DEPARTMENT OF THE AIR FORCE

PRESENTATION TO THE

COMMITTEE ON FINANCE

UNITED STATES SENATE

SUBJECT: AIR FORCE ENERGY STRATEGY FOR THE 21ST CENTURY

STATEMENT OF: MR. MICHAEL A. AIMONE, ASSISTANT DEPUTY CHIEF OF STAFF/LOGISTICS, INSTALLATIONS AND MISSION SUPPORT UNITED STATES AIR FORCE

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WITNESS STATEMENT OF
MR. MICHAEL AIMONE,
ASSISTANT DEPUTY CHIEF OF STAFF/
LOGISTICS, INSTALLATIONS & MISSION SUPPORT
BEFORE THE
SENATE COMMITTEE ON FINANCE

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Chairman Baucus, Senator Grassley, and distinguished members of the committee, I thank you for the opportunity to appear today to outline the Air Force Energy Strategy for the 21st Century, and describe some of our recent achievements to improve Air Force energy use in our aviation operations, ground vehicle fleet, and worldwide network of 166 installations. I also will provide the preliminary results from our recent flights of a B-52 Stratofortress bomber using a blend of synthetic and crude-oil based jet fuel (SynFuel Blend).

I am Mike Aimone, and I work for the Deputy Chief of Staff for Logistics, Installations and Mission Support, Headquarters United States Air Force. I have 37 years of experience working for the Air Force as a facility engineer and logistician, and have had the opportunity to be part of the Air Force Energy Program since its inception in 1974.

In the aftermath of the hurricanes that impacted the Gulf of Mexico 18 months ago, the Secretary of the Air Force, the Honorable Michael W. Wynne, directed extraordinary actions by all Airmen to help mitigate the resultant energy issues that faced the Air Force and the Nation. One of his first actions was to direct the Under Secretary

of the Air Force, Dr. Ron Sega, to create and oversee an aggressive new energy strategy for the Department.

Dr. Sega immediately directed the stand up of a Senior Focus Group on energy to address these concerns. The group, which consists of the General Officers, Senior Civilians, including the Chief Scientist of the Air Force, has met seven times and published an energy strategy to guide our Department's energy efforts.

The vision that drives the Air Force Energy strategy is to: "Make energy a consideration in all we do."

Our strategy is three-fold:

-- First, ensuring energy supply side availability of fuel for our aircraft, ground vehicles, and equipment, as well as reliable utility services to our installations to meet Combatant Commander requirements.

-- Second, implementing aggressive demand side fuel optimization and energy efficiency initiatives laser-focused on each of our three energy sectors: aviation operations, ground transportation and support equipment, and installations.

-- Third, and indeed the most important element in our energy strategy is to ensure that our strategy transcends the present to create a lasting culture of change in all Airmen so that energy becomes a consideration in all we do.

To kick-start this cultural change, the Secretary of the Air Force issued a Letter to all USAF Airmen communicating his goals on energy conservation. The Secretary

summarized the myriad of energy initiatives underway, and charged every Airman to develop new ways to personally and organizationally use energy more efficiently. This letter was followed with a robust communications program to all airmen to raise their awareness of energy conservation during October, which is traditionally for the Air Force "Energy Awareness Month".

The Air Force has an aggressive facility energy conservation program that achieved an impressive 30% reduction in energy use over the past 20 years. However, we are challenged to do better. The President, on January 24, 2007, issued a new energy Executive Order (E.O. 13423), directing agencies to reduce energy intensity by '(i) 3 percent annually through the end of fiscal year 2015, or (ii) 30 percent by end of fiscal year 2015, relative to the baseline of the agency's energy use in fiscal year 2003.' E.O. 13423, sec. 2(a)."

Besides a new facility energy conservation goal, the Executive Order also establishes new goals on the use of renewable energy, greenhouse gas emission reductions, and water conservation. Our strategy has been adjusted to meet these mandates. We also have established a goal to have our ground general purpose vehicle fleet "right-sized." This includes the purchase of at least 30% of our new vehicle requirement as Low Speed Vehicles – a new class of vehicle sometimes referred as "Neighborhood Electric Vehicles."

Over 80% of the Air Force annual $7B energy bill goes to fueling our aircraft. Our new strategy is committed to root-out waste and implement greater efficiencies in

aviation operations. We have set an aggressive target to reduce aviation fuel use by 10% over the next six years.

We will accomplish this aviation fuel optimization strategy through a series of operational changes by our pilots and aircraft maintenance specialists – some changes are as simple as reducing unneeded weight on aircraft. For example, every 100 pounds of excess weight removed from one of our strategic airlift aircraft results in an annual savings of 240,000 gallons of aviation fuel. In one recent Lean/6-sigma rapid improvement event, we identified nearly 2,000 pounds of excess weight that could be removed from a single KC-135 air refueling aircraft. We are also eliminating the practice of standard ramp (fuel) loads to reduce the amount of excess fuel planes land with. We will do this without reducing safety margins, while increasing consciousness of the "Cost-to-Carry" excess weight and fuel. Additional efforts to move training events to simulators, updating ground operation procedures, and establishing a culture of air crew awareness and fuel use accountability are just a small number of the efforts we are undertaking to optimize aviation fuel while simultaneously delivering air, space and cyberspace capabilities to the Combatant Commanders.

We have significant accomplishments I would like to share with the Committee today. Specifically:

-- The Air Force in Fiscal Year 2006 remained the largest green power purchaser of electricity – over 990,000 MWHrs -- in the Federal Government, and 3rd largest in the United States, according to a recently published Environmental Protection Agency Green Power Partnership report. Dyess AFB in Texas, Fairchild AFB in Washington, and

Minot AFB in North Dakota achieve nearly 100% of their electrical energy requirements from wind energy systems located near their installations. Thirty-seven Air Force Bases in the United States procure green power.

-- We have installed over 7 Megawatts of on-site wind energy and solar photovoltaic and landfill gas systems at a number of our bases These systems provide renewable energy for our installations, but also provide for increased energy security in the event of the loss of electric power from the grid due to natural disaster or enemy attack.

-- Nearly 8% of our diesel fuel is B20, which is a blend of 80% conventional diesel and 20% renewable bio-fuels. Our efforts to expand the use of E85 for our Flex Fueled Vehicle fleet is less successful. This is because E85, and its infrastructure, is not currently available at the majority of our installations. However, we are ready -- we have 4,479 FlexFuel vehicles in our fleet. Of that total, 1,547 sedans, or nearly 29% of our sedan fleet, is E85-ready. We continue to grow the fleet and convert our infrastructure to B-20 and E-85. Indeed, today, 58 Air Force Bases are dispensing B20, and 16 bases are dispensing E85. With our partners at the Defense Energy Support Center we have 26 biofuels infrastructure projects in the plans, or just recently completed -- the vast majority of these construction projects are for E85.

Mr. Chairman and members of the committee, I am sure you are most interested in the Air Force's plans to test, certify and fly using a Synfuel blend for the B-52 Stratofortress bomber powered partially by synthetic jet fuel produced from natural gas from a company in Tulsa, Oklahoma.

Last year the Secretary of the Air Force directed Air Force Materiel Command to take on a project to procure synthetic fuel, static ground test the fuel on engine test stands at the Oklahoma City Air Logistics Center at Tinker AFB, Oklahoma City, Oklahoma, and, if ground tests were successful, conduct an aviation flight demonstration at the Air Force Flight Test Center, Edwards Air Force Base, California. To ensure maximum crew safety in the first US military jet aircraft powered by domestically manufactured synthetic liquid hydrocarbons, the test was conducted using a 50/50 blend of conventional crude oil refined jet fuel and synthetically manufactured product. The first three flights were arranged for safety purposes so that only a single pod of two engines were powered by the SynFuel blend. The remaining six engines of the aircraft used conventional crude oil refined jet fuel.

The initial flight took place on September 19, 2006, and there have been a total of four flight tests, the most recent occurring on December 15, 2006. The last flight in the test series was flown by the Commander of the Air Force Flight Test Center with all eight engines fueled by the SynFuel blend, thus fully demonstrating the feasibility of using synthetic fuel for military aviation use.

In January, the jet was flown to Minot AFB, North Dakota for a series of cold weather engine starting tests. Those tests have been completed.

The jet has returned to the Air Force Flight Test Center, Edwards AFB, California, and the jet is being thoroughly inspected. We expect a full test report in the summer. Preliminary inspections have confirmed that there are no deleterious effects of

using a Synthetic blend jet fuel in military aircraft. It is our plan, if the detailed analysis of the test results and physical inspections prove out, to certify the entire inventory of B-52s for unrestricted flight operations using a SynFuel blend by the end of the year.

It should be pointed out that we chose a domestic source of SynFuel for our first military aviation demonstration, and this SynFuel was manufactured from natural gas. We recognize that Gas-to-Liquids do not assure the Air Force a dependable supply of jet fuel, since domestic natural gas production is insufficient to meet the Nation's. needs. The production of SynFuel from coal, oil shale and biomass sources would solve this constraint; however, there are considerable technical, environmental, and economic issues that remain to be worked out. We are partnering with the Department of Energy and the Defense Logistics Agency, as well as the Task Force on Strategic Unconventional Fuels mandated by Section 369 of the 2005 Energy Policy Act to explore what can be done in these areas.

Mr. Chairman, and members of the Committee, the Air Force appreciates the opportunity to provide an overview of our energy initiatives and the testing and certification of Synfuel for our fleet. I look forward to answering your questions at this time.