

Energy Panel

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Dr. Kevin Geiss
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Mr. Geoffrey Prosch

AFA Air & Space Conference
National Harbor, Maryland
17 September 2012

Colonel (Ret) Torgerson: -- Today we're going to talk for a few minutes on energy [inaudible]. With that I'd like to introduce the panel members.

First on my left is Dr. Kevin Geiss. Kevin is a member of the Senior Executive Service and is the Deputy Assistant Secretary of the Air Force for Energy, Office of the Assistant Secretary of the Air Force for Installations, Environment and Logistics here in DC. Kevin is responsible for providing oversight and direction for all management teams, formulation review, execution of plans, policies, programs and budgets for the effective and efficient use of energy to support global Air Force missions.

Next to Dr. Geiss is Lieutenant Colonel Lucian Niemeyer, retired Air Force. A civil engineer, by the way. Lucian and I were stationed together back in headquarters a long time ago. But Lucian sits on the SASC, is a senior staff member of the SASC and is an advisor and a functional expert for Senator John McCain [inaudible] military readiness, defense budgets, basing and installation [inaudible]. Under that [inaudible] is energy.

Next we'll have Colonel Rich Fryer, U.S. Air Force retired, another civil engineer. Rich used to be the Commander of Air Force [inaudible] Support Agency at Tindall. He's the Energy Program Manager for ACC that deals with construction, environmental and munitions clearance for most of DoD.

Lastly, Geoff Prosch of Johnson Controls. Geoff serves as the Principal Deputy [inaudible] Assistant Secretary of the Army for Installations and Environment. [Inaudible] April of 2009. Geoff is a retired Army colonel and a retired member of the Senior Executive Service.

With that, please hold your questions until the end. This will take about 15 minutes, if all goes well.

Dr. Geiss?

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Dr. Geiss: Good afternoon. How's everybody doing?

Audience: Great.

Dr. Geiss: Thanks for coming down this afternoon.

Thanks, Ron. I look around the table here and I guess I'm the over-achiever because I never made it past E5, and all these retired colonels -- [inaudible]. But I'm glad to be here. Ron put this together last year, and thank you all for taking the time to come out here today.

Energy is important for every mission of the Air Force. We don't care about energy for energy's sake, we care about energy and how it enables the mission of the Air Force, and that's to fly, fight and win in air, space and cyberspace. So everything that we do in my office and working with the folks around the Air Force is about that mission assurance. Making sure that we can do that job around the globe every single day. Whether it's from our bases from which we deploy in an expeditionary fashion; or as we operate our aircraft around the world of mobility aircraft, combat aircraft, as we train our pilots all around the world, energy is required for all of that.

I used to joke about some of the folks in my office. They couldn't even type up their great thoughts with their computer -- they didn't have electrons coming out of the wall. So everything really does touch everything that we do.

The Air Force is the largest energy consumer in the Department of Defense. We spend about \$9 billion a year on energy, and that's both for aviation fuel as well as our facilities. Our facilities are about a billion dollars; our aviation fuel is about \$8 billion. You could buy a small air force for that price.

So when you think about that cost in the Air Force budget, it's really something that we want to have a group of folks paying attention to every day, not only in order to get those costs down but also thinking about how we can be more effective and efficient in our operations around the globe.

Every dollar that we don't spend on energy is a dollar that we can spend on other priorities for the Air Force. And as we look towards the fiscal climate that we're in and into the future, it's very important for us to look for opportunities to get those costs down and be more effective and efficient in what we do.

But it's not just our cost, it's also about capability. I think some of the technologies that are coming out of the fight will enable us not only to reduce our costs but enhance and increase our capabilities as we operate around the globe.

What I show on this slide is one of the challenges that we experience and that's the volatility in fuel prices. The blue bars that you see are the prices that we use as planning factors when we put together the budget about two years before the year of execution. You can see what comes in that year, the yellow or orange bar, is quite a bit higher, has been quite a bit higher in past years as compared to our planning factors.

What this results in is we have to go and find money elsewhere in the Air Force budget to help meet this price of the cost of fuel in that year of execution.

To address the energy challenge that we have in the Air Force we're looking to reduce demand, decrease expense, also to change the culture of the Air Force to make energy a consideration in all we do.

As far as our progress in the Air Force, our energy essentially is down about 16 percent. We're pushing sustainable designs in buildings. In our infrastructure we currently have 35 facilities [inaudible] certified. On that note, one of our measures is cost. So it's very important for us as we look at how we design our buildings that [inaudible] energy efficiency of those buildings and the buildings will help us decrease the overall operating cost in the future. It's not just about getting that plaque on the side that identifies whether it's [lead] certified, but how that can impact our ability to develop and build more efficient buildings in the future.

We're investing about \$250 million a year specifically on energy efficiency. This is something we call the energy focus fund that was put in place two years ago, and we maintain that in the budget. We have seen a significant impact of those investments. We calculate that this year alone we have avoided \$500 million in energy costs for our facilities because of those investments. Since we started making those investments we calculate about a billion dollars of costs that we've avoided because of those investments in that energy focus fund. So we see a real return on investment in the energy focus fund.

We're also looking to reduce our square footage. Buildings that we now don't need, and looking at our expanded footprint in new buildings that are more energy efficient, and get rid of the old square footage that is less efficient. We have a demolition focus fund that's helping us reduce that square footage.

A week or two ago we awarded the latest contracts for metering our facilities across the Air Force, so we're looking to not only meet the requirements and legislation to do that metering, but also get at some of our broader portfolio of our facilities. It's hard to manage and have an impact on a facility that you're not measuring them to identify what your consumption is and what the improvements are.

We're also looking to expand our ESPC program. Just a few weeks ago you may have seen the sign of our latest ESPC out at Tinker. \$80 million ESPC. So I would say to the business community out there that the Air Force is certainly back as it relates to ESPCs. Those of you that are familiar with our history and our past, we're certainly looking forward to expanding that business here in the future.

Increased supply or expanded supply, the goal that we have in the Air Force. We currently have six percent of our total electricity that comes from renewable alternative sources in FY11. That's 131 projects across 56 installations giving us 37 megawatts of total production.

One of these projects, actually there was an article published this morning, is up at Massachusetts Military Reservation. It's a project that we partnered with the Army on, and there are a few wind turbines up there which support the environmental restoration that's going on at MMR. And as of right now the projections are that those wind turbines are saving the Air Force one million dollars a year in electricity costs. So after they're done paying for themselves in about 10 or 11 years, they will be free electricity to the Air Force every year beyond that.

We also have six enhanced use leases that we're pursuing to give us between 500 and 600 megawatts. That's another opportunity where we can partner with the private sector, partner with utilities, help to provide not only power for our installations but also power that can be exported and used off the installation.

The final of our three goals is culture change, and assuring that we're making energy a consideration in all that we do.

October is Energy Action Month, Federal Energy Action Month. We in the Air Force have a game plan to help get the word out about energy and trying to break it down to the level of each individual Airman, to try and help him or her identify how they can have an impact on energy within their particular job specialty.

I work with Air Education and Training Command, Lieutenant General Owens. We currently have a program, we're looking at every single training program within the Air Force, across all curricula, all [inaudible], to identify how we can specifically address energy within each job. So that whether you're a maintainer, an admin assistant, force protection, security officer, that we can identify exactly how you can have an impact in your job at the bases to impact energy consumption efficiency.

So our motto, our theme for this coming year starting in October is [High] on Air Force Energy. We chose that name because we're really focusing on how the individual Airman can address energy within their own job, in their position.

It's also an opportunity for us to focus on the successes that our Airmen have had across the Air Force. This year the Air Force will be the recipient of six federal energy management program awards. One of those is Captain Reid Touchberry who is at Misawa Air Base in Japan. Part of his heroic efforts after the earthquake and tsunami in enabling that installation to recover and be able to accomplish their mission in light of all the challenges that they had with loss of power. So it's just an example of how our Airmen apply innovative practices to ensure that we as an Air Force can accomplish our daily mission.

Those are the only comments I have at this time. I look forward to your questions in a few minutes. Thank you.

Lieutenant Colonel (Ret) Niemeyer: I'm Lucian Niemeyer, I work [inaudible] for about ten years. [Inaudible] as the years go by and more competent people drop off so [inaudible].

I've been working energy programs for about four years and I just wanted to provide you a brief synopsis of where we're at and where we're coming from a [inaudible] perspective, particularly on trying to work with the Department of Defense on identifying [goals] for energy consumption [inaudible].

We established a chapter in Title 10 related to energy consumption, energy conservation goals within the Department of Defense and actually [inaudible] on the facility side of the house.

Real quick review here. I want to get on to what we're looking at in '12, the Defense Authorization Bill that we just passed, as well as [inaudible] FY13.

For the most part we've got a series of priorities that we try to look at each year, the committee maintains [inaudible]

with the House. The most important for us is to do what we can to encourage all the services to act upon energy efficiency initiatives to reduce costs. What we're really looking for most of all is to provide [inaudible] that have the most direct impact on the warfighter, whether it be more efficient engines, whether it be more efficient facilities. We really look at any dollar saved in energy is a dollar we can provide somewhere else in the fight.

In the process you'll see normally us working on provisions that allow for the services to provide in some cases a prescriptive approach to allow [inaudible] benchmark of your consumption, energy metering, things like that, to provide a better understanding of what we're consuming in order to direct efforts to where we can save.

As far as the overall emphasis, particularly on our committee over the past couple of years, is really focusing investments on where there's the most direct impact to either conserving fuel [inaudible] or return on investments where you can see a real dollar savings over a short period of time.

There's been some recent controversy regarding some of the actions on the part of Congress, particularly by the Senate, as far as what we've put in the FY13 bill, the use of particularly biofuels and DoD invested in some biofuels. There's some concern out there that, those of you who follow Congress, and I don't encourage that, but those of you who follow Congress know that the Senate has passed some language that seeks to ensure that the money that we've spent, particularly in operations and maintenance, goes towards real readiness requirements and the funding that's used for developing or expanding the [inaudible] is funded with [RDC] accounts. There's been some back and forth between the Secretary of the Navy. The committee has some concerns with what the Secretary of the Navy spent on the Green Fleet in [inaudible] a few months ago, and it's caused us to relook what the services are doing, and to make sure that we're not going overboard [inaudible] with some of our [inaudible] investments, and focusing really on the initiatives that have the most, and the most apparent and most near term payback [inaudible].

I think that's pretty much all I want to talk about. I want to leave time for questions. But I also want to say I do believe that from a congressional perspective the Air Force program seems to be more prudent [inaudible] to encourage, and that is to develop technologies, develop initiatives that can save lives on the battlefield, reduce energy consumption, fuel consumption in engines, and make ourselves more efficient and more effective over the long run.

Colonel (Ret) Fryer: Thanks, Ron, for inviting me back. Last year I talked a little bit about what I saw from the outside, [inaudible] perspective, what the Air Force is doing, commented, I thought the Air Force had done great [inaudible] solution set. But this past year I've had [inaudible] talking about the public/private partnerships. I had the wonderful experience of living that dream [inaudible] partnerships together. My client, unfortunately, was not the Air Force, it was the Navy. I'm going to share some of my perspectives on that journey. It is a journey. For me it's [inaudible].

First of all of course you've got to start with the common journey [inaudible]. This is all true.

Not only does the Department of Defense have [inaudible] energy goals and energy efficiency goals, [inaudible] energy goals, and I'll talk about establishing the goals [inaudible] more energy in the next, to about 2025. That is the size [inaudible]. You talk about ESPCs, doing a lot of their energy efficiency work. We're going to have to use tools like that in public/private partnerships in order to be able to [inaudible].

This is the equivalent of about [inaudible], or Dr. Geiss mentioned, the [inaudible] wind turbines, the equivalent of 222 -- I did the math just a second ago -- [inaudible] turbine wind farms.

So let me [inaudible] public/private partnerships. It's the right plan. It's the right way to go. This is not worth DoD putting their money in because the private sector can extract the tax value on those, depreciate the values, [inaudible].

A process for this, the services will identify their [inaudible] energy opportunities, do your own due diligence, and part of that is financial due diligence, and that is probably something that's not always well done by the services.

As for [inaudible] from industry. Usually [inaudible] price-based selections. The services selection [inaudible] and then from -- sorry, the [inaudible] due diligence. Finalize [inaudible] actions. And [inaudible]. That last part's very important because finance is key. Financial institutions. These are [inaudible] by the institutions [inaudible]. They're going to want to see it to protect themselves. And so far the government's been very amenable to making those kind of adjustments to contracts and to FAR clauses as necessary to get them through lending institutions.

So [inaudible] OSD because these are long-term leases. They've got to be approved by [inaudible], Section 29-22A authority. Once that's done the developer actually gets the award, after all that work. That can take a long time. [Inaudible] over one year on this point on our Navy project. The award [inaudible] financing [inaudible] structure, final design [inaudible] 30 years or 20 years, 25 years [inaudible].

That's just, it's a great idea, it's a great plan. It is a great plan even though I have kind of a tongue-in-cheek ending chart, but there are some issues with it and these are things that these services are going to be faced with, certainly industry is going to be faced with in [keeping] these things financially viable.

So first and foremost is that [inaudible]. Most of us [inaudible]. Those of you who [inaudible]. [Inaudible] legislation [inaudible] program where instead of earning your tax incentive over a period of time, [inaudible], to be able to [inaudible] in a project, [inaudible] get a [30] percent check when you're done and you register the project. But that's [inaudible]. Hugely beneficial to projects like [inaudible]. But it's not the end of the world.

The [wind] projects [inaudible] this year is the end of [inaudible]. [Inaudible] cents a kilowatt hour, [inaudible] for a wind farm is really huge. Solar's got some more [inaudible], geothermal, biomass in the near future. Then of course with some [sunsets] on the federal incentives, state incentives to provide [inaudible]. California solar [inaudible]. New Jersey scaled theirs back. Hawaii has a very generous [inaudible]. The Hawaiian legislature has more or less put contractors on notice that it's coming [inaudible] scaled back.

On the other hand, -- that's kind of the bad stuff. The good stuff is financial institutions have, lending institutions actually understand this process better now, [inaudible] side. They're actually starting to get used to financing [inaudible]. [Inaudible] a great example with China Lake with I believe it was MetLife actually financed that. The Navy was amenable to the FAR and MetLife was amenable, so the [inaudible] worked out.

Generally to make these projects work you've got to have a previous [inaudible] for banks to come in with the money because they're risk averse and they want to make sure the project is not [inaudible].

The result of all this is these changing climates, this changing financial climate, this changing [inaudible] is that even with all this goodness, [inaudible] today [inaudible] local

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ground power. For instance in Texas, [inaudible] without incentives. Especially [inaudible] government.

More good news, [inaudible] interest is rising. That's [inaudible] who have responded to the Huntsville Army [inaudible], the Army is setting up a [inaudible] contract for these kind of things where developers, firms will be pre-qualified to go after projects [inaudible] in the future. It's got a lot of potential. It's [inaudible] \$7 [billion]. It's hard for them to turn their nose up at. So it's got a lot of folks working on it. And the Huntsville folks have said that's going to be a [inaudible].

Again, financial institutions have gotten used to [inaudible] these contracts. They want [inaudible] protections in here so long as the government, the Air Force, is [inaudible] consolidations also. [Inaudible] and so forth.

This is something that has recently, it's come to my attention, is the interest of foreign capital coming in. One thing about [inaudible] United States Air Force is that pretty much everybody assumes they're going to pay their bills, so that's really good. So it is, we've got [inaudible] land, [inaudible] process, got [inaudible] pay the bills. That's a lot of risk reduction. Foreign capital is showing up and starting to nose around [inaudible]. Potentially be available to [inaudible].

[Inaudible] is more or less [inaudible] really reluctant to break that [inaudible] barrier. And it is a barrier. It's unfortunate. I think there's a lot of [inaudible] perspective, I think renewable energy provides a lot of stability. [Inaudible] structure, and pretty much over the length of the BPA. It is usually a very small escalator. It may start off [inaudible]. [Inaudible].

[Inaudible]. I talked, I don't know if you can read this one, but I [inaudible].

So [inaudible] for the Air Force to follow these public/private partnerships for power purchase agreements [inaudible]. I think we're going to still see the Air Force [inaudible], the other services are following suit. And the Air Force needs to do their due diligence, I'm sure they'll continue to do that. Of all the services they seem to have a much higher amount of [inaudible] involved in theirs. And then [inaudible] to ensure that what you're doing is viable, financially viable. Some [inaudible] lending institutions, some [inaudible].

That is my presentation. Thank you very much.

Mr. Prosch: Good afternoon. I'm Geoff Prosch and I'll go through this quickly and get us back on time here.

Most of the electricity generated in America as you know is consumed in buildings. The best way to reduce building power [inaudible] are in energy efficiency and technology. Building efficiency and technology has been a core business in my company, Johnson Controls, since 1883 when our founder, Professor Warren Johnson, invented the indoor thermostat. He pioneered energy efficiency for the world.

Today I'm going to walk you through a day in the life of a smart building. We'll start the previous night at 8:00 p.m. It's a typical summer night in a part of the country where the utility is facing capacity restraints. Our building is a 500,000 square foot tenant occupied office building. You can imagine it as a large Air Force headquarters building. So it's 8 p.m. The system accesses tomorrow's weather forecast. Real time forecast received from the electric utility. The system schedules night time [ice] storage generation.

Next slide.

Going to midnight. Optimize off-peak, changing electric and charging electric [inaudible]. The system assesses real-time grid status and wind energy forecast. Charging [inaudible] excess renewable energy supply on the grid.

Next slide.

2:00 a.m. At the optimum time the building mass is cooled to the lower end of the comfort zone. Throughout the day the [inaudible] are adjusted to release the stored energy.

Next slide.

4:00 a.m. On board diagnostics [inaudible]. The system calculates the cost associated with its [inaudible], based on real-time price forecasts. The system [inaudible] generates [inaudible], notifies the facility manager by SmartPhone.

Next slide.

7:00 a.m. Service technician arrives after being dispatched automatically. The technician quickly fixes the problem, going to source and [inaudible]. Prepare and allow system to generate [inaudible] [ice], [inaudible] spiking prices anticipated later in the afternoon.

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Next slide.

8:00 a.m. Employee electric or hybrid vehicles recharge when the real-time price of electricity is low. Smart chargers support voltage regulation [inaudible] utility.

Next slide.

9:00 a.m. The building management system prepares the conference room for a meeting with 15 people. Occupancy and CO2 sensors provide an override in the case less or more people attend the meeting.

Next slide.

10:00 a.m. Market analysts ask the CFO about the business [inaudible] management strategies. Enterprise [inaudible] provides access to carbon emissions data for the most recent quarter and annual carbon reduction.

Next slide.

11:00 a.m. The price of electricity from 12 to 2 exceeds the threshold predefined by the tenant. Actions to reduce power demand are taken. Reset space temperatures by two degrees Fahrenheit, solely [inaudible] 20 percent in occupant areas. Access impact reported directly back to utility.

Next slide.

12:00 p.m. noon. The building management system also takes action in common areas. Dispatch [ice] storage coolant, increase chilled water set point, dim lighting in common areas by 20 percent. And again, report back to utility.

Next slide.

1:00 p.m.. Automatic lighting system reduces indoor lighting energy when there is sufficient natural daylight available. Automated lines track sun position and adjust the maximum natural lighting and reduce glare.

Next slide.

2:00 p.m.. System alerts employees to unplug their laptops and run on battery power from 2:00 to 4:00. PC power management software agent automatically reduces desktop power consumption. Computing load is reduced for non-production servers. Non-critical tasks are deferred.

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Next slide.

3:00 p.m. Building receives a demand lighting signal from utility from the 2:00 to 5:00 p.m. period. When cloud cover causes solar production to drop, the system uses on-site electric storage to meet demand production goal. A combination of distribution, generation, electric [inaudible] storage and vehicle charging can be used to control the load profile.

Next slide.

4:00 p.m. System develops statistical model of building energy performance based on whether or not energy savings can retrofit projects and operational improvements are tracked daily on megawatt meter and over time.

Next slide.

5:00 p.m. As employees badge out the system automatically turns off the lights and puts the computer into standby mode. When he arrives at the parking deck, the employee's electric vehicle has been charged just enough to get him home.

Next slide.

6:00 p.m. Individual controls at the work station and office level allow lighting and HVAC to be optimized based on occupancy and personal preferences. [Inaudible] occupancy over time allows optimization of work place design and office [inaudible].

Next slide.

7:00 p.m. The system controls lighting and HVAC to follow the janitorial staff throughout the building. Video surveillance systems count occupants remaining after hours and adjust temperature set points and lighting.

Next slide.

8:00 p.m. Finally, the global facility director makes one last check of the building status, [inaudible] vacation. While gone, all [inaudible] and alerts are automatically routed to alternative contacts, and while on vacation if necessary the facility director can log into the system remotely from an internet-enabled device.

Last slide.

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More information about smart buildings and how you integrate them into the smart grid can be found at this web site, and we will coordinate to have these slides posted on the Air Force Association web. Thank you.

Colonel (Ret) Torgerson: Let's give the panel another round of applause.

The first question. We're pushing Happy Hour time, I know.

Question: I wanted to ask Mr. Geiss and Mr. Niemeyer, do you actually [inaudible] updates to the [inaudible] energy [inaudible] from DoD and [inaudible] in energy savings?

Lieutenant Colonel (Ret) Niemeyer: There are some things in there that are good, there are some things in there that the committee has questioned. As long as we're using DoD funds to assist us in the ability to take advantage of the market, I think that's the most important thing for us.

There are some aspects of the strategy that are trying to meet goals which may not be realistic right now. We're aware of that. We've asked the department to go back and reassess [inaudible]. We certainly [inaudible] don't necessarily want to promote a goal that's going to require a direct DoD investment to meet that goal that goes beyond the DoD core mission. For example, the Navy is using, the Department of Navy is using their goals or the federal goals to achieve a certain number of alternate energy use [inaudible]. In order to justify their investment of O&M funds and also funds for the Defense Reduction Act, to go ahead and start building biofuel refineries. I think some of that [inaudible] that's been [inaudible]. I'm not sure the committee or Congress is willing to bite off that much as far as using DoD funds to go to the next level.

So those are some of the [inaudible] with the department right now. To get a better understanding of how they plan to put resources towards their plan.

That said, we definitely [inaudible] legislation in the past that does require the services to establish their energy mater plan in order to allow for [inaudible] go to the Air Force Board, the Air Force Council [inaudible] resources. Those initiatives that will reduce costs and will assist us towards our goals. But we're mindful of where, from our perspective, [inaudible] as far as what DoD [inaudible].

Question: [Inaudible] energy [inaudible] program, do you think that DoD [inaudible] savings from implementing [inaudible] in the future?

Lieutenant Colonel (Ret) Niemeyer: Originally the fully [inaudible] cost of fuel included a lot of logistics costs. So any type of [inaudible] to reduce [inaudible] energy and solar power. It's something that we wholeheartedly support. Also on the [inaudible] down the road you have a direct impact on the adjusted price. So [inaudible] the committee for addressing that part of the burden of fuel. And then using that as [inaudible]. I think that's strong support [inaudible].

Question: My question can go to anyone on the panel that can answer it. It seems like the legislation, the whole political tone on Capitol Hill is saying the military can't [inaudible]. It's not a lot about what they can do or should do about energy security. You have oil that is subsidized competing with renewable energy, biofuel that's not subsidized. And you have refineries that were built 40, 50 years ago, that have all been publicly paid for but now are competing against new technologies coming out to produce new domestic sources of fuel.

The Air Force [inaudible] the SASC in 2007 on long term contracts and [inaudible] price [inaudible]. But nothing was ever done about that. Is long term contract authority [inaudible] not the manufacturing [inaudible], the actual purchase of it going to create a market, something that's even in consideration on Capitol Hill?

Lieutenant Colonel (Ret) Niemeyer: First of all [inaudible]. [Inaudible] subsidized alternate fuel program in recent history, so there's [inaudible].

As far as --

Question: -- the military [inaudible].

Lieutenant Colonel (Ret) Niemeyer: As far as directly to your question on long term funding authority, it's probably [inaudible]. Unfortunately [inaudible] the \$2 to \$5 [million]. There's a [inaudible] the DoD [inaudible] passive authority. The concern at least from our side of the aisle has been what is that long term contracting authority going to be used for? From our perspective, using it as a financial incentive to get a more favorable loan condition [inaudible] refinery is a little bit of a concern to us as far as [inaudible] look at long term rates that were charged, and recapitalizing or amortizing the construction of those refineries.

So we really looked -- For as much as we tried to do long term funding authority, we think it's [inaudible] cut other DoD programs in order to provide the department that authority.

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We're hoping there are other [inaudible] opportunities to partner with industry. [Inaudible] take a risk which is ultimately [inaudible] and private sector risk.

So I believe, what has happened since 2007, [inaudible] scores, we talk to the leadership of the House and the Senate, [inaudible] by the wayside because that's ultimately another [inaudible] priority that we would have to sacrifice in order to pay for that. That's really where we're at right now.

Again, [inaudible] focuses on is partnering with the private sector where there's predominantly, where the first look is private sector financing versus continued government [inaudible].

Question: Dr. Geiss, and then Colonel Fryer.

Dr. Geiss, you mentioned a goal for our current trajectory of 16 percent meeting your energy goals. Are you going to be able to continue that towards 2025? What kind of projects [inaudible] make that happen?

Colonel Fryer mentioned a little bit about being an off-taker of some of the [DBA, DBB] energy, renewable sources. I heard in the past that the Air Force was not going to be an energy off-taker. Is that something that's changed or is that just something that the Army's doing differently than the Air Force?

Dr. Geiss: As far as the [inaudible] goal, we believe that the combination of both direct investment, part of that \$250 million a year that we've [inaudible] focused on, as well as the ESPCs will keep us on the trajectory to meet the energy [inaudible].

Right now looking at our track record, intensity is just one part of the situation. What we look at also is zero cost. We have brought down our cost of utilities about 35 percent over the last decade or so. So we have, although tracking the intensity [inaudible]. Like I said, this year we calculated that we saved the Air Force \$500 million. Although we're tracking the intensity [inaudible] dollars also.

We think that the expansion of our ESPC program over the next few years will help us to get there, even if we don't have dollars in the investment [inaudible].

Question: [Inaudible] the United States Air Force is [inaudible].

I think ESPCs have been very effective over an extended period of time, but it occurs to me that that [inaudible]. Is there any consideration to modifying the ESPC [inaudible] developing something similar like that that can be applied to things like [inaudible] or planes, [inaudible] boats, whatever, where we can address some particular [issues]?

Colonel (Ret) Fryer: I would just say innovative ideas, how to address capital investment [inaudible] we should be looking at. [Inaudible] leave it up to Congress to decide how we might develop authority to do such [inaudible]. One of our greatest challenges coming up with that capital investment [inaudible] on the facilities side, [inaudible].

Question: A quick follow-up. [Inaudible] ESPCs, and the problem was [inaudible] ESPCs on infrastructure. By definition, [inaudible]. And so you have the budget [inaudible] issue, you have the legislative issue, [inaudible]. But you also have [inaudible]. [Inaudible] going to step up to this there has to be some offset.

Lieutenant Colonel (Ret) Niemeyer: I kind of wish we lived in the [inaudible] regime 20 years ago and could foresee the other side [inaudible] about seven or eight years ago. [Inaudible] original ESPC legislation was not [inaudible].

With that aside, though, it is something we've been wrestling with on the committee, how do you determine savings and how do you share those savings. If you've got a way to do that, we're all ears. It's one of those things we would like to potentially look at. And [inaudible] difficult [inaudible] up front, and [inaudible] part of the source requirement as opposed to being something which [inaudible] parties. We continue to look at it. I'm kind of hoping that someone in the department will come up with [inaudible], come up with a suggestion on how to do that. As it stands right now, though, we haven't really seen anything that would not score and would allow us to have the tracking mechanism long term. That [inaudible] allows the framework to maintain that partnership [inaudible].

Question: This is a challenges, impacts and opportunities question primarily for Dr. Geiss but also for Colonel Niemeyer.

The energy conservation investment program has changed. FY13 we're seeing some modifications. FY14 will see a complete change in [inaudible]. From an accounting standpoint do you see at the installation level, do you see a mindset [inaudible] approach, a roll-out that has to take place to kind of get the installation [inaudible]? From an industry standpoint there are some opportunities [inaudible].

Does Congress now have more of an oversight function?

Just your thoughts.

Dr. Geiss: In '14 OSD [inaudible] guidance for this program. We have seen this as a valuable tool while [inaudible] projects of a certain size, cost, [inaudible] dollars, [inaudible] beyond [inaudible] O&M. And I think with the centralization or consolidation of our fuel operating agencies, our [inaudible], that [inaudible] will now have to [inaudible] the installations [inaudible] programs. The installations have lost a lot of support, civil engineering support [inaudible]. So that centralized planning is going to have to be done effectively to ensure that we can address the opportunities that we have on our installations. But [inaudible] program.

Lieutenant Colonel (Ret) Niemeyer: I definitely have an opinion on this. [Laughter].

First of all, [inaudible] support, [inaudible] start out [inaudible]. And I think there's definitely [inaudible] concentrate on [inaudible]. The competitiveness concern [inaudible] OSD has been a policy, whether or not [inaudible] much about payback to the [ESB]. So we're a little bit concerned about that. It has to be a challenge [inaudible] centralize management, how do you [inaudible] slush fund [inaudible] versus making sure those investments go to the service that brings back or brings up the project that has the most immediate payback.

We are aware sometimes there are projects that have a long payback that are ultimately in the best interests of the military. So we're looking forward to getting that list when it comes over in the '14 POM and see how the adjustments have been made. We do now authorize each project over \$2 million which is [inaudible] an increase in oversight [inaudible]. We would just get a list and [inaudible]. So now we put those projects actually in an authorization bill and with that we check each one to make sure that we believe that it's ultimately in the best interest of the taxpayers, and that we are getting [inaudible] payback immediately or a specific payback over an amount of time.

Question: I'll shift from fuels to infrastructure. The Defense Science Board report in 2003, 2008, all [inaudible] critical [inaudible] for not addressing the issue of energy security and agility of the grid. These programs that the Air Force [inaudible] are working on right now, reducing consumption, increasing efficiency, bringing large amounts of renewable energy, but none of those provide energy security. But [inaudible] Executives of National Security are about to release

its [inaudible] that will be addressing this issue head on. It will be interesting to hear what the panel's comment is about all [inaudible], but it still doesn't answer [inaudible] from almost ten years ago.

Lieutenant Colonel (Ret) Niemeyer: There's no doubt. In the last few years you've seen some legislation go forward where the services have to now come back to us and tell us how each renewable energy project meets certain goals [inaudible]. [Inaudible] the fact that we're doing energy production projects in solar array at Nellis, absolutely no [inaudible], no [inaudible] to be able to switch over to the grid. We don't understand why all the services are continuing to do those types of projects. There has to be a way, maybe it doesn't work with [inaudible] time but there has to be a way to allow us to start addressing some of our energy security goals. And Congress really focuses our efforts in the last two years, putting forth legislation that doesn't [inaudible] directly [inaudible] but strongly urges the services to [inaudible] projects that can satisfy that [inaudible] requirement.

Another part of the security mission, and I brought this up in my opening comments, is that we have to be careful about advocating for and supporting projects that may have an indirect impact to military operations and military training. A couple of the projects we're looking at right now at Nellis Air Force Base, there is a concern on the committee where we have a short term goal of supporting a renewable energy project and it may have a long term impact of degrading our ability to transit to and from Nellis. Those two areas for us really are what we're looking at in addition to [inaudible]. But really focusing our efforts on the last two years.

If you go back [inaudible] legislation [inaudible], we rewrote some of the energy goals to ensure that we are being notified, being kept abreast of those initiatives that will ultimately also address issues of critical power [inaudible] power [inaudible].

Colonel (Ret) Torgerson: With that I think we need to adjourn, but before we do, Dr. Geiss, Colonel Niemeyer, Colonel Fryer, Mr. Prosch, thank you for your time. I know you're busy. But let's give them another round of applause.

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