the loops of technological change in what our enemies and potential enemies are doing, we have to have next to our deliberate system that does most of the major programs and activities and so forth a fast lane that allows us to be agile. Right now that's all ad hoc, and what I'm saying is we need to institutionalize the fast lane.

Meanwhile, back at home, there are wars of a different kind here, which are the budget wars, and let me turn now to them. For me, much of this begins way back in last May, when Secretary of Defense Gates made crystal clear, and Secretary Panetta has since made crystal clear, which is that the Department of Defense is entering a new era in defense spending that's going to require us to change the way we do business. That's been clear to us for some time. President Obama's planned defense budgets are robust and strong and they'll stay so because we are, after all, involved in two major ongoing conflicts, operations in Libya, and the world's still dangerous. But President Obama and the Congress have made it clear that the national security part of the budget, which includes the defense budget and which totals about 20 percent of the total federal budget, must be a part of the overall equation over the next dozen years.

MR. CARTER: As Former Secretary Gates, Secretary Panetta, and Chairman Mullen have all made very clear, we know we cannot be exempt from efforts to bring federal deficit spending under control, and President Obama has specifically stated a goal of \$400 billion in reductions over the next 12 years relative to our previous plans. As we have assessed how to accomplish the task the President has laid out, first Secretary Gates and now Secretary Panetta have undertaken a comprehensive review of the impact of budget reductions on force structure and capability, and ultimately on missions and America's role in the world. And comprehensive means comprehensive and by specifically, we mean everything must be on the table.

At this point that comprehensive review is underway and making progress, but at this point already a few things are absolutely clear to us, those of us who are charged with managing the defense enterprise. First, this new era will require a different mindset for our government and industry managers and their congressional overseers, a generation of whom have grown accustomed over the post 9-11 decade to a circumstance in which they could always reach for more money when they encountered a managerial or technical problem or a difficult choice. Those days are gone. Second, it's important that we proceed

not by subtraction alone, but by a vision of the military we will need in the future. Third, however large the budget is, every dollar must count. The President, the secretary, and the taxpayer are going to expect us to make every dollar we do get count. In short, they want better value for the defense dollar. This is what the country should expect no matter what size the budget is.

And in that connection we have been pursuing something we call "better buying power" for the better part of a year and a half now. And this has many dimensions, but at the heart of it is controlling costs in every way that we can; for example, in starting new programs. And you'll see as we start the Ohio replacement -- Ohio-class replacement, the follow-on to the Ohio SSBN -- that we are very attentive to the costs built into the design of that system because if those costs aren't controlled, it will not be affordable in the decade between 2020 and 2030 when those submarines will be built. You see us doing that in the case of the new bomber for long-range strike which we cannot afford to make exquisite and so expensive that it can't be afforded in the years in which it will be procured. Those are new programs.

For ongoing programs, we're constantly trying to control costs. One of the ways we do that is through contract type. So you see in the Joint Strike Fighter, for example, starting two years ago we insisted upon a fixed-price structure for the LRIP contracts for the Joint Strike Fighter so that we would not be subject to the overruns that characterize the early contract years of production in the Joint Strike Fighter that requires discipline, both on our side and on the industry side. You saw that in the tanker award where once again, both through development and production, those are fixed-price vehicles, fixed-price development in this case being a prudent thing to do. It's not always an advisable thing to do for development; in this case because you had something that was a derivative of a commercial product, it was reasonable to have that priced in a fixed-price way, and so we asked for that in the development phase.

And also pursuing cost control through competition: And once again the tanker was an example of that where we can exhibit the savings that came from that competition and also in the case of the Littoral Combat Ship.

So in all of these ways we continue and have to continue to try to get better buying power, and that is something that we're definitely going to need to do in the budget environment in which we're entering but which we ought to be doing in any budget environment.

And fourth and finally and very importantly, we have to look everywhere that we spend money for things that we don't need to do or can do more economically everywhere. It's easy for people as they think about the Defense budget and Defense budget cuts to look at what I call the top of the iceberg, the things that are most visible to everybody, that have names. And that's a brigade combat team here, a program there, a strategic choice that is important and drives force structure. But a lot of the money is spent in more prosaic ways, and I'd like to give you some examples of that. And I think as the acquisition executive of the department, I need to look in those pools and not just in the more obvious parts of the Defense budget as we consider our budget future. Because if you really think about it, what we would like to do as we deal with the circumstance of a smaller budget is make capability and force structure and strategic choice the last thing you get to in a budget drill and not the first thing you get to.

I call this the Willy Sutton approach we do inside the department. Willy Sutton, you'll remember, is the bank robber who when asked why he robbed banks replied that that's where the money is. And in this case we need to look where the money is. Let me give you some examples of where the money is that you may or may not be familiar with. For every 30 cents that we spend developing and acquiring weapons systems on the acquisition side, we spend 70 cents maintaining them, which adds up to about \$100-billion-per-year maintenance bill in the department. And we're responsible for that, too. That's as large as the annual procurement bill, and we need to look at that and how we're managing that.

For every 45 cents we spend on things -- goods, tanks, planes, ships -- we spend 55 cents on services, about \$200 billion a year. And I think it's fair to say and I've said this before that our trade craft in the acquisition of services is even poorer than our trade craft in the acquisition of goods.

Our logistics system, about \$200 billion a year. That's in addition to the \$100 billion of maintenance that I spoke of earlier, \$80 billion in supply, \$20 billion in transportation, \$80 billion -- we are the largest real estate manager in the world. We spend about \$80 billion a year on our installations worldwide, maintaining them, updating them, mowing the lawns, heating the buildings, and so forth.

And so I say all this because these are the parts of the defense budget that are, so to speak, below the water line, but they're very substantial. And so as we look into our budget circumstance in the future, it would be irresponsible for those of us who are in managerial roles in the Department of Defense not to be looking Willy Sutton-like where the money is. And we need to do that. We intend to do that.

Can we succeed at doing this? I think that we can, both because there are many portions of the budget that I think we can manage a lot better and because I think if we take, as I said earlier, the approach of asking what the military is that we want and need in the future and not just proceeding -- as Secretary Gates used to say -- by math and in this case by subtraction, we can provide the country with a military it needs for the amount of money it has to afford. And that's the task ahead of us and the task that we're committed to accomplishing.

And with that let me stop, and I'd be pleased to answer questions.

MR. O'HANLON: Well, thank you again for those thoughtful remarks and for joining us here. I thought I'd begin while we're getting hooked up, the goal of this project has been to link the usual short-term discussion of budgets and Washington and the way we usually talk about it among those who care about defense issues to longer-term questions of fiscal health, broader defense policy, but also the state of the defense industrial base itself

over the long term. And one of the things that hasn't been brought up yet here, but has been a center of the discussion within the working group over the last year has been the importance of human capital, the importance of talent.

And I'm going to pose maybe a slightly different, but maybe tough question, which is if a young Ash Carter was coming out of the sciences right now, what would he be thinking about related to this world wherein we have the need for the top talent of someone with a skill in science and engineering and mathematics, be it in the defense industry side or be it on the Pentagon workforce side, to become a future acquisitions officer? What would he be looking at? What would he be thinking about related to the long-term health of this industry, this complex, and his prospects potentially in it and maybe his interest in it, you know, moving beyond just your individual side?

MR. CARTER: Well, I think it's an excellent question, and none of what I said means anything unless we have good people carrying it out. So you can have all the good ideas and good management you want in the world, but if we don't have good people doing this either on the execution side or on the government side -- let me address both of them -- but I think just to get to your -- a young physicist who -- I mean, our field is still filled with fascinating problems to solve and technology and has the -- as we recruit, we have the huge advantage of mission, just the importance of what they're doing, what they're joining, what they wake up everyday to accomplish, which is to help this country but really the rest of the world also to have security. So that's still a big one. That's a big recruiting thing for us, just the mission, to be part of something that's bigger than you.

That said, compared to when I started out, it's a much more competitive landscape in lots of ways even going way back before me. But the defense technology base used to be the bulk of the nation's technology base, and the American technology base used to be the bulk of the world's technology base. So by situating yourself in the defense technology base, you were situating yourself at the center of the universe in terms of technology. That's just no longer true. There are other centers out there, and the

commercial and global technology base is larger than our technology base. And what that means for us is we can't invent everything; we cannot do it alone and have that go-it-alone attitude that we could safely have 40, 50 years ago. And yet you still see the residue of that attitude in the department, and it's something we've really got to work on.

In terms of the industry workforce and the government workforce, I am concerned about aging in the industry workforce, just the sheer demographics of the engineering workforce. You see that in our space centers, our aeronautical centers, and so forth. And I'm concerned in the government workforce that in both uniformed and civilian, we restore what has occurred over the last decade, which has been, by inattention, some diminution in both numbers and skill level of the people it takes to do these things excellently the way you expect as a taxpayer. These are people -- contracting people, pricers, engineers -- who are deeply knowledgeable about the field they're in, whether it's submarine engineering or so forth. You can't do this unless you have people in government. I mean, obviously we rely hugely and depend upon the expertise in the business in the Defense industry. That's necessary, but not sufficient. We have to have within our own walls the depth that allows us to be an intelligent and competent customer. And there are areas where we are not yet that. I'm working very hard on that because as I said, nothing matters if you don't have good people to do it.

MR. SINGER: Well, let's kick it open to some questions here. And again, please wait for the mic, stand, identify yourself, and the rule here is that all questions end in a question mark. So, please, right here.

MR. CAPACCIO: Tony Capaccio with *Bloomberg*. You talked about rapid acquisition and your experience in Afghanistan. A couple weeks ago, Secretary Gates talked about Iran's role in Iraq in introducing more lethal technologies, Iran's EFPs. Are you doing anything in Iraq right now to rapidly field counters or force protection counters to those new Iranian threats?

MR. CARTER: I'll give you an example of something we're doing in Iraq right

now, which is for our Caiman MRAPs, which is a variant of MRAP specifically for that: increasing the armor on the side with EFPs specifically in mind. A very important effort going on right now so that those vehicles are strengthened against EFP protection.

Remember, for those of you who don't follow that, EFPs is something we see in Iraq much more than we see in Afghanistan. In Afghanistan it's the homemade explosives, the underbelly -- including large-yield homemade bombs which require underbelly protection. Here I'm talking about armor plates on the side of the Caiman vehicles. And that is a very high priority for me right now.

MR. SINGER: Back there.

MR. GURSKY: Jason Gursky from Citigroup. The President has asked for you to assess cutting \$400 billion from the budget. What do you think that the risk is that that number ends up being higher?

And secondly, do you think under every scenario that the investment accounts, in nominal terms, will have to come down over the next 10 to 12 years?

MR. CARTER: Well, that is the number that we're working towards that the President has given us. There are all kinds of numbers around, just open the newspaper. No end of study groups and legislative proposals and so forth for other kinds of numbers. But that is the number that the President has given us that we're working towards.

Your question was specifically, I think, about the investment portion of the defense budget. And I think it's inevitable that the investment portion will share in those reductions. The point I was making earlier is, I don't think that ought to be -- it needs to be the preponderant source of that \$400 billion in savings. It would be unnecessary and imprudent to do that, and I don't think we'll do that.

There are other -- I tried to point to some other places -- and by the way, I'm sorry I neglected to mention personnel costs, also. All of that needs to be scrutinized. All of these things are difficult. They all need to go up on the table, so everybody can see all the choices we have. And certainly, programs -- acquisition programs and investment programs will

be part of that. But as I said, I'd like those -- I'd like us to get to other things before we get to investment in the future.

MR. SINGER: I want to do a follow-up to that that relates to the first panel. Where the first panel brought up their, in a sense, prediction/fear that simply the way we would approach it is a numbers, then strategy model, that we would create a cap and then salami slice under the cap. What are the processes by which we can avoid that? Because that's, you know, sort of the usual way of doing business. And it's in many ways how we've done it in the past, and it's a fear a lot of people have in this sector, that it's going to play out that way despite good intents.

MR. CARTER: Well, you have, at the same -- you can't proceed by subtraction alone, though, is the point I made. And it's like a sculptor who starts with a block and then chisels away. You have to also have a vision of where you want to go, what kind of military you want to have. Those two things need to go side by side. And that's why you have to make sure -- all of these choices are going to be difficult. You know, wherever you go we're doing whatever we're doing for a reason. In most cases it makes some sense to be doing what we're doing. And so, there is some penalty and pain associated with stopping doing it. And you put all that up on the table, and then array against it the vision of where you want to go.

It's very important that we not proceed just simply by subtraction. I think Secretary Panetta has made that very clear, that that is not how he wants to proceed.

MR. SINGER: Back here on the left. Just hand the mic over, that would be good.

MS. BLAKELEY: Katherine Blakeley, the University of California at Santa Cruz. Energy is a huge and variable cost for the military, and I would like to know how you see both in operations and in bases that factoring into the acquisitions process and conversations about budget cutting and force efficiency?

MR. CARTER: Great. Excellent question, and there are many different dimensions to this. You are absolutely right. We are a very large consumer of energy, both in

the -- at our bases and installations and so forth, and in our operations.

We have a new wonderful director of operational energy who was just confirmed by the Senate a little while ago, and is already doing an amazing job of scrutinizing how we use energy and where we can do things, not only more cheaply, but sometimes more safely. Let me give you a few examples.

When I was in Afghanistan two years ago in the summer, it was also 120 degrees. The Marines were also in the South. But they were -- everybody -- we were all living in circus tents, which we were air-conditioned. Air conditioning a tent, you don't have to be a physicist to realize that's a pretty inefficient thing to be doing. (Laughter)

And so when we look at how to insulate tents, spray on insulation and so forth, it may sound mundane, but now follow the chain of logic that leads from there. Fewer air conditioners, meaning fewer generators fueled by fuel that comes in through convoys, which are not only expensive, they're dangerous. So, fewer convoys, less danger. It all makes sense. And -- but that wasn't somebody's idea when they designed the tent however many thousand years ago.

And so we have to look at when we're operating, when we're deploying, are we being energy conscious? And it's not just to be green. It's to be sensible and respectful of the people who are put in harm's way in the course of the logistic strain that supplies energy. And I can go on and on and on with just more efficient generators, more efficient vehicles so that they are consuming less fuel at the FOBs and COPs that have to be supplied, on and on and on. So, it's a very good question. It's a big area for us. A lot we could do.

MR. SINGER: I want to pull a little bit further on that. I mean, there's the wonderful figure that a 1 percent increase in efficiency would have yielded something like 6,000 less convoy runs. But the problem of energy efficiency is the short- and long-term aspect. Usually you have to spend more to get the long-term savings.

And that's true whether you're talking about operational energy -- you know, so buying that insulation which costs you now, but you may get the budget savings from it two, three years from

now -- but it's particularly the case back at the real energy consumer, which is the installations. Whether it's metering, whether it's power grids, or the like, in this budget environment is the fear that that kind of upfront cost is going to be harder to swallow to get the long-term savings, particularly how Congress looks at these issues.

MR. CARTER: Well, very good question. And it's part of a larger thing, which is short-sightedness and high discount rates in people's thinking is one of the risks associated with making the kind of change that we are in the budget environment. And it's going to require some discipline and good sense on our part to make sure -- we are going to be here 10 years and 20 years from now. Our buildings, our bases are going to be here. And we need to look after their long-term energy efficiency.

I'd say, also, the kinds of energy efficiency that I'm talking about now, the payoff is so fast. I mean, I'm not talking about anything speculative here. Foam spraying a tent, you don't have to wait 10 years to get the proceeds. So, starting from where we are, there's a lot that has paid off in a relatively short period of time.

But I think the government and the department can afford -- even in these circumstances must take a longer-term view. Because, you know, unlike a small company or something, we know we're going to be here in the future and we owe it to our successors and the people who come after all of us in this room not to make up a circumstance that they can't sustain.

MR. SINGER: Let's give someone on the right side a chance. Right here in the front?

MR. TRANG: Dr. Carter, Nick Trang from the Tory Group. Interesting talk, thank you very much.

MR. CARTER: Thank you.

MR. TRANG: I have a question. If I remember correctly from the previous session, that we spent about 30 percent of the DOD budget for the R&D for the weapons system and yet we're still sending our war fighters to the war with M-16. Is there any -- can you please

elaborate why it's so difficult to send a better weapon to our war fighters? And also, is there any current effort to address this problem, whether from the national level or from industry? Thank you.

MR. CARTER: I'm sorry if I misspoke or you misheard, but just to clarify, we do not spend 30 percent of the budget on R&D. When I said 30 percent earlier, I said that of the lifecycle cost of a weapons system, 30 percent of that cost was to develop and acquire it, R&D, and procurement; and the other 70 percent, the sustainment costs. I'm sorry if I misspoke, that's what I meant to say.

That said, we still do spend a lot on R&D. And I think your question is about small arms. And you're right, there's -- I mean, a soldier's individual weapon is his, you know, most prized possession. And it's not surprising that people have all sorts of views about which ones they prefer. And I hear you about some people's views on the M-16. This has been going on for quite a while. And we continue to look at that and continue to innovate in that area.

MR. SINGER: Okay. Way in the back there, yeah.

MR. KOVACH: Yeah, thank you very much. My name is Sivo Kovach and I'm coming from Slovenia. And since I'm from Europe, I would like to pose a question regarding the transatlantic relations.

In the light of the budgetary difficulties and establishing a new military vision for United States military, is United States considering removing all of its troops and all of its military bases from Europe? By that, I mean EU and Kosovo. Thank you very much.

MR. CARTER: I've certainly heard no one suggest removing all of our forces from Europe. And I think the President when he was in Europe just a few months ago said, once again, what presidents have been saying now since the 1950s, which is, European security is important to U.S. security and is best pursued together, and NATO is here to stay and so forth. So, I can't imagine that.

Now, European countries are facing the same situation or an analogous situation -- in some cases, much more severe -- of budgetary stringency. And it's harder at the

smaller scale to deal with budget contraction, because you get to the point below which you can sustain any effective capability at all. And there are a few European countries that are struggling in that way and, obviously, we wish they would turn that around. And I think Secretary Gates, in his own way, made that point in his last visit to Europe.

MR. SINGER: I'm going to use the opportunity of the transatlantic question to look at a slightly different part of it, which is the majority of American defense industrial relationships, when we look global, are transatlantic. But then when you look at the current and projected spending, particularly in R&D on a global level, what's interesting is the U.S. level stays -- the percentage of the world's spending stays approximately the same. But of the remainder, there's a massive flip between spending on R&D and acquisitions in Europe versus in Asia.

And so, maybe you could comment on where you see the future -- because in a sense, my concern is that we have a very transatlantic-oriented industrial base in R&D, whereas the industry may be shifting transpacific.

MR. CARTER: Well, it's a fair point. I mean, it's -- like all other parts of the economy, it's diversified beyond the North Atlantic community that so dominated the world of technology and industry for so long. The defense industry is going to be in the same area.

I mean, that said, our industry -- well, there used to be the North Atlantic industry and then the former Soviet defense industry, and they were the two poles of the system. Our industry and its transatlantic connection, I think, by virtue of the amount of investment that has been made over the years and that continues to be made in it, really has a substantial lead over potential competitors in almost every area. And you know, exports are good for us in the sense that they increase the competitiveness of U.S. industry, while serving a foreign policy objective, which is to strengthen the capability of countries to help themselves, so they don't have to be helped by others, which is a foreign policy objective of ours. And so, for those reasons exports are an important thing for our industry.

MR. SINGER: Okay. We've got time for one last question. Back corner there, waving.

MS. ERWIN: Thank you, Mr. Carter. Sandra Erwin with *National Defense Magazine*. Can you comment on the current situation with the tanker program? I mean, the tanker -- not a single airplane has been delivered and it's already over budget. I mean, do you see this as a serious problem, a minor problem? How is this going to be resolved?

MR. CARTER: Well, it's not our problem because it's a fixed-price contract and it was written with the protections for the taxpayer. That was the way we crafted the RFP in the case of tanker. For those of you who are contract specialists, evaluated the contract at ceiling. And so, the fact that Boeing decided that it would lose money in the development phase -- presumably in the hopes of making money in the production phase -- is a decision that they made. And that's not a problem from the department's point of view, and not particularly surprising.

What's good in this case is that somebody who underestimated the costs of development does not leave us open-endedly liable. That's what happens in a cost-type contract. And that is a form of overrun that we have been vulnerable to way too much over the last -- quite a long period. And in a cost-plus contract, I'll just remind you, if it costs more to develop the system than was anticipated at the time of initial contract award, the contract holds the government responsible for covering the increase in costs. That's what we didn't want in the case of the tanker. And that's what we don't have in the case of the tanker.

Now, I think what this means is that Boeing will have every incentive to not make those -- remember, these are just estimates of what it's going to cost. They're really just getting started. And they have now every incentive to control costs so that those estimates don't come true, otherwise they're going to lose money.

MR. SINGER: Well, on that positive note. (Laughter)

This session is coming to an end, but first we all want to thank you. Not only for an incredibly thoughtful presentation and answering all our questions here, but also more importantly the great service that you've shown to our country. So, please join me in a round of applause. (Applause)

MR. CARTER: Thank you, Peter.

MR. SINGER: So, in the spirit of efficiency we're going to keep moving here.

Dr. Carter is actually going to be stepping off to go on to very important tasks back at the Pentagon. And then I'm going to actually invite our next two panelists to join me up here on stage.

\* \* \* \* \*

CERTIFICATE OF NOTARY PUBLIC

I, Carleton J. Anderson, III do hereby certify that the forgoing electronic file when originally transmitted was reduced to text at my direction; that said transcript is a true record of the proceedings therein referenced; that I am neither counsel for, related to, nor employed by any of the parties to the action in which these proceedings were taken; and, furthermore, that I am neither a relative or employee of any attorney or counsel employed by the parties hereto, nor financially or otherwise interested in the outcome of this action.

/s/Carleton J. Anderson, III

Notary Public in and for the Commonwealth of Virginia

Commission No. 351998

Expires: November 30, 2012