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This publication implements Air Force Policy Directive (AFPD) 90-17, *Energy Management*, and is consistent with the Air Force Energy Plan. This Air Force Instruction (AFI) applies to all military and civilian Air Force personnel; it also applies to the Air Force Reserve Command (AFRC) units and to the Air National Guard (ANG). This publication shall be applied to contractors or other persons through the contract or other legally binding agreement with the Department of the Air Force. Refer recommended changes and questions about this publication to the Office of Primary Responsibility (OPR) using the AF Form 847, *Recommendation for Change of Publication*; route AF Forms 847 from the field through the appropriate functional chain of command. Ensure that all records created as a result of processes prescribed in this publication are maintained in accordance with Air Force Manual (AFMAN) 33-363, *Management of Records*, and disposed of in accordance with the Air Force Records Disposition Schedule (RDS) located at **https://www.my.af.mil/gcss-af61a/afrims/afrims/**. See **Attachment 1** for a glossary of references and supporting information.

(35FW) This supplement implements AFI 90-1701. This supplement does not apply to the Air National Guard (ANG) or US Air Force Reserve (USAFR) units and members. Ensure that all records created as a result of processes prescribed in this publication are maintained IAW Air Force Manual (AFMAN) 33-363, Management of Records, and disposed of IAW Air Force Records Information Management System (AFRIMS) Records Disposition Schedule (RDS). Additionally, if the publication generates a report(s), alert readers in a statement and cite all applicable Reports Control Numbers in accordance with AFI 33-324. Refer recommended changes and questions about this publication to the Office of Primary Responsibility (OPR) using the AF Form 847, Recommendation for Change of Publication; route AF Form 847s from the field through the appropriate functional's chain of command.

Chapter 1

OVERVIEW AND RESPONSIBILITIES

1.1. Overview. This publication provides guidance on office responsibilities and the Energy Program. The AFI establishes the cross-functional governance and management structure at all levels of the Air Force to execute the Energy Policy. Energy is defined as any usable power, including but not limited to, coal, petroleum products, steam, electricity, natural gas, propane, military operational fuels and propellants, alternative fuels and renewable energy including, but not limited to, synthetic and biomass-derived fuels, solar, wind, geothermal, and nuclear, but excluding nuclear energy used in ship propulsion.

1.1.1. Energy availability and management is critical to Air Force readiness. Energy enables the Air Force to deliver its designed capabilities without unacceptable delay, and is essential for successful accomplishment of the mission. Energy availability and security impacts all Air Force missions, operations, and organizations and supports the Air Force's priorities. The Air Force must have reliable energy supplies. Energy enables the Air Force to develop and care for Airmen and their families during training and in daily living. New energy technology will be incorporated into systems as the Air Force modernizes aircraft, satellites, and equipment.

1.1.1.1. **(Added-35FW)** Energy Security During Power Interruption: refer to Misawa Air Base (MAB) Power Management Plan (PMP) 10-4.

1.1.1.1.1. **(Added-35FW)** Applies to all units assigned, attached, or associated with MAB, including tenant organizations.

1.1.1.1.2. **(Added-35FW)** Identifies base power infrastructure and response for varying power continuity threats.

1.1.1.1.3. **(Added-35FW)** Supports local energy operations, is effective for planning, and is ready for execution at the direction of the Installation Commander.

1.1.2. As the Department of Defense's (DoD) largest energy consumer, the Air Force is taking a leadership role in developing Energy Strategies, Visions, and Programs to reduce energy consumption across missions. The Air Force is the renewable energy leader in the federal government and seeks to expand its renewable energy portfolio through public private partnership. For example, the Air Force is expanding its use of alternative jet fuel to reduce demand on foreign oil and remain good environmental stewards.

1.1.3. It is imperative that the Air Force continually refine its energy programs and create a culture that is mindful of the footprint we leave on the environment, and yet produces lethal combat power yielding sovereign options for America. This guidance, and the additional training and educating of the total force to conserve and use energy wisely, enables the Air Force to build the foundation for a culture that will continuously reduce energy consumption and identify and use new energy sources effectively. This guidance directs energy actions within the Air Force so it can remain in a leadership position and meet mission responsibility.

1.1.4. Many organizations throughout the Air Force have energy responsibility as part of their primary mission responsibilities but there has been no single organization that has had a primary mission of global energy management or has visibility of all energy efforts. A single organization must be responsible for energy management to ensure the Air Force is able to meet the increased federal energy goals and coordinate energy efforts throughout the Air Force.

1.1.5. The Air Force's Energy Plan is to "Reduce Demand, Increase Supply, and Change the Culture." Each element of the Plan is equally important. The Air Force's energy vision is to "Make Energy a Consideration in All We Do." The vision is the foundation of the Energy Plan and assigns energy responsibility to all Air Force personnel.

1.2. Roles and Responsibilities. The following provides implementing responsibilities in addition to those responsibilities established in AFPD 90-17 Energy Management.

1.2.1. Under Secretary of the Air Force (SAF/US).

1.2.1.1. Serves as the Senior Energy Official of the Air Force.

1.2.1.2. Oversees the Air Force's Energy Program and is the Air Force's Energy Program Manager.

1.2.1.3. Provides support for solving Air Force wide energy issues by leveraging the power of the Energy Senior Focus Group (SFG).

1.2.1.4. Provides resolution when conflicts arise over areas of energy responsibilities.

1.2.1.5. Co-chairs the Energy SFG with the Vice Chief of Staff for the Air Force (VCSAF).

1.2.1.6. Represents the Air Force at the DoD Energy Policy Council.

1.2.2. Assistant Secretary for Installations, Environment, and Logistics (SAF/IE).

1.2.2.1. Serves as the OPR supporting the Under Secretary's role as the Senior Energy Official and oversees program implementation.

1.2.2.2. Develops overarching energy policy for SECAF approval.

1.2.2.3. Develops overarching energy guidance on the structure and composition of all information required to be reported to the Air Force Energy Program Manager, mechanisms to solve energy issues spanning multiple organizations, methods for achieving the federal, Office of the Secretary of Defense (OSD), and Air Force energy goals, and policies to establish energy initiatives to support joint operations with our allies.

1.2.2.4. Serves as the Director of the Headquarters Air Force Energy Program Management Office (EPMO).

1.2.2.5. Provides guidance on the structure and composition of all information required to be reported to the Air Force Energy Program Manager.

1.2.2.6. Provides guidance and a mechanism to solve energy issues spanning multiple organizations.

1.2.2.7. Provides guidance on achieving federal, DoD, and Air Force energy goals.

1.2.2.8. Provides controls to avoid duplication of energy initiatives to ensure the Air Force uses its resources efficiently and effectively.

1.2.2.9. Provides venues to collaborate and share energy ideas.

1.2.2.10. Provides guidance to enable Air Force energy initiatives to support joint operations with our allies.

1.2.2.11. Provides oversight to ensure energy projects or programs do not hinder each installation's mission.

1.2.2.12. Provides the Air Force Annual Energy Report to the OSD.

1.2.2.13. Grants waivers to new building and leased building standards.

1.2.2.14. Serves as a member of the Energy SFG.

1.2.3. Deputy Assistant Secretary of the Air Force for Energy, Environment, Safety, and Occupational Health (SAF/IEE).

1.2.3.1. Manages the day-to-day activities of the Air Force EPMO and the Air Force's Energy Program.

1.2.3.2. Monitors execution of the Air Force Energy Plan.

1.2.3.3. Monitors energy culture change throughout the Air Force.

1.2.3.4. Reports the energy security posture of the Air Force.

1.2.3.5. Monitors progress in meeting DoD energy goals.

1.2.3.6. Monitors Air Force progress in executing DoD and Air Force energy policies.

1.2.3.7. Interfaces with the OSD and other outside organizations on Air Force wide energy issues.

1.2.3.8. Submits to the SECAF, DoD, and other higher level organizations, reports describing Air Force compliance with DoD energy goals.

1.2.3.9. Operates the Air Force energy award program to recognize Air Force personnel and organizations for their accomplishments in the energy area.

1.2.3.10. Establishes themes for Energy Awareness Month for the Air Force and provides the themes to the Headquarters Air Force (HAF), MAJCOMs and Direct Reporting Units (DRUs) for implementation by June 1st, annually.

1.2.3.11. Reviews waivers to new building and leased building standards.

1.2.3.12. Monitors purchases of appliances to ensure compliance with energy standards.

1.2.3.13. Monitors and reviews energy audits at installations and air units.

1.2.3.14. Serves as the Executive Secretariat to the Energy SFG.

1.2.4. Assistant Secretary of the Air Force for Acquisition (SAF/AQ).

1.2.4.1. Provides overall management of the Air Force acquisition of new energy efficient weapon systems and technology.

1.2.4.2. Provides overall management of alternative fuel analysis, testing, and certification.

1.2.4.3. Ensures AFIs written within their area of responsibility are consistent with Air Force energy management goals and objectives.

1.2.4.4. Serves as a member of the Energy SFG and Chairs the Acquisition and Technology Working Group.

1.2.5. Deputy Under Secretary of the Air Force, International Affairs (SAF/IA):

1.2.5.1. Coordinates with SAF/IE to support energy interoperability efforts with our partners and energy contacts with foreign governments.

1.2.5.2. Ensures AFIs written within their area of responsibility are consistent with Air Force energy management goals and objectives.

1.2.5.3. Serves as a member of the Energy SFG and Chairs the International Working Group

1.2.6. Assistant Secretary of the Air Force, Financial Management and Comptroller (SAF/FM).

1.2.6.1. Serves as a member of the Energy SFG.

1.2.6.2. Chairs the Innovative Financing Advisory Working Group.

1.2.7. Director of Public Affairs, Office of the Secretary of the Air Force (SAF/PA).

1.2.7.1. Provides strategic communication counsel for the Air Force Energy Plan.

1.2.7.2. Integrated Plans and Strategy Division (SAF/PAX). SAF/PAX chairs the Strategic Communication Integration Advisory Group.

1.2.8. Office of the General Counsel of the Air Force (SAF/GC).

1.2.8.1. Provides legal counsel for the Air Force Energy Program.

1.2.8.2. Serves as a principal advisor to the Energy SFG.

1.2.9. Office of Warfighting Integration and Chief Integration Officer (SAF/XC).

1.2.9.1. Develops information management and information technology policies, guidance, architectures, and standards to maintain and implement the Air Force's enterprise-level information architecture consistent with energy management goals and objectives.

1.2.9.2. Serves as a member of the Energy SFG.

1.2.10. Vice Chief of Staff for the Air Force. VCSAF co-chairs the Energy SFG with the SAF/US.

1.2.11. Deputy Chief of Staff, Manpower and Personnel (AF/A1):

1.2.11.1. Develops energy awareness training material and revises curriculum to include energy sections in all educational materials and curriculums.

1.2.11.2. Ensures Air Force Instructions written within their area of responsibility are consistent with Air Force energy management goals and objectives.

1.2.11.3. Chairs the Culture Change Working Group.

1.2.12. Deputy Chief of Staff, Operations, Plans and Requirements (AF/A3/5):

1.2.12.1. Establishes and executes the Air Force's Aviation Energy Program.

1.2.12.2. Establishes and monitors the aviation energy audit program to measure progress against energy goals.

1.2.12.3. Ensures AFIs written within their area of responsibility are consistent with Air Force energy management goals and objectives.

1.2.12.4. Serves as a member of the Energy SFG and Chairs the Aviation Operations Working Group.

1.2.12.5. Air Force Operations Group (AF/A3O-AH) chairs the Critical Infrastructure Program Working Group.

1.2.13. Deputy Chief of Staff, Logistics, Installations and Mission Support (AF/A4/7):

1.2.13.1. Establishes and executes the Air Force's Facility Infrastructure and Vehicle Energy Programs.

1.2.13.2. Grants waivers for new vehicle purchases that do not meet the low greenhouse gas emission standards.

1.2.13.3. Ensures AFIs written within their area of responsibility are consistent with Air Force energy management goals and objectives.

1.2.13.4. Serves as a member of the Energy SFG.

1.2.13.5. Air Force Office of Logistics Readiness (AF/A4L).

1.2.13.5.1. Manages the Air Force Vehicle Energy Program.

1.2.13.5.2. Reviews waivers for new vehicle purchases that do not meet the low greenhouse gas emission standards.

1.2.13.5.3. Ensures AFIs written within their area of responsibility are consistent with Air Force energy management goals and objectives.

1.2.13.6. Air Force Office of the Civil Engineer (AF/A7C).

1.2.13.6.1. Manages the Air Force Facility Infrastructure Energy Program and issues the annual Air Force Greenhouse Gas Inventory report.

1.2.13.6.2. Ensures AFIs written within their area of responsibility are consistent with Air Force energy management goals and objectives.

1.2.13.6.3. Serves as a member of the Energy SFG and Chairs the Provide Infrastructure Working Group

1.2.14. Deputy Chief of Staff for Strategic Plans and Programs (AF/A8). Serves as a member of the Energy SFG.

1.2.15. Director for Studies and Analyses, Assessments, and Lessons Learned (AF/A9). Serves as a principal advisor to the Energy SFG.

1.2.16. Air Force Chief Scientist (AF/ST).

1.2.16.1. Provides assessments on a wide range of scientific and technical energy issues affecting the Air Force mission.

1.2.16.2. Serves as a principal advisor to the Energy SFG.

1.2.17. Major Commands, Air National Guard, and Direct Reporting Units:

1.2.17.1. MAJCOMs, ANG, and DRUs exercising custody and control over real estate will designate an office responsible for energy management. The Energy Offices are responsible for monitoring and reporting compliance with energy program execution and compliance, and developing energy programs that are specifically applicable to their organizations to support Air Force energy goals, objectives, and metrics included in Attachment 2.

1.2.17.1.1. **(Added-35FW)** The Base Energy Manager is responsible for monitoring and reporting compliance with energy program execution and compliance, and developing energy programs that are specifically applicable to their organizations to support Air Force energy goals, objectives, and metrics.

1.2.17.1.2. **(Added-35FW)** The Base Energy Manager will monitor energy and water consumption, report energy and water consumption/intensity to Major Command (MAJCOM) via approved reporting system, review utility billing, implement a transparent utility reimbursement program for tenant organizations to repay the AF for providing utilities, and develop base/building level trends and patterns.

1.2.17.1.3. **(Added-35FW)** The Base Energy Manager will identify, evaluate, and recommend opportunities to reduce energy and water usage. The Base Energy Manager will also conduct life-cycle cost analysis for energy projects and will conduct energy and water audits of covered facilities to increase awareness, identify projects to reduce consumption, and meet the mandates of AFI 90-1701, *Energy Management*.

1.2.17.2. MAJCOMs, ANG, and DRUs exercising custody and control over real estate will establish an Energy Management Steering Group (EMSG), chaired by the Commander or Vice Commander. EMSG membership includes, at a minimum, representatives from civil engineering, public affairs, transportation operations, budget, aircraft maintenance and operations, logistics, and fuels management. The EMSG will meet quarterly. Meeting minutes will be published and sent to Deputy Assistant Secretary of the Air Force for Energy, Environment, Safety, and Occupational Health (SAF/IEE).

1.2.17.3. MAJCOMs, ANG, and DRUs will execute energy awareness training programs for all personnel under their command and track the number of personnel trained. All individuals will be trained in energy awareness.

1.2.17.3.1. **(Added-35FW)** The Base Energy Manager will develop the necessary plans/policies to implement energy reduction strategies for installation leadership approval.

1.2.17.3.1.1. **(Added-35FW)** The Base Energy Manager will provide facility manager (FM) training in energy conservation and awareness.

1.2.17.4. MAJCOMs, ANG, and DRUs will evaluate the energy security of their respective missions and bases. Energy security shall be evaluated to determine potential short and long term energy disruptions and appropriate action shall be taken to mitigate energy security risks.

1.2.17.4.1. **(Added-35FW)** The Base Energy Manager will support CES/CC in evaluating and mitigating Misawa Air Base (MAB) energy security risks.

1.2.17.5. MAJCOMs, ANG, and DRUs will evaluate the energy audit at each installation and air unit to measure progress against the energy goals.

1.2.17.5.1. **(Added-35FW)** The Base Energy Manager will track progress towards reduction goals and reports energy and water consumption/intensity to installation leadership.

1.2.17.6. MAJCOMs, ANG, and DRUs exercising custody and control over real estate will develop programs for Energy Awareness Month, which occurs each October, and MAJCOMs will review each of their installation's Energy Awareness Month programs. MAJCOMs, ANG, and DRUs will provide a report of all installations' programs to SAF/IEE by August 31st of each year.

1.2.17.6.1. **(Added-35FW)** The Base Energy Manager will plan and coordinate all activities supporting October Energy Action Month in concert with Public Affairs.

1.2.17.7. MAJCOMs, ANG, and DRUs exercising custody and control over real estate will track energy usage to provide bi-annual progress reports required by the SAF/IE for annual reports and to respond to other energy data calls.

1.2.18. Air Force Materiel Command (AFMC). In addition to the above responsibilities, AFMC manages the research of energy technology.

1.2.18.1. Air Force Research Laboratory (AFRL). AFRL leads the discovery, development, and integration of affordable warfighting energy technologies for America's aerospace forces.

1.2.18.2. Advanced Power Technology Office (APTO). APTO leads and manages the identification, assessment, transition, and integration of advanced power, alternative energy, and fuel technologies into the Air Force's inventory: ground vehicles, support equipment, basic expeditionary airfield resources, and fuel-cell equipment/applications.

1.2.18.3. Alternative Fuel Certification Office (AFCO). Executes and manages all aspects of the alternative fuel certification process across all USAF platforms (including all aircraft, future weapon systems, appropriate ground support equipment, and fuel delivery systems) in support SECAF "Assured Fuels" initiative to decrease US dependence on foreign oil.

1.2.19. Air Force Civil Engineer Support Agency (AFCESA).

1.2.19.1. AFCESA is a field operating agency (FOA) that reports to the Office of the Civil Engineer of the Air Force. AFCESA provides the best tools, practices, and professional support to maximize Air Force civil engineer capabilities in base and contingency operations. It is also home to the Air Force Facility Energy Center (AFFEC), which provides oversight and support for the facility energy program to minimize consumption and costs. The AFFEC provides engineering, management, and legal expertise and support for energy and water reduction initiatives, renewable energy development, commodity acquisition, capital programs, utility privatization, and reporting.

1.2.19.2. Responsible for execution of the Air Force metering program.

1.2.20. Air Force Real Property Agency (AFRPA).

1.2.20.1. AFRPA is a FOA of the Deputy Assistant Secretary of the Air Force for Installations (SAF/IEI) and will advise on use of Air Force real property for energy initiatives.

1.2.20.2. Responsible for the Enhanced Use Lease Program.

1.2.21. Air Force Petroleum Agency (AFPA). AFPA is a FOA reporting to the Director, Logistics Readiness (AF/A4R), Office of the Deputy Chief of Staff for Logistics, Installations, and Mission Support, HQ USAF. AFPA provides a full range of technical and professional services related to fuels, propellants, chemicals, lubricants, gases, and cryogenics for all aerospace vehicles, systems, and equipment.

1.2.22. Air Force Center for Engineering and the Environment (AFCEE). AFCEE is a FOA reporting to AF/A4/7 and provides Air Force leaders with the comprehensive expertise and professional services necessary to protect, preserve, restore, develop, and sustain the nation's environmental and installation resources.

1.2.22.1. Air Force Vehicle and Equipment Management Support Office (VEMSO), a subunit of AFCEE, is an innovative office responsible for reviewing the energy efficiency in the testing and acquisition of commercially available vehicles and equipment.

1.2.23. Air Force Smart Operations (AFSO). AFSO is responsible for the Air Force Smart Operations for the Twenty-first Century Program (AFSO21). The AFSO21 vision is to fundamentally change the culture of the Air Force so that all Airmen understand their individual role in improving their daily processes and eliminating things that do not add value to the mission. Energy is one of the five desired effects of the AFSO21 strategy and HAF, MAJCOMs, and installations shall utilize AFSO21 process improvement concepts wherever possible.

1.2.24. Installation Commanders/Directors will:

1.2.24.1. Designate an office responsible for energy management. The energy management office is responsible for establishing and executing energy plans and programs to support MAJCOM energy programs and complying with this guidance. Installations will report to the MAJCOM progress in achieving the Air Force Energy Plan and the Air Force Energy Program Directives.

1.2.24.2. Establish an EMSG that meets quarterly and is chaired by the Commander or Vice Commander. The EMSG membership shall, at a minimum, have representatives from all major energy managing activities, including civil engineering, public affairs, transportation operations, budget, aircraft maintenance and operations, logistics, and fuels management. Minutes of each meeting are to be provided to the MAJCOM.

1.2.24.3. Conduct annual Energy Security reviews. Each installation's EMSG is required to determine the installation's vulnerability to energy interruptions. The review should ensure the base's existing plans, covered in MAJCOM supplements to AFI 10-211, *Civil Engineer Contingency Response Planning;* AFI 10-2501, *Air Force Emergency Management Program Planning and Operations – Full Spectrum Threat Response (FSTR)* Plan 10-2, and AFI 32-2001 *Fire Protection Operations and Fire Prevention Program*, recognize the energy vulnerabilities and include mitigation strategies.

1.2.24.4. Conduct energy audits at least once every four years to measure the progress of the organization against installation energy goals and provide recommendations to further reduce energy consumption, increase supply, and change culture.

1.2.24.5. Recognize Energy Awareness Month each October. Energy Awareness Month activities will support the Air Force Energy Plan to reduce energy demand, increase energy supply, and change culture. Installations will provide summaries of their energy programs to their MAJCOMs for inclusion in the MAJCOM's summary report due to SAF/IEE by August 31st of each year.

1.2.25. Wing Commanders. Conduct energy audits at least once every four years to measure the progress of the organization against aviation energy goals and provide recommendations to further reduce energy consumption, increase supply, and change culture.

1.2.25.1. **(Added-35FW)** Group Commanders (GP/CC) are responsible for changing the culture within their respective Groups at the strategic level.

1.2.25.1.1. **(Added-35FW)** Support MAB's Energy Program and its initiatives at the FW and within the Group.

1.2.25.1.2. **(Added-35FW)** Regularly promote responsible energy management habits at Commander's Calls, emphasizing each individual's personal role in saving energy and money through reducing utilities usage.

1.2.25.1.3. **(Added-35FW)** Actively engage with respective Squadron Commanders to identify and address energy conservation concerns specific to their missions and facilities.

1.2.25.2. **(Added-35FW)** Deputy Group Commanders will report energy concerns at the quarterly Energy Management Steering Group (EMSG) where appropriate.

1.2.25.2.1. **(Added-35FW)** Work with the Base Energy Manager (EM) to address appropriate energy concerns via the chain of command.

1.2.25.2.2. **(Added-35FW)** Deputy Operations Group Commander (OG/CD) has the authority to standup and chair the Aviation Operations Working Group (AOWG) at their discretion to aid in solving energy issues in support of the MAB Energy Program.

1.2.25.3. **(Added-35FW)** Squadron Commanders (SQ/CC) are responsible for changing the culture and decreasing energy demand within their respective Squadrons.

1.2.25.3.1. **(Added-35FW)** Support MAB's Energy Program and its initiatives within the Squadron.

1.2.25.3.2. **(Added-35FW)** Regularly promote responsible energy management habits at Commander's Calls, emphasizing each individual's personal role in saving energy and money by reducing utilities usage.

1.2.25.3.3. **(Added-35FW)** Actively engage with respective Flight Commanders/Flight Chiefs and Facility Managers (FM) to identify and address energy conservation concerns specific to their missions and facilities.

1.2.25.3.4. **(Added-35FW)** Address energy concerns with respective Deputy Group Commanders.

1.2.25.3.5. **(Added-35FW)** Logistics Readiness Squadron Commander (LRS/CC). The LRS/CC has the authority to standup and chair the Ground Vehicles Working Group (GVWG) at their discretion to help solve energy issues in support of the MAB Energy Program.

1.2.25.3.6. **(Added-35FW)** Civil Engineer Squadron Commander (CES/CC). The CES/CC has a crucial responsibility on a tactical level to increase energy supply and ensure energy security when power supply is interrupted.

1.2.25.3.6.1. **(Added-35FW)** The CES/CC will be responsible for ensuring MAB obtains appropriate contracted power supply from the electric utility provider.

1.2.25.3.6.2. **(Added-35FW)** The CES/CC will be responsible for evaluating and mitigating installation energy security risks. The CES/CC will implement and maintain the Misawa Air Base Power Management Plan 10-4 (PMP) to sustain the base mission in the event of prolonged interrupted power supply.

1.2.25.3.6.3. **(Added-35FW)** The CES/CC has the authority to standup and chair the Facility Energy Management Working Group (FEMWG) at their discretion to help solve energy issues in support of the MAB Energy Program.

1.2.25.4. **(Added-35FW)** Facility Managers will act as their Commander's primary Point of Contact (POC) to conduct the following in their assigned facilities:

1.2.25.4.1. **(Added-35FW)** Actively identify energy and water conservation concerns and relay them to their SQ/CC via their chain of command.

1.2.25.4.2. **(Added-35FW)** Work with the Base EM to mitigate identified energy and water conservation concerns.

1.2.25.4.3. **(Added-35FW)** Implement energy and water conservation measures.

1.2.25.4.4. **(Added-35FW)** Actively promote energy awareness.

1.2.25.4.5. **(Added-35FW)** FMs will conduct annual facility audits and report findings to the Base EM.

1.2.25.4.6. **(Added-35FW)** FMs will implement PWRCON checklist as found in the PMP 10-4 in an emergency energy crisis.

1.2.25.5. **(Added-35FW)** Public Affairs will designate an Energy POC who will work directly with the Base EM to spread awareness in support of the MAB Energy Program.

The Energy POC will engage with the Base EM during designated months throughout the year to plan PA support for the following events:

1.2.25.5.1. **(Added-35FW)** March – Industrial Heat Turn-Off.

1.2.25.5.2. **(Added-35FW)** April – Military Family Housing (MFH) Heat Turn-Off.

1.2.25.5.3. **(Added-35FW)** May – The beginning of the No Heat/No Cool season and implementing the Temporary Air Conditioning (A/C) policy. This requirement will phase out once permanent A/C is completely installed in MFH.

1.2.25.5.4. **(Added-35FW)** July – The end of No Cool season.

1.2.25.5.5. **(Added-35FW)** October (Energy Action Month) – MFH and Industrial Heat Turn-On and implementing the Holiday Lights Policy (Effective the weekend prior to Halloween until the weekend after New Year's Day)

1.2.25.5.6. **(Added-35FW)** November and December – Rescinding the Holiday Lights Policy (Effective the weekend prior to Halloween until the weekend after New Year's Day)

1.2.25.6. **(Added-35FW)** Tenant Organizations will follow all energy policy directives established in this instruction. They will also support the AF Energy Program and MAB Energy Management Program by actively seeking ways to conserve energy and water through reducing utility usage without significantly affecting quality of life.

1.2.25.7. **(Added-35FW)** Energy Management Steering Group will be comprised of Aviation Operations, Ground Vehicles, and Facility Energy representatives and will report progress made toward fuel, energy, and water reduction goals.

1.2.25.7.1. **(Added-35FW)** EMSG Voting Members will be:

1.2.25.7.1.1. **(Added-35FW)** Chair: Vice Commander, 35th Fighter Wing (35 FW/CV)

1.2.25.7.1.2. **(Added-35FW)** Commander, United States Naval Air Facility Misawa (NAF/00)

1.2.25.7.1.3. **(Added-35FW)** Deputy Commander, 35th Operations Group (35 OG/CD)

1.2.25.7.1.4. **(Added-35FW)** Deputy Commander, 35th Maintenance Group (35 MXG/CD)

1.2.25.7.1.5. **(Added-35FW)** Deputy Commander, 35th Mission Support Group (35 MSG/CD)

1.2.25.7.1.6. **(Added-35FW)** Deputy Commander, 35th Medical Group (35 MDG/CD)

1.2.25.7.2. **(Added-35FW)** Non-Voting Members will be:

1.2.25.7.2.1. **(Added-35FW)** Chief, Naval Public Works

1.2.25.7.2.2. **(Added-35FW)** Chief, Public Affairs (35 FW/PA)

1.2.25.7.2.3. **(Added-35FW)** Commander, 35th Comptroller Squadron (35

CPTS/CC)

1.2.25.7.2.4. **(Added-35FW)** Commander, 35th Civil Engineer Squadron (35 CES/CC)

1.2.25.7.2.5. **(Added-35FW)** Commander, 35th Logistics Readiness Squadron (35 LRS/CC)

1.2.25.7.2.6. **(Added-35FW)** Commander, 35th Communications Squadron (35 CS/CC)

1.2.25.7.2.7. **(Added-35FW)** Commander, 35th Force Support Squadron (35 FSS/CC)

1.2.25.7.2.8. **(Added-35FW)** Energy Manager, 35th Civil Engineer Squadron (35 CES/CENPE)

1.2.25.7.2.9. **(Added-35FW)** General Manager, Army Air Force Exchange Services (AAFES)

1.2.25.7.2.10. **(Added-35FW)** Store Manager, Defense Commissary Agency (DeCA)

1.2.25.7.2.11. **(Added-35FW)** Liaison, Department of Defense Education Activity (DoDEA)

1.2.26. Other organizations supporting the Air Force Energy Program:

1.2.26.1. Defense Energy Support Center (DESC). DESC is a field level activity of the Defense Logistics Agency (DLA). DESC's mission is to provide the DoD and other government agencies with comprehensive energy solutions in the most effective and economical manner possible. DESC is a member of the Acquisition and Technology Working Group.

1.2.26.2. Department of Energy (DOE) Laboratories. The DOE laboratories assist the Air Force in performing cutting-edge energy research.

Chapter 2

AIR FORCE ENERGY GOALS, OBJECTIVES, AND METRICS

2.1. Energy Goals, Objectives, and Metrics. The Air Force has established energy goals, objectives, and metrics. These goals, objectives, and metrics align with federal, DoD, and Air Force energy policy and guidance. **Figure 2.1** illustrates these goals, objectives, and metrics.

2.1.1. **(Added-35FW)** Reporting. Installation leadership has two energy reporting and implementing structures at their disposal to aid in achieving fuel, energy, and water conservation goals.

2.1.1.1. **(Added-35FW)** EMSG. MAB is mandated by AFPD 90-17 and AFI 90-1701 to establish an EMSG. The following provides implementing reporting structures in addition to those established in AFI 90-1701, Energy Management.

2.1.1.1.1. **(Added-35FW)** The voting members of the EMSG will direct the appropriate parties to investigate or implement its directives as necessary.

2.1.1.1.2. **(Added-35FW)** EMSG membership shall include representatives from all major fuel, energy, and water consumers on the installation, to include tenants.

2.1.1.2. **(Added-35FW)** Working Groups. The following working groups are not mandated by AFPD 90-17 or AFI 90-1701 but are tools designed to assist installation leadership in developing strategies and identifying opportunities to meet the fuel, energy, and water conservation goals. Authority to standup, define membership, and chair each working group resides with their respective commanders.

2.1.1.2.1. **(Added-35FW)** Aviation Operations Working Group (AOWG). The mission of the AOWG is to pursue energy conservation strategies where applicable based upon flying mission requirements.

2.1.1.2.2. **(Added-35FW)** Ground Vehicles Working Group (GVWG). The mission of the GVWG is to continually seek ways to reduce vehicle fleet fuel consumption.

2.1.1.2.3. **(Added-35FW)** Facility Energy Management Working Group (FEMWG). The mission of the FEMWG is to reduce facility energy and water consumption, reduce utility costs, increase energy supply, enhance energy security, and increase base energy awareness.

Figure 2.1. Air Force Energy Goals, Objectives, and Metrics.

U.S. AIR FORCE

	GOALS	
REDUCE DEMAND	**INCREASE SUPPLY**	**CULTURE CHANGE**
	IMPLEMENTING GOALS	
▪ Reduce consumption of aviation fuel by 10% by 2015 against a FY2006 baseline ▪ Implement pilot fuel efficiency measures in all standardization/evaluation flights by 2010 ▪ Incorporate pilot fuel efficiency elements in the UPT training syllabus by 2011 ▪ Reduce motor vehicle fleet petroleum fuel use by 2% per annum ▪ Reduce installation energy intensity by 3% per annum	▪ Increase non-petroleum-based fuel use by 10% per annum in the motor vehicle fleet ▪ Increase facility renewable energy at annual targets, 5% by FY10, 7.5% by FY13, 25% by FY25 - 50% of increase must come from new renewable sources ▪ By 2016 be prepared to cost competitively acquire 50% of the Air Force's domestic aviation fuel requirement via an alternative fuel blend in which the alternative component is derived from domestic sources produced in a manner that is greener than fuels produced from conventional petroleum	▪ Provide energy leadership through the Energy Management Steering Groups ▪ Train all personnel in energy awareness by 2010 ▪ Implement an energy curriculum at the Academy and the Air University by 2010 ▪ Communicate energy awareness at all installations during Energy Awareness Month each October
	OBJECTIVES	
▪ Increase Conservation ▪ Improve Efficiency ▪ Enhance Energy Security	▪ Increase Alternative Fuels ▪ Increase Renewable Energy ▪ Utilize Public Private Partnerships ▪ Enhance Energy Security	▪ Leadership ▪ Training ▪ Education ▪ Communication
	IMPLEMENTING OBJECTIVES	
▪ Fly Efficiently ▪ Develop efficient aircraft technology ▪ Improve jet engine performance ▪ Develop fuel efficient equipment ▪ Improve current infrastructure ▪ Design new buildings that are 30% better than ASHRAE standards ▪ Procure energy efficient products and vehicles ▪ Optimize utility procurement ▪ Evaluate lifecycle costs ▪ Refine the Air Force's critical asset list ▪ Conduct energy audits ▪ Implement Air Force Metering Plan by 2012 and meet annual milestones	▪ Develop renewable energy resources on base ▪ Procure commercially produced alternative/renewable energy ▪ Test and certify all aircraft and systems against 50/50 alternative fuel blend by 2011 ▪ Increase the number of flexible fuel systems ▪ Identify/develop privately financed/ operated energy production on Air Bases ▪ Field the Critical Asset Prioritization Methodology (CAPM) tool ▪ Manage costs	▪ Provide energy leadership throughout the Air Force ▪ Provide energy awareness training to each uniform and civilian member of the Air Force ▪ Develop energy curriculum for Air Force Academy, Air University, and other schools ▪ Communicate Air Force energy successes and lessons learned ▪ Identify/develop privately financed energy sources on underutilized land
	METRICS	
▪ Barrels of aviation fuel consumed per year ▪ Average amount of energy consumed per building sq. ft. ▪ Average miles per gallon (MPG) of non-tactical ground vehicles	▪ Percent alternative/renewable fuel used for aviation fuel requirements ▪ Percent alternative/renewable fuels used for installation energy requirements ▪ Percent alternative/renewable fuel used for non-tactical ground vehicle requirements	▪ Energy audit score measuring compliance with Air Force energy policies and strategies ▪ Percentage of personnel contacted with energy awareness media ▪ Percentage of personnel trained in the Air Force energy curriculum ▪ Survey score results measuring awareness of Air Force energy policy and strategies

2.2. Reduce Demand.

2.2.1. **Overarching Goal.** The Air Force is committed to reducing aviation, ground fuel, and installation energy demand. The goals and objectives developed to reduce demand cover each of these areas and provide the framework for each executing organization to issue specific implementing guidance.

2.2.1. **(35FW)** 1 (Added) The following is a list of mandated Federal, Department of Defense, and AF energy goals which are reportable and applicable to MAB. Each entity below assumes responsibility for meeting their respective goals and will be held accountable by the EMSG Chair. The EMSG Chair has the authority to require the MAB Energy

Management Program to implement and track additional goals at their prerogative. MAB will adhere to new Federal, DoD, and AF guidance as it comes out.

2.2.2. **Implementation Goals.**

2.2.2.1. Reduce consumption of aviation fuel by 10% by 2015 against a FY2006 baseline.

2.2.2.1.1. **(Added-35FW)** Maximize training per pound of fuel used to meet Ready Aircrew Program tasking requirements in accordance with Air Combat Command's Ready Aircrew Program tasking memorandum.

2.2.2.2. Implement pilot fuel efficiency measures in all standardization/ evaluation flights by 2010.

2.2.2.2.1. **(Added-35FW)** Improve energy efficiency 10% by Fiscal Year 2020 (FY20) compared to an FY11 baseline as mission training requirements permit.

2.2.2.3. Incorporate pilot fuel efficiency elements in the Undergraduate Pilot Training (UPT) training syllabus by 2011.

2.2.2.4. Reduce motor vehicle fleet petroleum fuel use by 2 percent per annum.

2.2.2.4.1. **(Added-35FW)** Reduce fossil fuel consumption 2% annually through FY20 compared to an FY05 baseline.

2.2.2.4.2. **(Added-35FW)** Reduce annual fossil fuel consumption by 30% by FY20 compared to an FY05 baseline.

2.2.2.5. Reduce installation energy intensity by 3 percent per annum.

2.2.2.5.1. **(Added-35FW)** Reduce energy intensity 3% annually totaling 25% by FY25 compared to an FY15 baseline.

2.2.2.5.2. **(Added-35FW)** Reduce potable water consumption 2% annually totaling 36% by FY25 compared to an FY07 baseline.

2.2.2.5.3. **(Added-35FW)** MAB does not currently use non-potable water.

2.2.2.5.4. **(Added-35FW)** Audit 100% of covered facilities at least once every 4 years.

2.2.3. **Overarching Objectives.**

2.2.3.1. Increase conservation.

2.2.3.2. Improve efficiency.

2.2.3.3. Enhance energy security.

2.2.4. **Implementation Objectives.**

2.2.4.1. Fly efficiently.

2.2.4.2. Develop efficient aircraft technology.

2.2.4.3. Improve jet engine performance.

2.2.4.4. Develop fuel efficient equipment.

2.2.4.5. Improve current infrastructure.

2.2.4.6. Design new buildings that are 30 percent better than American Society of Heating, Refrigerating and Air Conditioning Engineers (ASHRAE) standards.

2.2.4.7. Procure energy efficient products and vehicles.

2.2.4.8. Optimize utility procurement.

2.2.4.9. Evaluate lifecycle costs.

2.2.4.10. Refine the Air Force's critical asset list.

2.2.4.11. Conduct energy audits.

2.2.4.12. Implement Air Force Metering Plan by 2012 and meet annual milestones.

2.2.5. **Metrics.**

2.2.5.1. Barrels of aviation fuel consumed per year.

2.2.5.2. Average energy consumed per building square foot.

2.2.5.3. Average miles per gallon (MPG) of non-tactical ground vehicles.

2.3. Increase Supply.

2.3.1. **Overarching Goal.** The Air Force is committed to increasing the amount of energy supplies available to become more energy independent. Energy independence reduces the amount of energy required from foreign sources and, where possible, the Air Force will use renewable or green energy to reduce greenhouse gas emissions. The goals and objectives to increase supply target the three areas of aviation fuel, ground fuels, and installation energy.

2.3.2. **Implementation Goals.**

2.3.2.1. Increase non-petroleum based fuel by 10 percent per annum in the motor vehicle fleet.

2.3.2.1.1. **(Added-35FW)** MAB does not currently have access to alternative fuels.

2.3.2.2. Increase facility renewable energy use at annual targets of 5 percent by FY10, 7.5 percent by FY13, and 25 percent by FY25 – 50 percent of increase must come from new renewable sources.

2.3.2.2.1. **(Added-35FW)** Potential renewable energy sources for MAB have been investigated, but no economically viable projects have been identified to date. CEN is investigating an Energy Saving Performance Contract (ESPC) as a way of financing energy projects.

2.3.2.3. By 2016, be prepared to cost competitively acquire 50 percent of the Air Force's domestic aviation fuel requirement via an alternative fuel blend in which the alternative component is derived from domestic sources produced in a manner that is greener than fuels produced from conventional petroleum.

2.3.3. **Overarching Objectives.**

2.3.3.1. Increase alternative fuels.

2.3.3.2. Increase renewable energy.

2.3.3.3. Utilize public-private partnerships.

2.3.3.4. Enhance energy security.

2.3.4. **Implementation Objectives.**

2.3.4.1. Develop renewable energy resources on base.

2.3.4.2. Procure commercially-produced alternative/renewable energy.

2.3.4.3. Test all aircraft and systems against 50/50 alternative fuel blend by 2011.

2.3.4.4. Increase the number of flexible fuel systems.

2.3.4.5. Identify/develop privately financed/operated energy production on Air Bases.

2.3.4.6. Field the Critical Asset Prioritization Methodology (CAPM) tool.

2.3.4.7. Manage costs.

2.3.5. **Metrics.**

2.3.5.1. Percent alternative/renewable fuel used for aviation fuel requirements.

2.3.5.2. Percent alternative/renewable fuels used for installation energy requirements.

2.3.5.3. Percent alternative/renewable fuel used for non-tactical ground vehicle requirements.

2.4. Culture Change.

2.4.1. **Overarching Goal.** Changing the Air Force culture is critical to achieving the Air Force's Vision to "Make Energy A Consideration In All We Do." As the culture changes and the Air Force increases its energy awareness, new ideas and methodologies for operating more efficiently will emerge as each Airman considers the energy impact in their day-to-day duties.

2.4.2. **Implementation Goals.**

2.4.2.1. Provide energy leadership through Energy Management Steering Groups.

2.4.2.2. Train all personnel in energy awareness by 2010.

2.4.2.3. Implement an energy curriculum in the Academy and the Air University by 2010.

2.4.2.4. Communicate energy awareness at all installations during Energy Awareness Month each October.

2.4.3. **Overarching Objectives.**

2.4.3.1. Leadership.

2.4.3.2. Training.

2.4.3.3. Education.

2.4.3.4. Communication.

2.4.4. **Implementation Objectives.**

2.4.4.1. Provide energy leadership throughout the Air Force.

2.4.4.2. Provide energy awareness training to each uniformed and civilian member of the Air Force.

2.4.4.3. Develop energy curriculum for Air Force Academy, Air University, and other schools.

2.4.4.4. Communicate Air Force energy successes and lessons learned.

2.4.4.5. Identify/develop privately financed energy sources on underutilized land.

2.4.5. **Metrics.**

2.4.5.1. Energy audit score measuring compliance with Air Force energy policies and strategies.

2.4.5.2. Percentage of personnel contacted with energy awareness media.

2.4.5.3. Percentage of personnel trained in the Air Force energy curriculum.

2.4.5.4. Survey score results measuring awareness of Air Force energy policy and strategies.

Chapter 3

AIR FORCE ENERGY PROGRAM FOCUS AREAS

3.1. Encouraging Compliance. The Air Force shall use training, awards, energy programs, and strategic communication to develop a culture that considers the energy impact in all decisions.

3.1.1. An energy awareness program shall be developed and all personnel will be trained in this program by 2010 with annual recurring training.

3.1.2. Energy will be imbedded in curriculums in the Academy, Air University, and basic training by 2010.

3.2. Alternative Fuel Use. Alternative fuel use will increase by 10 percent per year. Alternative fuels may be derived from biomass, coal, or other sources provided they have a lower lifecycle greenhouse gas emission footprint than the conventional fuels they replace. The baseline for measuring the increase will be FY05.

3.3. Aviation Fuel Strategy/Optimization. Aviation operations shall develop strategies to optimize fuel use during training and mission operations. Strategies shall not compromise mission readiness. The aviation fuel consumption goal is to reduce consumption of aviation fuel by 10% by 2015 against a FY2006 baseline.

3.4. Blending Aircraft Fuel. The aircraft fleet's goal is to certify a 50/50 blend of conventional jet fuel and alternative jet fuel by early 2011. By 2016, be prepared to cost competitively acquire 50 percent of the Air Force's domestic aviation fuel requirement via an alternative fuel blend in which the alternative component is derived from domestic sources produced in a manner that is greener than fuels produced from conventional petroleum.

3.5. Energy Audit Program. An energy audit program shall be implemented at each Air Force base and aviation unit. The audits shall be conducted at least once every four years and will measure the progress of the organization against energy goals and provide recommendations to further reduce energy consumption, increase supply, and change culture. Recommendations identified in the course of these audits that are found to be life cycle cost-effective shall be implemented. The energy manager shall ensure that the energy saving measure is implemented and track its implementation. Results of the energy audits shall be forwarded through the regular chain of command to SAF/IEE.

3.6. Utility Energy Consumption and Greenhouse Gas Emission Reduction. Utility energy consumption and greenhouse gas emissions will be improved by reducing energy intensity by three percent per year to achieve 30 percent below FY03 levels by the end of FY15.

3.7. New Building Standards. New buildings, large capital investments, and renovations in an existing building shall employ the most energy efficient designs, systems, and controls that are life cycle cost-effective. New buildings or buildings undergoing substantial renovation of more than $2,500,000 must be designed so that fossil energy consumption is reduced. The baseline is FY03. Fossil energy consumption will be reduced by the percentage specified in **Table 3.1** on the following page.

Table 3.1. Fossil Fuel Energy Reduction in New or Renovated Buildings.

Year	Percent Reduced
2010	55
2015	65
2020	80
2025	90
2030	100

Targets may be adjusted downward with respect to a specific building if meeting these requirements would be technically impractical in light of the Air Force's operational needs. A waiver in writing from the Senior Energy Official or his designee must be obtained for each building that will not comply with the mandate. The waiver shall include the location of the building (i.e. base name, building number, address, and other identifying information), the dollar value of the construction cost or renovation costs, the reason a waiver is requested, the percentage, if any, that fossil energy will reduced if the waiver is granted, and the critical mission or function located in the building. Waiver requests will go through the regular chain of command to the Senior Energy Official or his designee.

3.8. Metering Program. An electricity metering program shall be executed to measure electricity energy usage on Air Force bases and at specific sites. No later than October 1, 2016, a metering program for natural gas and steam shall be implemented. AFCESA manages the Air Force Metering Program.

3.9. Leased Building Standards. Buildings for all new or renewed leasing contracts shall have earned the Energy Star label in the most recent year. A waiver may be granted if functionally appropriate space in an Energy Star-compliant building is unavailable. A waiver from the Senior Energy Official or his designee must be obtained for any leased building that does not meet the Energy Star label. The waiver shall include the location of the building (i.e. address, building name, and other identifying information), the length and dollar value of the lease, the reason the non-Energy Star-compliant building is required for the mission, the location of the nearest Energy Star-compliant buildings that do and do not meet the mission requirement, and the critical mission or function located in the building. Waiver requests will go through the regular chain of command to the Senior Energy Official or his designee.

3.10. Appliance Standards. For new appliance purchases that include internal or external standby functions, the standby power consuming mode shall not use more than 1 watt of power. If such a product is not available, the product with the lowest standby power shall be purchased.

3.11. Renewable Power Generation Technology. Renewable energy technology shall be used for electricity generation. To the extent feasible, the Air Force will implement renewable energy generation projects on the base. Facility renewable energy targets are to increase renewable energy by 5 percent by FY10, 7.5 percent by FY13, and 25 percent by FY25.

3.12. Renewable Fuel Pumps at Fueling Station. All Air Force owned fueling stations with a turnover rate of more than 100,000 gallons of fuel per year shall have at least one renewable fuel pump by January 1, 2010.

3.13. Energy Efficient Vehicle Fleets. The Air Force will acquire, manage, and effectively maintain an energy-efficient fleet of non-tactical vehicles. Non-tactical vehicle consumption of petroleum products will be reduced by two percent annually through the end of FY15 using the FY05 baseline.

3.13.1. New vehicle purchases shall be low greenhouse gas emitting light duty and medium duty passenger vehicles. If no such vehicle is available to meet the functional need, the acquiring organization must obtain a waiver from AF/A4/7.

3.13.2. Alternative fuels will be procured and used for non-tactical ground fuel vehicles when the cost of the alternative fuel is equal to or lower than conventional petroleum products. When using the GSA Fleet Card, for non-tactical vehicle fuel purchases, the driver will purchase, where available, alternative fuels such as E85 or bio-diesel for vehicles that can operate using alternative fuels. MAJCOMs, the ANG, DRUs, and FOAs will track the purchase of alternative fuels and report the usage to AF/A4/7.

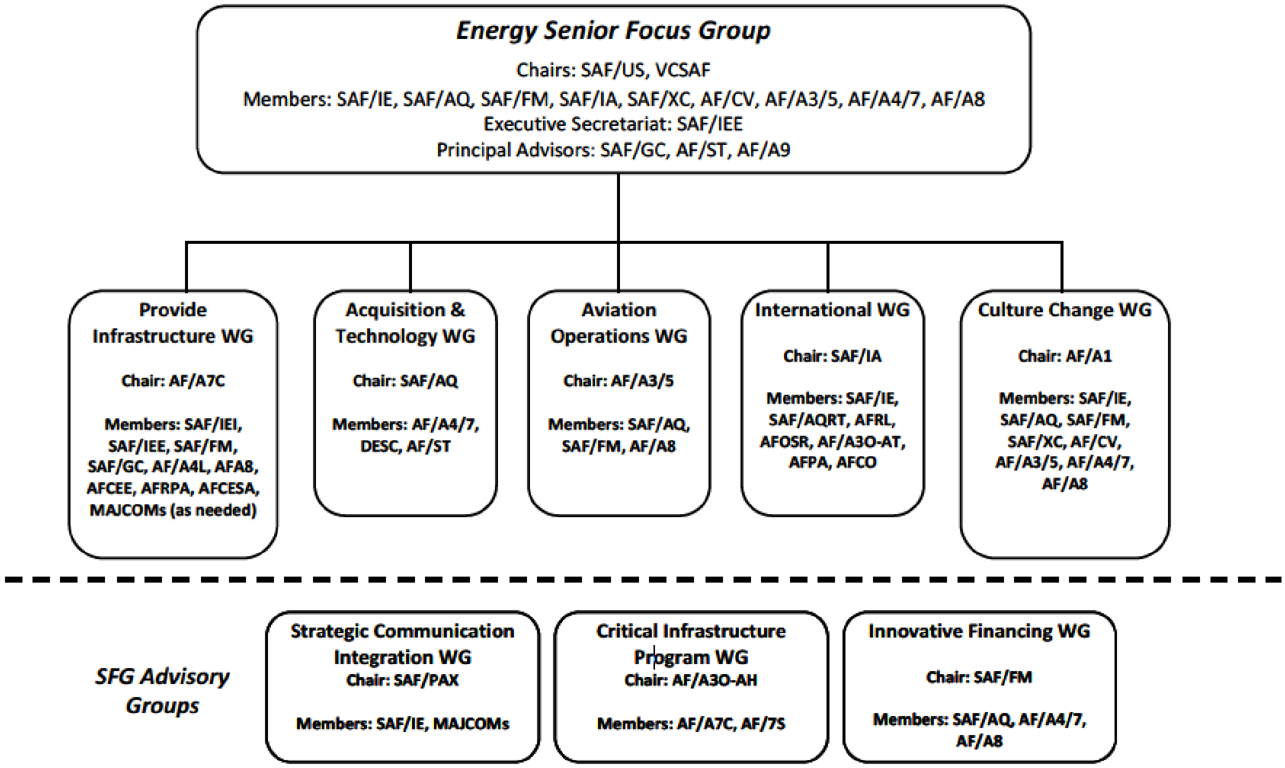
3.14. Enhanced Use Lease Program. The AFRPA's enhanced use lease program will study underutilized assets and real estate to determine if those assets can be used to facilitate the development of alternative and renewable energy projects. Alternative or renewable energy projects on leased Air Force assets or real estate must not hinder the installation's mission, negatively impact the environment, comply with applicable local, state, and federal laws and regulations governing energy development, and return a net positive value to the Air Force.

Chapter 4

ENERGY SENIOR FOCUS GROUP WORKING AND ADVISORY GROUPS

4.1. Energy Senior Focus Group. The Energy SFG serves as the EMSG within the HAF and is shown in **Figure 4.1** below.

Figure 4.1. Energy Senior Focus Group.



4.2. Scope. The Energy SFG's scope extends to all energy use and conservation issues within the Air Force, including seeking alternative energy opportunities. This includes energy use at all Air Force installations, within ground transportation and support equipment/systems, aviation fuel use, and associated science and technology opportunities. The SFG does not replace normal staffing activities on energy issues within the HAF. However, it is expected that HAF offices with responsibility for energy issues will keep the Energy SFG informed of ongoing activities and programs.

4.3. Authority. The Energy SFG has the authority to task HAF, MAJCOM, FOA, and DRU offices to accomplish special studies, report status and metrics on initiatives and programs, and serve as the single voice on energy related matters both internally and externally to the Air Force.

4.4. Program Reviews. The Energy SFG conducts periodic reviews of the Air Force Energy Plan progress. These reviews may be reported to both internal and external stakeholders.

4.5. Meetings. The Energy SFG will meet as often as the chair(s) deems appropriate, but no less than quarterly. The Executive Secretariat will publish meeting summaries and make them available to the entire Air Force.

4.6. Membership. The Energy SFG shall be co-chaired by the SAF/US and the VCSAF and will include senior members from the following HAF offices: SAF/IE, SAF/AQ, SAF/FM, SAF/IA, SAF/XC, AF/A3/5, AF/A4/7, and AF/A8. SAF/IEE shall serve as the Executive Secretariat of the Energy SFG and principal advisors include SAF/GC, AF/ST and AF/A9. The Executive Secretariat or chairs of the SFG may name additional members as deemed necessary.

4.6.1. Other offices within the Air Force, including but not limited to, SAF/PA, Assistant Secretary of Air Force Legislative Liaison (SAF/LL), AFMC/AFRL, AFRPA, APTO, AFCESA, AFPA, AFCEE, and VEMSO shall serve as advisory members of the Energy SFG. Additionally, the Energy SFG may seek advice and counsel from other organizations, academia, and external subject matter experts.

4.6.2. The Energy SFG may charter working groups to provide emphasis on specific issues, as required.

4.7. SFG Working Groups. The following working groups and advisory groups are established under the SFG to assist in meeting the intent of OSD guidance and Executive Orders (EOs). These groups are detailed in Chapters 5 through 12.

4.7.1. **Provide Infrastructure Working Group.** The Provide Infrastructure Working Group is a component of the Air Force Energy SFG. It focuses on facilities, infrastructure, ground fuels, and ground vehicles.

4.7.2. **Acquisition and Technology Working Group.** The Acquisition and Technology Working Group is a component of the Air Force Energy SFG. It focuses on developing energy options to increase warfighting capability by enabling secure and reliable energy alternatives, increasing energy efficiency, and reducing life cycle costs in acquisition. Certification of alternative fuel in aircraft and equipment is one of the major initiatives of this group.

4.7.3. **Aviation Operations Working Group.** The Aviation Operations Working Group is a component of the Air Force Energy SFG. It focuses on all flying, planning, and training programs.

4.7.4. **International Working Group.** The International Working Group is a component of the Air Force Energy SFG. It focuses on establishing international energy dialogs and cooperation with our allies and coalition partners.

4.7.5. **Culture Change Working Group.** The Culture Change Working Group is a component of the Air Force Energy SFG. It focuses on the implementation of programs and communication messages that will promote culture change within all levels to the Air Force to make energy a consideration in all we do.

4.7.6. **Strategic Communication Integration Advisory Working Group.** The Strategic Communication Integration Work Group is an advisor to the SFG and focuses on developing energy communication themes and messages that are consistent with national, DoD, and Air Force priorities.

4.7.7. **Critical Infrastructure Program (CIP) Advisory Working Group.** The CIP Working Group is an advisor to the SFG and focuses on the identification and analysis of Air Force critical assets and infrastructure dependencies—to include critical energy infrastructure—and determines the impact on Air Force and Combatant Command mission execution if such critical assets are lost or degraded.

4.7.8. **Innovative Financing Advisory Working Group.** The Innovative Financing Working Group is an advisor to the SFG and focuses on developing energy financing options, to include public-private partnerships.

Chapter 5

PROVIDE INFRASTRUCTURE WORKING GROUP

5.1. Scope. Provide advocacy and oversight of infrastructure energy programs to include facilities, infrastructure, ground fuels, and ground vehicles to ensure the Air Force meets or exceeds the Energy Policy Act (EPAct) of 2005, EO13423, and other federal and DoD energy management mandates; reduces life cycle operating costs; and ensures energy security.

5.1.1. **(Added-35FW)** Energy policies set standards for operating vehicle assets and base facilities in an efficient manner without diminishing mission readiness of quality of life.

5.2. Goals.

5.2.1. Reduce energy intensity by 3 percent per annum.

5.2.2. Reduce water use by 2 percent per annum.

5.2.3. Increase renewable energy at annual targets (5 percent by FY10, 7.5 percent by FY13, and 25 percent by FY25 of total electrical use).

5.2.4. Reduce vehicle petroleum product consumption by 2 percent per annum through 2015.

5.2.5. Increase the use of vehicle non-petroleum-based (alternative/renewable) fuels by 10 percent per annum through 2015.

5.2.6. Replace 30 percent of the light duty vehicle fleet with Low Speed Vehicles (LSVs) by 2012.

5.2.7. Ensure 75 percent of acquisitions and leases of light duty covered vehicles are alternative fuel capable.

5.2.8. Maximize use of plug in hybrid vehicles, when available.

5.3. Objectives.

5.3.1. Modernize the facility energy information management system to enhance performance measurement and analysis.

5.3.2. Build and maintain a requirements-driven energy program through the Fiscal Year Defense Plan (FYDP) that optimizes all available funding avenues.

5.3.3. Develop a program to provide sustainable facilities which exceed industry energy intensity and water conservation standards.

5.3.4. Develop on-base renewable energy resources where life-cycle cost-effective.

5.3.5. Assess Air Force utility service contracts to ensure most favorable rates and terms and to take best advantage of available rebates and incentives.

5.3.6. Employ strategies for strategic purchasing of utility services that are sensitive to market prices.

5.3.7. Submit alternative fuel infrastructure requirements to the DLA and ensure maximum use of existing alternative fuel facilities. Procure alternate fuel vehicles while modernizing the fleet by converting 30 percent to low-speed vehicles.

5.3.8. Develop a program to right-size the fleet through a series of vehicle validation reviews while creating a baseline for each functional community to follow as a model for requirements.

5.3.8.1. **(Added-35FW)** Vehicle Management will meet with MAB organization Vehicle Control Officers (VCOs) annually to inform them of vehicle trends using information gathered from daily vehicle management operations. The meeting will emphasize proper vehicle operator maintenance, and route planning.

5.3.8.2. **(Added-35FW)** Vehicle Management will continue monitoring vehicle usage to ensure organizations are provided the appropriate sized vehicles.

5.3.9. Enhance energy education and training for energy professionals and others involved in service delivery.

5.3.10. **(Added-35FW)** At no time will Government Owned Vehicles (GOVs) be allowed to idle without an operator present, with the exception to the provisions listed in paragraph 5.3.11.

5.3.11. **(Added-35FW)** GOVs will not idle more than 5 minutes with an operator present. Exceptions: Emergency and law enforcement vehicles, military tactical vehicles, aircrew support vehicles, vehicle maintenance. Snow equipment will be allowed to idle without operator present at a pre-determined, secure staging area only when the exhaust regeneration code is illuminated.

5.3.11.1. **(Added-35FW)** Refueling vehicles will be allowed to idle for no more than 20 minutes unattended in designated parking areas during cold weather conditions.

5.3.12. **(Added-35FW)** Base Facility Climate Control Policy. The Installation Commander has the ultimate authority for activating and deactivating centralized thermal comfort systems on base, and may elect to start or end the Heating or Cooling season at any time. The following climate control periods were chosen by the EMSG based on energy conservation, occupant comfort, operational needs, and a preponderance of historical temperature data.

5.3.12.1. **(Added-35FW)** Heating Season. The 35th Civil Engineer Squadron Operations Flight (35 CES/CEO) will activate Heat Turn-Off and Heat Turn-On in MFH and Industrial Facilities per the guidance below unless otherwise directed by the Installation Commander.

5.3.12.1.1. **(Added-35FW)** End Heating Season no later than 1 May for Industrial Facilities and 15 May for MFH.

5.3.12.1.2. **(Added-35FW)** Start Heating Season no earlier than 15 October for both Industrial Facilities and MFH.

5.3.12.2. **(Added-35FW)** Cooling Season. The 35 CES/CEO will activate A/C in MFH, the dormitories, and industrial facilities per the guidance below unless otherwise directed by the Installation Commander.

5.3.12.2.1. **(Added-35FW)** Start Cooling Season no earlier than 1 July for both Industrial Facilities and MFH.

5.3.12.2.2. **(Added-35FW)** End Cooling Season no later than 15 September for both Industrial Facilities and MFH.

5.3.12.2.3. **(Added-35FW)** Dormitories will follow MFH dates.

5.3.12.2.4. **(Added-35FW)** Resident-procured portable A/C policy. The Installation Commander's portable A/C policy for MFH and the dormitories is only authorized during the cooling Season. (See para 5.3.12.4.1.)

5.3.12.3. **(Added-35FW)** No Heat No Cool Season. No heating or A/C will be authorized in MFH or industrial facilities in between the heating and cooling seasons outlined in para. 5.3.12.1. and 5.3.12.2. (Added) unless otherwise directed by the Installation Commander.

5.3.12.4. **(Added-35FW)** Unified Facilities Criteria (UFC) 3-410-01FA, Heating, Ventilating, and Air Conditioning (HVAC), provides guidance for Facilities eligible for A/C or conditioned air. Authorization does not guarantee permission to install A/C.

5.3.12.4.1. **(Added-35FW)** Use of resident-procured, portable A/C units is only authorized in MFH and the Dormitories in accordance with the Installation Commander's resident-procured portable A/C policy.

5.3.12.4.2. **(Added-35FW)** Some buildings have limited ventilation or high internal loads. These buildings require special A/C considerations based upon mission requirements. The following list identifies these facilities which are also authorized A/C by UFC 3-410-01FA. AFI 32-1023, Designing and Constructing Military Construction Projects; mandates compliance with UFC.

5.3.12.4.2.1. **(Added-35FW)** Computer and electronic equipment areas to the extent supported by technical requirements.

5.3.12.4.2.2. **(Added-35FW)** Telephone switch closets.

5.3.12.4.2.3. **(Added-35FW)** MSOC communications facilities (Bldgs. 1522, 1523, 1500).

5.3.12.4.2.4. **(Added-35FW)** Aircraft Maintenance Shops (Avionics). A/C may be provided for those functional areas where required for quality control of equipment, material, and task. In all cases, localized or spot A/C may be provided at individual workstations; however, the entire shop area shall not be air conditioned. (Bldg. 3263)

5.3.12.4.2.5. **(Added-35FW)** Precision Measurement Equipment Laboratory. Laboratories only, unless otherwise authorized in para. 5.3.12.4.1. or 5.3.12.4.2. (Bldg. 651)

5.3.12.4.2.6. **(Added-35FW)** Network Control Center (Bldg. 512/513)

5.3.12.4.2.7. **(Added-35FW)** Hospital (Bldg. 99)

5.3.12.4.2.8. **(Added-35FW)** Commissary (Bldg. 323)

5.3.12.4.2.9. **(Added-35FW)** Base Exchange (Bldg. 325)

5.3.12.4.2.10. **(Added-35FW)** Main Base Shoppette (Bldg. 525)

5.3.12.4.2.11. **(Added-35FW)** Richard I. Bong Training Center (Bldg. 556)

5.3.12.4.2.12. **(Added-35FW)** Tohoku Enlisted Club (Bldg. 485)

5.3.12.4.2.13. **(Added-35FW)** Mutsu Officer's Club (Bldg. 486)

5.3.12.4.2.14. **(Added-35FW)** Bowling Center (Bldg. 627)

5.3.12.4.3. **(Added-35FW)** The following list identifies standing A/C authorizations by UFC 3-410-01FA but do not meet the provisions of para. 5.3.12.4.2.

5.3.12.4.3.1. **(Added-35FW)** Fire Station lodging area (Bldgs. 947, 3003)

5.3.12.4.3.2. **(Added-35FW)** Base Chapel (Bldg. 358)

5.3.12.4.3.3. **(Added-35FW)** Library (Bldg. 629)

5.3.12.4.3.4. **(Added-35FW)** Banks (Bldg. 320)

5.3.12.4.3.5. **(Added-35FW)** Café Mokuteki (Bldg. 626)

5.3.12.4.3.6. **(Added-35FW)** Lakeview Grill (Bldg. 1464)

5.3.12.4.3.7. **(Added-35FW)** Child Development Centers (CDC)/Daycare Centers (Bldg. 1953)

5.3.12.4.3.8. **(Added-35FW)** Unaccompanied Enlisted Personnel Housing (Bldgs. 542, 673, 539, 544, 666, 668, 538, 665, 671, 672, 661, 520, 669, 543)

5.3.12.4.3.9. **(Added-35FW)** Unaccompanied Officers' Personnel Housing

5.3.12.4.3.10. **(Added-35FW)** Department of Defense Education Activity Schools (Bldgs. 739, 92, 80, 740, 746, 90, 1963, 742, 94, 747, 741, 98, 737, 1958)

5.3.12.4.3.11. **(Added-35FW)** Misawa Inn (Bldgs. 669, 17, 664, 662, 670)

5.3.12.4.3.12. **(Added-35FW)** Military Family Housing

5.3.12.4.4. **(Added-35FW)** Some buildings have limited ventilation or high internal loads. These buildings require special A/C considerations based upon mission requirements. The following list identifies these facilities which are authorized A/C by the Installation Commander:

5.3.12.4.4.1. **(Added-35FW)** Buildings without windows

5.3.12.4.4.2. **(Added-35FW)** US Navy Buildings 978 and 980

5.3.12.4.4.3. **(Added-35FW)** Command Post (Bldg. 928)

5.3.12.4.4.4. **(Added-35FW)** Administrative areas without exterior windows

5.3.12.4.4.5. **(Added-35FW)** Potter Fitness Center Cardio Room (Bldg. 620)

5.3.12.4.5. **(Added-35FW)** The following list identifies standing A/C authorizations by the Installation Commander but do not meet the provisions of para. 5.3.12.4.4.

5.3.12.4.5.1. **(Added-35FW)** Military Working Dog Facilities (Bldg. 1378/1372)

5.3.12.4.5.2. **(Added-35FW)** SQ/CC or higher conference rooms

5.3.12.4.5.3. **(Added-35FW)** GP/CC or higher Command Suite

5.3.12.4.5.4. **(Added-35FW)** Torii Building (Bldg. 656)

5.3.12.4.5.5. **(Added-35FW)** Military Personnel Flight/Education Center (Bldg.1537)

5.3.12.4.5.6. **(Added-35FW)** Grissom Dining Facility (Bldg. 624)

5.3.12.4.5.7. **(Added-35FW)** Falcon Feeder (Bldg. 3262)

5.3.12.5. **(Added-35FW)** Power Outage During Winter. Facility priority for turning heat on in the event of sustained power loss during extreme cold conditions will be implemented using the PMP.

5.3.12.6. **(Added-35FW)** Temperature Control Settings. Guidance on the maximum facility temperatures is outlined in the UFC 3-410-01FA. Some temperature allowances will be changed based on mission requirements without significantly impacting quality of life. Note that a single facility may be subdivided into separate areas subject to different temperature settings based upon individual activity level. The set point chosen by the Installation Commander is recommended to fall in the below ranges.

5.3.12.6.1. **(Added-35FW)** 20°C - 21°C (68°F - 70°F). Heating Season: Maximum facility temperature set point for heating in areas of special concern or not specifically identified within UFC 3-410-01FA (e.g. MFH, CDC, Clinic, etc.).

5.3.12.6.2. **(Added-35FW)** 20°C - 21°C (68°F - 70°F). Heating Season: Maximum facility temperature set point for heating in areas with low levels of physical activity (e.g. offices, classrooms, partitioned areas in hangars or warehouses, etc.).

5.3.12.6.3. **(Added-35FW)** 13°C - 14°C (55°F - 57°F). Heating Season: Maximum facility temperature set point for heating in areas with medium to high physical activity (e.g. active warehouses, maintenance shops, hangars, etc.). Partitioned areas within these facilities with low physical activity may maintain 20°C (68°F) temperatures. NOTE: MAB’s current system has a lower threshold of 60°F, so the system would be turned down as low as it can go to meet the intent of UFC guidance. If a new system is installed, recommend following UFC guidance.

5.3.12.6.4. **(Added-35FW)** 4°C - 5°C (39°F - 41°C). Heating Season: Maximum facility temperature set point for areas that can’t be subjected to freezing temperatures (e.g. unmanned warehouses, etc.). NOTE: MAB’s current system has a lower threshold of 60°F, so the system would be turned down as low as it can go to meet the intent of UFC guidance and avoid damage due to freezing. If a new system is installed, recommend following UFC guidance.

5.3.12.6.5. **(Added-35FW)** 24°C - 26°C (75°C - 78°F). Cooling Season: Minimum facility temperature set point for cooling in areas of concern or not specifically identified within UFC 3-410-01FA (e.g. MFH, CDC, Clinic, etc).

5.3.12.6.6. **(Added-35FW)** The Installation Commander may deviate from UFC guidance based on energy usage, occupant comfort, operational needs, BCE recommendation, and weather data provided by 35 OSS. The Installation Commander will set the control points yearly at the 4th quarterly EMSG and will be recorded in the minutes. The following are the current control points that deviate from UFC 3-410-01FA guidance as of 18 Nov 15.

5.3.12.6.7. **(Added-35FW)** 25°C (78°F). Heating Season: Maximum facility temperature set point for heating in areas with low levels of physical activity (e.g. offices, classrooms, partitioned areas in hangars or warehouses, etc.).

5.3.12.6.8. **(Added-35FW)** 22°C (72°F). Cooling Season: Minimum facility temperature set point for cooling in areas of concern or not specifically identified within UFC 3-410-01FA (e.g. MFH, CDC, Clinic, etc).

5.3.12.7. **(Added-35FW)** Portable Electric Space Heaters. The only space heaters authorized for use on the installation are those approved by 35 CES Fire Service Flight (35 CES/CEF), Fire Prevention (Refer to 35 FWPAM 32-2001, *Fire Protection Program*, 6 May 2015). Space heaters will only be procured and managed by Facility Managers. All space heaters must be maintained in a good and serviceable condition and be used in a safe and efficient manner.

5.3.12.7.1. **(Added-35FW)** Space heater use is authorized in the following situations:

5.3.12.7.1.1. **(Added-35FW)** Within occupied spaces where no other facility heating equipment is available.

5.3.12.7.1.2. **(Added-35FW)** Within occupied spaces where there has been a facility heating failure which cannot be fixed within four hours.

5.3.12.7.1.3. **(Added-35FW)** Within occupied spaces when the daily high temperature is not expected to be above 13°C (55°F) and facility heating is not turned on.

5.3.12.7.1.4. **(Added-35FW)** An approval/request letter has to be submitted by the using organization and on file at the Fire Prevention office.

5.3.12.7.1.5. **(Added-35FW)** Energy conservation requirements and existing circuit capacity will not allow the unrestricted use of space heaters.

5.3.12.7.2. **(Added-35FW)** Portable electric space heaters must adhere to the following guidelines in addition to those required in 35 FWPAM 32-2001.

5.3.12.7.2.1. **(Added-35FW)** Kerosene heaters are not authorized to be used as personal heaters or in buildings with central heat.

5.3.12.7.2.2. **(Added-35FW)** Heaters must be plugged directly into the wall outlet.

5.3.12.8. **(Added-35FW)** Exemptions to these policies may be requested by FMs. Requests must be approved in writing by the FM's SQ/CC (or equivalent), the 35 CES Electric Shop, the CES/CC and the Installation Commander. The signed request must be provided to the OPR of this instruction before any facility heating change takes effect. The 35 CES Electric Shop will be included in the approval process so that they can verify the affected facility can handle the additional power load from the electric heater and prevent the circuit breaker from tripping.

5.3.13. **(Added-35FW)** Base Lighting Policy.

5.3.13.1. **(Added-35FW)** Interior Lighting. Interior lighting fixtures will be designed and installed in accordance with the most current and most stringent building codes, UFC 3-530-01, Status of Forces Agreements (SOFA), and Host Nation Funded Construction Agreements (HNFA).

5.3.13.1.1. **(Added-35FW)** Prior to installing light fixtures, the required level(s) of lighting shall be identified for each area by means of a lighting level survey. The designed layout will be based on these criteria and will include the quantity, spacing, and fixture type(s).

5.3.13.1.2. **(Added-35FW)** Commanders and FMs will ensure interior lighting is turned off whenever a facility is unoccupied and on weekends. Minimum safety and security lighting will be exempt from this requirement.

5.3.13.1.3. **(Added-35FW)** Incandescent bulbs are not authorized for use in industrial facilities with the following exceptions:

5.3.13.1.3.1. **(Added-35FW)** Retail/commercial space accent lighting.

5.3.13.1.3.2. **(Added-35FW)** Fixtures that do not accommodate other bulb types (e.g. refrigerators and stoves).

5.3.13.1.4. **(Added-35FW)** Light Replacement Policy. FMs must purchase replacement light bulbs from General Service Administration (GSA) Global Supply Mart to ensure efficient and consistent lighting is maintained on base.

5.3.13.1.4.1. **(Added-35FW)** If GSA is out of stock or does not carry a particular bulb, FMs may purchase off-base equivalents based upon the specifications provided by GSA.

5.3.13.1.4.2. **(Added-35FW)** Bad fluorescent light bulbs from offices and shops must be disposed of at Hazardous Waste, B977.

5.3.13.2. **(Added-35FW)** Exterior Lighting. All exterior lighting will be the most energy efficient authorized that still meets Anti-Terrorism Force Protection (AT/FP) standards as outlined in AFI31-101. Lighting will be spaced to the maximum allowable extent as permitted by AFI31-101 and the most current and stringent safety standards.

5.3.13.2.1. **(Added-35FW)** Exterior lighting circuits and fixtures should be adjusted (with timers, photocells, etc.) to provide minimal safe lighting from dusk to dawn. Consideration must be given to facilities supporting 24-hour operations.

5.3.13.2.2. **(Added-35FW)** Street lights and all facility exterior lighting will be turned off during daylight hours and will only remain on when needed during hours of darkness.

5.3.13.2.3. **(Added-35FW)** Sports field lighting will be turned off when not in use.

5.3.13.2.4. **(Added-35FW)** Facility security lighting will be the most energy efficient available and will be spaced at the maximum allowable force protection standard to eliminate waste and potential light pollution.

5.3.13.3. **(Added-35FW)** Holiday Lights Policy. All holiday lights and blow-up displays will adhere to the policy outlined in the 35 CES Housing Office's On-Base Housing Brochure.

5.3.13.4. **(Added-35FW)** Lighting During Power Outage. Use of interior and exterior lighting will adhere to limitations set forth by the PMP during periods of sustained power loss.

5.3.14. **(Added-35FW)** Office Equipment and Personal Appliances

5.3.14.1. **(Added-35FW)** At the end of each duty day and before each weekend, all personnel will turn off all office equipment (including monitors) except for the computer which is required to stay on to ensure network security. POC is the 35th Communications Squadron (35 CS).

5.3.14.2. **(Added-35FW)** 35 CS will be responsible for recommending practices and procedures to reduce network operational time (remotely turn off computers and networked devices) and to improve the energy efficiency of the network and servers.

5.3.14.3. **(Added-35FW)** In industrial facilities, personnel may use small personal devices (e.g. clock, radio, digital picture frame, etc.) in their office space. Only one (1) personal refrigerator per 5 people will be authorized.

5.3.14.4. **(Added-35FW)** Exemptions to this personal equipment policy must be approved in writing by the requestor's Squadron Commander (or equivalent), the 35 CES Electric Shop, and the Base Civil Engineer. The signed request must be provided to the OPR of this instruction before any personal equipment can be used.

5.3.14.5. **(Added-35FW)** Personal appliances in MFH and the dorms will be unplugged when not in use (e.g. toaster ovens, coffee makers, microwaves, electric kettles, etc.). Power strips with on/off switches for electronic entertainment are highly encouraged.

5.3.15. **(Added-35FW)** Energy Efficient Products.

5.3.15.1. **(Added-35FW)** Purchased and installed products in government facilities will be ENERGY STAR® or Federal Energy Management Program (FEMP)-designated products where applicable.

5.3.15.2. **(Added-35FW)** 35 CS will be responsible for ensuring all purchased computer equipment is as energy efficient as feasible.

5.3.16. **(Added-35FW)** Facility Energy Standards for New Construction.

5.3.16.1. **(Added-35FW)** Interior lighting will be controlled by area and task occupancy sensors.

5.3.16.2. **(Added-35FW)** Insulation. All new insulation will be designed and installed in accordance with current building codes and UFC.

5.3.16.3. **(Added-35FW)** Energy Management Control Systems. New construction and significant renovations will install Direct Digital Controls for all HVAC systems and advanced meters on all utilities.

5.3.16.4. **(Added-35FW)** American designed projects will attempt to meet the intent of the Leadership in Energy & Environmental Design (LEED) Silver Certifiable requirements to the extent possible using local materials and standards. To save on project cost, acquiring the actual certificate is not necessary.

5.3.17. **(Added-35FW)** Renewable Energy Policy. MAB will continue to research and pursue economically viable renewable energy alternatives.

Chapter 6

ACQUISITION AND TECHNOLOGY WORKING GROUP

6.1. Scope. Develop energy options to increase warfighting capability by enabling secure and reliable energy alternatives, increasing energy efficiency, and reducing life cycle costs in acquisition.

6.2. Goals.

6.2.1. Reduce demand with a 20 percent increase in lift to drag ratio.

6.2.2. Reduce demand by lowering installed specific fuel consumption 25 percent.

6.2.3. Increase supply by utilizing alternative fuels to meet 50 percent of Air Force CONUS consumption by 2016.

6.2.4. Certify entire Air Force fleet to use alternative fuel blend by early 2011.

6.2.5. By 2016, be prepared to cost competitively acquire 50 percent of the Air Force's domestic aviation fuel requirement via an alternative fuel blend in which the alternative component is derived from domestic sources produced in a manner that is greener than fuels produced from conventional petroleum.

6.3. Objectives.

6.3.1. **Alternative fuels.**

6.3.1.1. Flight test F-T and JP-8 blend.

6.3.1.2. Certify entire Air Force aircraft fleet on bio-based aviation fuel and JP-8 blend by 2016.

6.3.1.3. Evaluate biofuels for CO_2 reduction in accordance with the Energy Independence and Security Act of 2007.

6.3.1.4. Evaluate pure synthetic fuels in accordance with the Energy Independence and Security Act of 2007.

6.3.1.5. Evaluate infrastructure and vehicles and ground support equipment.

6.3.2. **Aircraft technology.**

6.3.2.1. Develop blended wing/body to increase lift to drag ratio and reduce structural weight.

6.3.2.2. Increase material compatibility with alternative fuels.

6.3.3. **Efficient/adaptive engines.**

6.3.3.1. Reduce fuel consumption.

6.3.3.2. Increase thrust/weight.

6.3.3.3. Improve thermal management of engines and aircraft.

6.3.4. **Advanced design systems.**

6.3.4.1. Design energy conversion systems to be fuel-flexible.

6.3.4.2. Proactively work with energy suppliers for timely deployment of new technology.

6.3.5. **Focus on energy-related initiatives.**

6.3.5.1. Provide basic research in fuel-flexible energy conversion.

6.3.5.2. Evaluate alternative fuel blends for weapons systems.

6.3.5.3. Develop fuel efficient engines for mobility, strike and ISR missions.

6.3.5.4. Pursue energy efficient aircraft structures.

6.3.6. **Acquire energy efficient weapon systems.** Develop pilot acquisition strategy for LRS to include fully-burdened cost of fuel.

6.3.7. **Alternative fuel.**

6.3.7.1. Support the primary goal of being prepared to cost competitively acquire 50 percent of the Air Force's domestic aviation fuel requirement via an alternative fuel blend in which the alternative component is derived from domestic sources produced in a manner that is greener than fuels produced from conventional petroleum by 2016. By 2011, the Air Force will have certified the entire inventory of aircraft, vehicles, ground support equipment, and fuels logistics infrastructure for operations with a 50/50 synthetic fuel blend.

6.3.7.2. To execute the fleet certification process, an Alternative Fuels Certification Office (AFCO) located within the Aeronautical Systems Center (ASC) at Wright Patterson AFB has been chartered to staff and manage elements associated with timelines, budget, and certification requirements.

6.3.7.3. Since the intent is to initially use a standard 50/50 synthetic iso-paraffinic/JP8 blend for all certification testing, under Executive Agency charter, the DESC will capitalize the 50/50 blend, which will be named as SJ8 (synthetic jet [JP] 8 product code).

6.3.7.4. A collaborative effort will be maintained with the Federal Aviation Administration and the commercial aviation industry through the Commercial Aviation Alternative Fuels Initiative (CAAFI) to define a synthetic fuels standard specification.

Chapter 7

AVIATION OPERATIONS WORKING GROUP

7.1. Scope. Ensure aviation operational effectiveness by validating all mission and training requirements, migrating flying training to Aircrew Training Devices when practical, and developing a fuel conservation culture within the aviation operations community.

7.2. Goals. Ensure the Air Force maintains the ability to conduct effective operations as required to protect the United States and secure its vital interests by:

7.2.1. Eliminating training for capabilities no longer required.

7.2.2. Determining type/number of events that can be moved from live-fly to simulators.

7.2.3. Achieving overarching cultural change down to the Aircraft Commander and Crew Chief to conserve fuel (top-to-bottom) with accountability.

7.2.4. **(Added-35FW)** The Operations Group will pursue energy conservation strategies where applicable based upon flying mission requirements.

7.3. Objectives.

7.3.1. Revalidate training (effectiveness and efficiency) to support Combatant Command capability requirements.

7.3.2. Establish process for periodic mission and training revalidation.

7.3.3. Identify events that could be trained in Aircrew Training Devices and establish policies that enable aircrews to use simulators vs. live-fly.

7.3.4. Develop business cases for future and continuing Aircrew Training Device investments.

7.3.5. Ensure leadership's energy priorities are communicated throughout the Air Force.

7.3.6. Educate, evaluate, and create incentives for fuel conservation during air operations.

Chapter 8

INTERNATIONAL WORKING GROUP

8.1. Scope. The International Working Group focuses on establishing international energy dialogs with our allies and coalition partners.

8.2. Goals.

8.2.1. Achieve interoperability as use of alternative fuels increases.

8.2.2. Gain access to global technology and best practices.

8.2.3. Create a culture among global Air Forces to address common energy concerns cooperatively.

8.3. Objectives.

8.3.1. **Short Term.**

8.3.1.1. Work with coalition partners to certify aircraft to use JP-8 fuel containing up to 50 percent blend of synthetic component.

8.3.1.2. Identify cooperative opportunities in energy technologies, alternative fuels, and demand reduction practices.

8.3.1.3. Make energy a component of existing international forums.

8.3.1.4. Strengthen existing energy security relationships.

8.3.1.5. Explore and understand methods to identify and inventory greenhouse gas emissions from aviation and ground operations.

8.3.1.6. Share best practices for efficient fuel usage in operations.

8.3.1.7. Utilize best practices to facilitate a harmonious shift in the current energy culture.

8.3.1.8. Share information on the use of renewable energies to power air bases/air stations.

8.3.2. **Mid Term.**

8.3.2.1. Expand engagement to include other countries not already certified to use JP-8 fuel containing up to 50 percent blend of synthetic component.

8.3.2.2. Cooperative development of fuel cell based power systems for use in military related applications.

8.3.2.3. Cooperative development of lightweight materials for use in aviation and ground equipment.

8.3.2.4. Cooperative development, evaluation, and certification of promising bio-fuels for determining technical suitability, environmental compliance, and sustainability.

8.3.2.5. Identify, inventory, understand, and potentially reduce the lifecycle greenhouse gas emissions impact from aviation and ground operations, while continuing to perform defense missions potentially using a common set of tools and protocols.

8.3.2.6. Incorporate bilateral and multilateral Distributed Mission Operations into US-international exercises.

8.3.2.7. Engage partners in cooperative research and development for energy technologies and alternative fuels not specifically mentioned above.

8.3.3. **Long Term.**

8.3.3.1. Solidify an interoperable framework of partner countries that use alternative fuels, focus on demand reduction, and manage greenhouse gas emissions.

8.3.3.2. Ensure continued interoperability as more alternative fuel options are introduced.

8.3.3.3. Collaborate efforts to use renewable energy power during coalition operations and exercises.

8.3.3.4. Continue fundamental research cooperation with foreign universities and governments.

Chapter 9

CULTURE CHANGE WORKING GROUP

9.1. Scope. The Culture Change Working Group focuses on the implementation of programs and communication messages that will promote culture change within all levels to the Air Force to make energy a consideration in all we do.

9.2. Goals.

9.2.1. Provide energy leadership through the EMSG.

9.2.2. Train all personnel in energy awareness by 2010.

9.2.3. Implement Academy and Air University energy curriculums by 2010.

9.2.4. Observe energy awareness month each October.

9.3. Objectives.

9.3.1. Provide energy leadership throughout the Air Force.

9.3.2. Provide energy awareness training to each uniform and civilian member of the Air Force.

9.3.3. Develop energy awareness training materials and revise curriculums to include energy sections in all educational materials and curriculums.

9.3.4. Communicate Air Force energy successes and lessons learned.

9.3.5. Identify/develop privately financed energy sources on underutilized land.

Chapter 10

STRATEGIC COMMUNICATION INTEGRATION ADVISORY WORKING GROUP

10.1. Scope. The Strategic Communication Integration Work Group is an advisor to the SFG and focuses on developing energy communication themes and messages that are consistent with national, DoD, and Air Force priorities.

10.2. Goal.

10.2.1. Synchronize and integrate communications to increase awareness and understanding of the Air Force Energy Plan goals; Reduce Demand, Increase Supply, and Culture Change.

10.2.2. Inform and educate targeted audiences on the Air Force Energy Plan.

10.3. Objectives.

10.3.1. Publish and distribute an Air Force Energy Plan Communication Plan.

10.3.1.1. Communicate a vision of energy conservation becoming part of the Air Force culture.

10.3.1.2. Communicate how the Air Force Energy Plan benefits the Air Force and DoD as well as the nation's economy, security, and environment.

10.3.1.3. Simplify Air Force Energy Plan communications.

10.3.2. Measure and track internal and external audience awareness, understanding, and support of the Air Force Energy Plan through internal and external sources.

10.3.3. Track and evaluate communication engagements for consistency of message.

Chapter 11

CRITICAL INFRASTRUCTURE PROGRAM (CIP) ADVISORY WORKING GROUP

11.1. Scope. The purpose of the Air Force CIP is to ensure our ability to execute the missions and capabilities that are essential to planning, mobilizing, deploying, executing, and sustaining military operations on a global basis.

11.2. Goals.

11.2.1. Identify Air Force assets and infrastructure dependencies critical to the execution of our missions, capabilities, and core functions.

11.2.2. Assess critical assets to determine vulnerabilities and risk of loss.

11.2.3. Prioritize critical assets to support management of risk and to apply scarce resources. Remediate risks through a risk management process.

11.2.4. Coordinate with existing programs for protection of critical assets in order to leverage existing processes where possible.

11.3. Objectives.

11.3.1. Assist in developing guidance on the execution of CIP programs.

11.3.2. Partner/assist with Assistant Secretary of Defense for Homeland Defense & Americas' Security Affairs (ASD(HD&ASA)) and Joint Staff (J34 AT/FP Division) in a Central Analytical Capability, an effort designed to characterize the infrastructure outside the installation fence-lines. This effort shall assist in determining what supporting infrastructure (energy, Petroleum Oil and Lubricants [POL], water, etc) is critical in directly supporting critical assets residing on military installations.

11.3.3. Field the Critical Asset Prioritization Methodology (CAPM) tool. This CAPM tool will allow prioritization of Air Force critical assets. This allows leadership to utilize its limited funding to remediate the most important critical assets at highest risk of being degraded or lost.

11.3.4. Refine the Air Force critical asset list to capture the critical supporting infrastructure between host and tenants on installations.

11.3.5. Establish programmatic funding for AF CIP.

11.3.6. Commence official critical asset risk assessments with the Air Force Security Forces Center.

11.3.7. Build remediation recommendations that provide Commanders with options to remediate their risk of loss of their critical assets (for the critical supporting energy infrastructure, including new tactics, techniques, procedures, protection measures, implementation of redundancy capabilities, etc).

Chapter 12

INNOVATIVE FINANCING ADVISORY WORKING GROUP

12.1. Scope. Explore, identify, and analyze the best financing approaches to support the Air Force Energy Plan. Provide financial analytical support to the Air Force Energy SFG and its working groups.

12.2 Goals.

12.2.1. Review/assess potential energy financial initiatives, recommend implementation of those that are economically sound.

12.2.2. Provide cost, economic, and financial analytical support to SFG and working groups.

12.2.3. Partner with DLA financial managers on economics of fuel pricing.

12.3. Objectives.

12.3.1. Explore other methods of funding for energy initiatives.

12.3.2. Review economic and cost models developed for energy.

12.3.3. Explore best practices from government and the private sector for energy purchases.

12.3.4. Engage OSD to influence DoD financial regulations pertaining to energy as laws and policies change, and update or develop requisite Air Force policies.

12.3.5. Interact with and gain Congressional support for energy legislative initiatives/ proposals with financial impact.

12.3.6. Identify financial incentives for installations that save energy through supply/demand initiatives.

Chapter 13

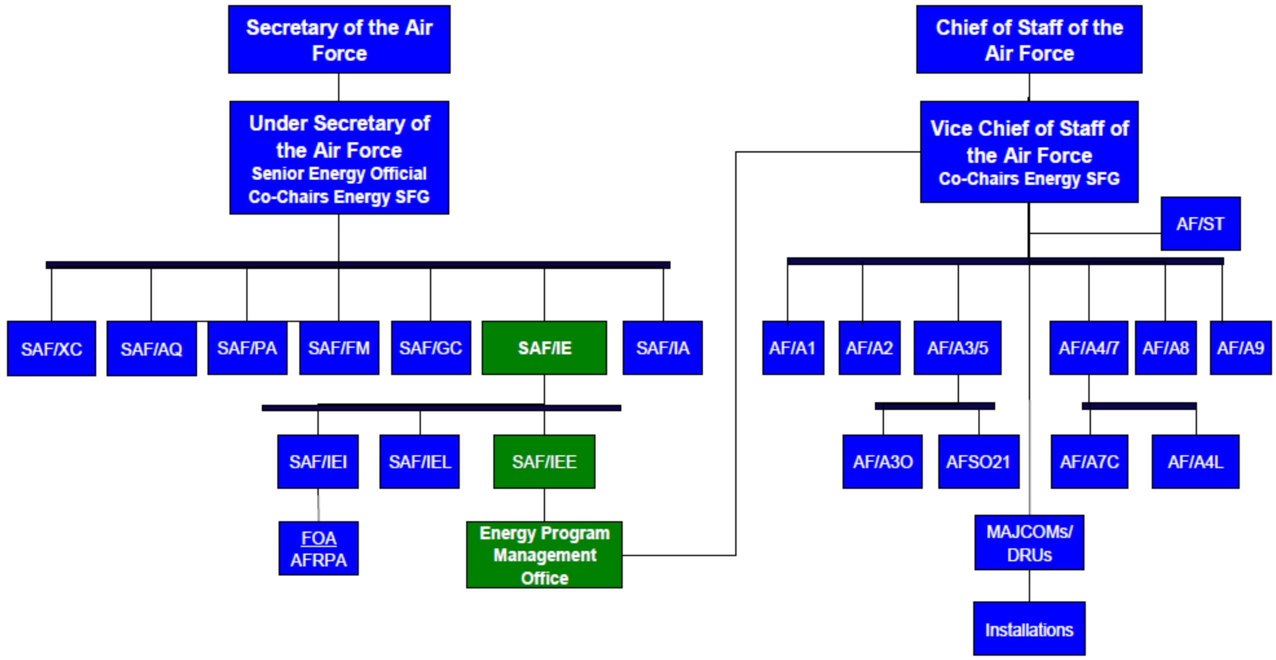
ENERGY PROGRAM MANAGEMENT STRUCTURE

13.1. Background. Many organizations throughout the Air Force have energy responsibility as part of their primary mission responsibilities but there has been no single organization that has a primary mission of global energy management or has visibility of all energy efforts. A single organization must be responsible for energy management to ensure the Air Force is able to meet the increased federal energy goals and coordinate energy efforts throughout the Air Force.

13.2. Air Force Senior Energy Official. The Secretary of the Air Force established the SAF/US as the Senior Energy Official. This instruction provides guidance on the role of the Senior Energy Official as the Energy Program Manager who is responsible for establishing an overall Air Force Energy Program. The Energy Program Manager adds the necessary structure to enable the Air Force to operate its energy programs efficiently and effectively. It does not change the energy responsibility Commanders' currently have within their organizations. SAF/US designated SAF/IE to serve as the OPR for the Air Force supporting the Under Secretary's role as the Senior Energy Official and overseeing program implementation at the MAJCOMs, DRUs, and FOAs.

13.3. Energy Program Management Office. The Headquarters Air Force EPMO is established to provide overarching Air Force energy management and is under the oversight of the Air Force's Energy Program Manager, SAF/US, in coordination with the Vice Chief of Staff of the Air Force. The EPMO is the coordinating body to provide oversight of cross-cutting Air Force energy issues and supports all Air Force energy programs. SAF/US delegates responsibility for the EPMO and overarching Air Force Energy Program to SAF/IE. The Director of the EPMO is SAF/IE. Day-to-day operations of the EPMO will be managed by SAF/IEE. **Figure 13.1**, on the following page, depicts a high level overview of the Air Force Energy Program Structure.

Figure 13.1. Air Force Energy Management Program Office Organizational Structure.



13.4. Energy Management Offices and Points of Contact. Headquarters Air Force offices and FOAs will designate at a minimum Point of Contact (POC) responsible for energy management issues for the office. MAJCOMs, the ANG, and DRUs exercising custody and control over real-estate will designate an office responsible for energy management. The energy management office conducts the day-to-day energy operations for each organization and is the single POC for energy issues. Each organization's energy management POC or office will be responsible for energy policy execution and compliance, and developing, as appropriate, plans and programs that are specifically applicable to their organizations to support or supplement Air Force energy goals and strategies. Each organization is responsible to provide the right level of staffing in proportion to the size of their energy mission. Organizations such as AF/A3/5 or AF/A4/7 will have larger staff than smaller organizations without a direct energy missions. Organizations with smaller energy missions may chose to assign energy management to an office as a collateral duty. The energy management office's role differs from the EMSG. The energy management office provides the day-to-day energy operations for the organization, while the EMSG provides the structure to bring together all reporting organizations together to resolve complex energy issues at the HAF, MAJCOM, DRU, or installation level.

13.5. Chain of Command for Energy Offices. The establishment of the Energy Offices at HAF, MAJCOMs, DRUs, and installations does not alter the established chain of command for the office with the energy designation. Any tasking or reporting requirements from the Energy Program Manager will follow the established chain of command and offices are expected to follow their chain of command structure when responding. The designation of an office that is responsible for energy establishes a single POC for all energy issues within the organization.

13.6. Energy Management Steering Group. Each level of command (Headquarters, MAJCOM, DRU, and installation) will establish an EMSG, or similarly named organization. The Energy SFG is the EMSG for HAF.

13.6.1. **Scope.** The EMSG is the focal point for energy-related matters at that organizational level.

13.6.2. **Goals.** The goal of the EMSG is to coordinate all energy matters within the applicable level.

13.6.3. **Objectives.** The objective of the EMSG is to achieve the goals outlined in the Air Force Energy Plan (**Chapter 2**).

13.6.4. **Authority.** AFPD 90-17 Energy Management.

13.6.5. **Program Reviews.** Each installation EMSG shall provide quarterly updates and activity reports to the MAJCOM, and all MAJCOM EMSGs shall report quarterly to SAF/IEE, which will provide reports to the EPMO.

13.6.6. **Membership.** Membership and leadership of the EMSG is at the discretion of the MAJCOM, DRU, or installation commander but shall include, at a minimum, representatives from all major energy managing activities, including civil engineering, public affairs, transportation operations, budget, aircraft maintenance and operations, logistics, and fuels management. The EMSG provides a forum for coordinating energy activities and for conducting the Air Force Energy Plan. EMSGs at MAJCOMs, DRUs, and installations shall be chaired by the Commander or Vice Commander.

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Deputy Assistant Secretary (Logistics)
Performing the Duties of Assistant Secretary
(Installations, Environment & Logistics)

(35FW)

TIMOTHY J. SUNDVALL, Colonel, USAF
Commander

Attachment 1

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

References

AFI 10-211, *Civil Engineer Contingency Response Planning*, 22 September 2008

AFI 10-2501, *Air Force Emergency Management Program Planning and Operations – Full Spectrum Threat Response (FSTR)*Plan 10-2, 24 January 2007

AFI 32-2001, *Fire Protection Operations and Fire Prevention Program,* 9 September 2008

Air Force Manual 33-363, *Management of Records,* 1 March 2008

DOD Instruction 4170.10, *Energy Management Policy*, 8 August 1991

DOD Instruction 4170.11, *Installation Energy Management*, 22 November 2005

DOD Instruction 5126.47, *Department of Defense Energy Policy Council,* 28 March 2008

Executive Order 13423, *Strengthening Federal Environmental, Energy, and Transportation Management,*24 January 2007

Public Law 109-058, *Energy Policy Act of 2005*, 8 August 2005

Public Law 110-140, *Energy Independence and Security Act of 2007*, 19 December 2007

Secretary of the Air Force Memorandum, *Executive Order 13423, Strengthening Federal Environmental, Energy, and Transportation Management*, 18 September 2007

Abbreviations and Acronyms

AF/A1—Deputy Chief of Staff, Manpower and Personnel

AF/A3/5—Deputy Chief of Staff, Operations, Plans and Requirements

AF/A3O—Air Force Operations Group

AF/A4/7—Air Force Deputy Chief of Staff, Logistics, Installations and Mission Support

AF/A4L—Air Force Office of Logistics Readiness

AF/A7C—Air Force Office of the Civil Engineer

AF/A8—Air Force Deputy Chief of Staff for Strategic Plans and Program

AF/A9—Air Force Deputy Chief of Staff for Analyses, Assessments, and Lessons Learned

AFCEE—Air Force Center for Engineering and the Environment

AFCESA—Air Force Civil Engineer Support Agency

AFCO—Alternative Fuel Certification Office

AFFEC—Air Force Facility Energy Center

AFI—Air Force Instruction

AFMAN—Air Force Manual

AFMC—Air Force Materiel Command

AFPA—Air Force Petroleum Agency

AFPD—Air Force Policy Directive

AFRC—Air Force Reserve Command

AFRL—Air Force Research Laboratory

AFRPA—Air Force Real Property Agency

AFSO—Air Force Smart Operations

AFSO21—Air Force Smart Operations for the Twenty-first Century Programs

AF/ST—Air Force Chief Scientist

ANG—Air National Guard

APTO—Advanced Power Technology Office

ASC—Aeronautical Systems Center

ASD(HD&ASA)—Assistant Secretary of Defense for Homeland Defense & Americas' Security Affairs

ASHRAE—American Society of Heating, Refrigerating and Air Conditioning Engineers

CAAFI—Commercial Aviation Alternative Fuels Initiative

CAPM—Critical Asset Prioritization Methodology

CIP—Critical Infrastructure Program

DESC—Defense Energy Support Center

DLA—Defense Logistics Agency

DOD—Department of Defense

DOE—Department of Energy

DRUs—Direct Reporting Units

EMSG—Energy Management Steering Group

EO—Executive Order

EPAct—Energy Policy Act of 2005

EPMO—Energy Program Management Office

FOA—field operating agency

FSTR—Full Spectrum Threat Response

FYDP—Fiscal Year Defense Plan

GHG—greenhouse gas

HAF—Headquarters Air Force

LRS—Logistics Readiness Squadron

LSVs—Low Speed Vehicles

MPG—miles per gallon

OPR—Office of Primary Responsibility

OSD—Office of the Secretary of Defense

POC—Point of Contact

POL—Petroleum Oil and Lubricants

RDS—Air Force Records Disposition Schedule

SAF/AQ—Assistant Secretary of the Air Force for Acquisition

SAF/FM—Assistant Secretary of the Air Force, Financial Management and Comptroller

SAF/GC—Office of the General Counsel of the Air Force

SAF/IA—Deputy Under Secretary of the Air Force, International Affairs

SAF/IE—Assistant Secretary for Installations, Environment, and Logistics

SAF/IEE—Deputy Assistant Secretary of the Air Force for Energy, Environment, Safety, and Occupational Health

SAF/IEI—Deputy Assistant Secretary of the Air Force for Installations

SAF/LL—Assistant Secretary of Air Force Legislative Liaison

SAF/PA—Public Affairs, Office of the Secretary of the Air Force

SAF/PAX—Secretary of the Air Force Office of Public Affairs

SAF/US—Under Secretary of the Air Force

SAF/XC—Office of Warfighting Integration and Chief Integration Officer

SFG—Senior Focus Group

UPT—Undergraduate Pilot Training

USECAF—Under Secretary of the Air Force

VCSAF—Vice Chief of Staff of the Air Force

VEMSO—Air Force Vehicle and Equipment Management Support Office

Terms

Actual Fuel Consumption—The total aircraft fuel that is used for the specified timeframe.

Alternative Fuel—Fuel produced from non-conventional sources (e.g., biomass or coal) for any mobility-related use including ground transportation and aviation. Alternative fuels employed by the Air Force must have lower lifecycle greenhouse gas emissions associated with production and consumption than the equivalent fuel produced from petroleum.

Capital Investment—Includes, but is not limited to, constructing new, energy-efficient facilities, replacing inefficient facilities, and retrofitting existing facilities.

Defense Utility Energy Reporting System (DUERS)—An automated management information system with which the DoD monitors its supply and consumption of energy in facilities.

Energy—Any usable power, including but not limited to coal, petroleum products, steam, electricity, natural gas, propane, military operational fuels and propellants, alternative fuels and renewable energy, including, but not limited to synthetic and biomass-derived fuels, solar, wind, geothermal, and nuclear, but excluding nuclear energy used in ship propulsion..

Energy intensity—The total amount of energy used per square foot in a facility. This includes, but is not limited to, electricity, natural gas, propane, heating oil, and coal. Reducing energy intensity will reduce costs, greenhouse gases, and reduce the nation's dependence on foreign oil.

Energy Management Steering Group (EMSG)— The focal point for energy-related matters. The EMSG is chaired by the Commander or Vice-Commander with representatives from at least the civil engineering, transportation, aircraft operations, budget, supply, public affairs, contracting, acquisition, and fuels management organizations.

Energy Security—Energy security includes physical security of infrastructure and supply, and continuity of operations.

Energy Star Label—The Energy Star label was introduced as a designation for commercial buildings in 1999. Under Energy Star, commercial buildings are measured against diverse performance metrics, and then scored on a scale of 1-100. Buildings earning 75 or better are eligible for the Energy Star label. Energy Star buildings use on average 35% less energy than typical buildings of similar size.

Greenhouse Gases—Greenhouse gases are atmospheric constituents that contribute to the greenhouse effect. Without these gases the planet would be uninhabitable, however emissions of greenhouse gases associated with industrial activity are contributing to climate change. Greenhouse gases include carbon dioxide, methane, nitrous oxide, hydroflourocarbons, perflourocarbons, and sulfur hexafluoride.

Improved Operations—Achieved efficiencies which include: maintaining energy systems in peak operating condition; seeking more cost-effective sources of energy; and exploring applications for alternative sources of energy.

Lifecycle Cost-Effective—Lifecycle cost-effective means the life-cycle costs of a product, project, or measure are estimated to be equal to or less than the base case (i.e., current or standard practice or product).

Low Greenhouse Gas Emitting Vehicle—Vehicles which emit low quantities of greenhouse gasses. Each year, the Administrator of the Environmental Protection Agency will issue guidance identifying the makes and model numbers of low greenhouse gas emitting vehicles.

Process Energy—Energy directly consumed in manufacturing, maintenance, equipment overhaul, rehabilitation or refurbishment, destruction, warehousing, and similar processes.

Programmed Fuel Consumption—Adjusted programmed fuel consumption based on actual flying hours.

Renewable Energy Technology—Renewable energy technology includes solar, wind, biomass, landfill gas, ocean (including tidal, wave, current and thermal), geothermal, municipal solid waste, or new hydroelectric generation capacity achieved from increased efficiency or additions of new capacity at an existing hydroelectric project.

Attachment 1 (35FW)

GLOSSARY OF REFFERENCES AND SUPPORTING INFORMATION

References
35 FWPAM 32-2001, Fire Protection Program, 6 May 2015
AFI 90-1701, Energy Management, 16 Jul 09
AFMAN 33-363, Management of Records, 1 Mar 08
AFPD 90-17, Energy Management, 29 Nov 11
Energy Independence & Security Act, 19 Dec 07 (EISA 07)
Energy Policy Act, 8 Aug 05 (EPACT 05)
E.O. 13423, Strengthening Fed. Environmental, Energy, & Trans. Management, 24 Jan 07
E.O. 13514, Fed. Leadership in Environmental, Energy, and Economic Performance, 5 Oct 09

Prescribed Forms
No forms Prescribed.

Adopted Forms
AF Form 332, Base Civil Engineer Work Receipt
AF Form 847, Recommendation for Change of Publication
Misawa Air Base Power Management Plan 10-4

Abbreviations and Acronyms

ºF—Degree(s) Fahrenheit
ºC—Degree(s) Celsius
A/C—Air Conditioning
AAFES—Army Air Force Exchange Services
AF—Air Force
AFB—Air Force Base
AFI—Air Force Instruction
AFMAN—Air Force Manual
AFPD—Air Force Policy Directive
AFRC—Air Force Reserve Command
AFRIMS—Air Force Records Information Management System
ANG—Air National Guard
AOWG—Aviation Operations Working Group
AT/FP—Anti-Terrorism Force Protection
Bldg.—Building
CC—Commander
CD—Deputy Commander
CES—Civil Engineer Squadron
CDC—Child Development Center
DeCA—Defense Commissary Agency Director
DoDEA—Department of Defense Education Activity
EAM—Energy Action Month
EM—Energy Manager

EMSG—Energy Management Steering Group
E.O.—Executive Order
ETL—Engineering Technical Letter
Fed. —Federal
FEMP—Federal Energy Management Program
FEMWG—Facility Energy Management Working Group
FM—Facility Managers
FW—Fighter Wing
FWI—Fighter Wing Instruction
FY—Fiscal Year
GOV—Government Owned Vehicle
GP—Group
GPC—Government Purchase Card
GSA—General Service Administration
GVWG—Ground Vehicles Working Group
HVAC—Heating, Ventilating, and Air Conditioning
LRS—Logistics Readiness Squadron
MAB—Misawa Air Base
MABI—Misawa Air Base Instruction
MAJCOM—Major Command
MFH—Military Family Housing
OG—Operations Group
OPR—Office of Primary Responsibility
PA—Public Affairs
Para.—Paragraph
PMP—Misawa Air Base Power Management Plan 10-4
POC—Point of Contact
RDS—Records Disposition Schedule
SQ—Squadron
Trans. —Transportation
UFC—United Facilities Criteria
US—United States
VCO—Vehicle Control Officer

Terms

Energy Intensity—Facility energy used per square foot
Water Intensity—Facility water used per square foot