

**BY ORDER OF THE
SECRETARY OF THE AIR FORCE**

AIR FORCE POLICY DIRECTIVE 90-17

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Special Management

ENERGY AND WATER MANAGEMENT



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This Directive establishes the framework for energy management within the Air Force; the Air Force energy management program addresses the use, conservation, and security of energy and water across all Air Force missions. It implements Department of Defense (DoD) Directive (DoDD) 4180.01, *Energy Policy*; DoDD 5134.15, *Assistant Secretary of Defense for Operational Energy Plans and Programs*; and DoD Instruction (DoDI) 4170.11, *Installation Energy Management*. Air Force Policy Directive (AFPD) 90-17 also interfaces with policy and responsibilities found in AFD 23-2, *Management of US Air Force Bulk Petroleum and Related Products*; and DoDI 4140.25, *DoD Management Policy for Energy Commodities and Related Services*, as they relate to energy management. This AFPD applies to all military and civilian Air Force personnel, including all Air Force Reserve units and the Air National Guard (ANG). This publication will be applied to contractors or other persons through the contract or other legally binding agreement with the Department of the Air Force. Ensure that all records created as a result of processes prescribed in this publication are maintained in accordance with (IAW) Air Force Manual (AFMAN) 33-363, *Management of Records*, and disposed of IAW the Air Force Records Disposition Schedule (RDS) in the Air Force Records Information Management System (AFRIMS). The use of the name or mark of any specific manufacturer, commercial product, commodity, or service in this publication does not imply endorsement by the Air Force. Refer recommended changes and questions about this publication to the Office of Primary Responsibility (OPR) using the Air Force (AF) Form 847, *Recommendation for Change of Publication*; route AF Forms 847 from the field through the appropriate functional chain of command. See Attachment 1 for a glossary of references and supporting information.

SUMMARY OF CHANGES

This document incorporates new DoD policies identified in DoDD 4180.01; removes references to cancelled issuances, including DoDI 4170.10, *Energy Management Policy*; and realigns responsibilities IAW with the 2014 Air Force reorganization.

1. Overview: This Policy Directive:

- 1.1. Establishes policy and assigns responsibilities for management of the Air Force energy program.
- 1.2. Addresses activities and processes throughout the Air Force that require energy. This includes: infrastructure, aviation, ground vehicle and equipment operations, as well as science and technology initiatives with potential energy impacts. These activities and processes can occur at enduring and non-enduring locations.
- 1.3. Institutes the overarching approach that energy projects should enhance mission assurance through energy assurance, with a focus on improving resiliency, promoting cost-competitiveness, and being cleaner than alternatives.

2. Policy. The Air Force will:

- 2.1. Comply with all higher-level energy-related laws and policies, to include Executive Orders and Office of the Secretary of Defense (OSD) directives and instructions, as appropriate and without impacting mission execution.
- 2.2. Implement DoD energy strategies, policies, and operational energy certification requirements, and budget for energy programs and projects consistent with DoD and Air Force requirements and priorities.
- 2.3. Utilize accepted voluntary consensus and industry standards related to energy and water, unless the standard would result in a potential negative mission impact.
- 2.4. Develop and maintain an overall approach to energy management that identifies, plans, and implements improvements in the way the Air Force uses energy within every Air Force functional area.
- 2.5. Consider energy security improvements, efficiencies, and capabilities as a factor in requirements identification and budget development, and provide favorable consideration to projects that improve energy resilience for assets critical to mission accomplishment.
- 2.6. Be able to power any infrastructure identified as critical to the performance of mission essential functions independent of the utility grid for the period of time needed to relocate the mission or for at least seven days, whichever is longer.
- 2.7. Maximize the use of energy efficient technologies and processes within Air Force mission, technical, and financial constraints.
- 2.8. Balance the objectives of Air Force energy projects to optimize cost and provide resilient, cleaner sources of energy to enhance mission assurance through energy assurance, with an increased focus on meeting multiple objectives within single projects.

2.9. Improve the energy performance of weapons systems, platforms, equipment, and products; installations, to include both enduring and non-enduring locations; and military forces consistent with statutory, Executive Order, DoD, and Air Force requirements.

2.10. Develop and acquire equipment and technologies through the research and development processes that improve energy performance or increase energy security.

2.11. Install and use enterprise-wide energy data collection and management systems on Air Force installations to facilitate efforts to reduce energy consumption, improve operations, and achieve greater energy effectiveness through energy consumption management. When implementing based on these parameters, the data collection and management system must be approved and managed as a network service IAW AFI 33-115, *Air Force Information Technology (IT) Service Management*.

2.12. Diversify energy supplies and sources, including renewable energy sources and alternative fuels, across the aviation, facility, and ground vehicle/equipment domains.

2.13. Leverage alternative financing mechanisms, to include performance contracting tools, to acquire renewable energy and fund energy efficiency projects whenever practical. Pursue such projects that provide the Air Force with an acceptable rate of return, improve energy performance, and/or contribute to increased energy security and resiliency for critical missions.

2.14. Ensure any alternative fuels acquired for operational purposes are life-cycle cost-competitive with traditional fuels and qualified as compatible with existing equipment and infrastructure.

2.15. Integrate energy considerations, as appropriate, into all levels of requirements generation: the Strategy, Planning, and Programming Process (SP3) process; acquisition; training; and all phases of operations to ensure energy is recognized as a mission critical need and that improvements in energy performance can help increase combat capabilities, optimize operations, and improve efficiencies for both installations and weapon systems.

2.16. Support the use of energy analyses in Air Force requirements, acquisition, and SP3 processes, including the use of the fully burdened cost of energy and the Energy Key Performance Parameter (eKPP).

2.17. Incorporate energy demand and logistics supportability into exercises and wargames.

2.18. View energy resources and requirements as central to combat mission readiness and critical to providing a strategic advantage.

3. Roles and Responsibilities. This Directive establishes the following roles and responsibilities:

3.1. The Secretary of the Air Force (SecAF) retains ultimate responsibility for all policies related to the Department of the Air Force.

3.2. The Assistant Secretary of the Air Force for Installations, Environment and Energy (SAF/IE) serves as SecAF's agent within the energy domain, including as the Air Force Senior Energy Official, which focuses on installation energy, and the Senior Operational Energy Official, which focuses on operational energy IAW Headquarters Air Force (HAF)

Mission Directive 1-18, *Assistant Secretary of the Air Force (Installations, Environment and Energy)*. In that capacity, SAF/IE will:

3.2.1. Serve as the principal advisor to the SecAF and Chief of Staff of the Air Force on all energy-related issues.

3.2.2. Provide guidance, direction, and oversight for all matters pertaining to the formulation, review, and execution of plans, policies, and programs addressing energy and water use within the Air Force, to include, but not limited to, facility, process, and operational energy.

3.2.3. Establish Air Force energy strategy, policy, priorities, and goals under the authority and direction of the SecAF, including providing guidance for the Air Force when specific DoD direction or guidance does not exist for any new federal energy policies.

3.2.4. Approve exceptions to Air Force energy policies that arise due to mission requirements. Exceptions should be identified, submitted, and reviewed based on standardized processes.

3.2.5. Provide resolution when conflicts arise within the Air Force over areas of energy responsibilities or priorities.

3.2.6. Conduct overall governance, oversight, and monitoring of Air Force progress towards meeting energy and water goals and objectives.

3.2.7. Establish and manage the Air Force energy governance structure, which will provide strategic direction and oversight, as well as resolve energy issues impacting more than one organization or functional area.

3.2.8. Represent the Air Force on DoD-level energy governance forums.

3.2.9. Represent the Air Force before other government organizations (to include, but not limited to, Congress, OSD, other Services, and other Executive departments and agencies) on issues concerning energy management.

3.2.10. Serve as the principal contact between the Air Force, OSD, and other Services on issues concerning energy management, including operational energy and facility energy.

3.2.11. Provide guidance, direction and oversight for the use and allocation of special topic funds (i.e., funding provided to the Air Force that was not requested in the Air Force's budget request) related to the Air Force energy program.

3.2.12. Approve any exemptions to industry accepted standards based on military requirements.

3.2.13. Ensure all elements of the eKPP are properly addressed in operational capability requirements documents IAW the Joint Capabilities Integration and Development System (JCIDS) processes and instructions.

3.2.14. Collaborate with the Deputy Chief of Staff for Manpower, Personnel and Services (AF/A1) and the Core Function Leads to incorporate energy awareness into military and civilian education and training guidelines.

3.3. The Assistant Secretary of the Air Force for Acquisition (SAF/AQ) will:

3.3.1. Integrate energy considerations into acquisition policies, instructions, program reviews, and training, as appropriate.

3.3.2. Consider energy consumption and throughput throughout the acquisition lifecycle, including addressing the eKPP in acquisition programs, where appropriate.

3.4. The General Counsel of the Air Force (SAF/GC) will advise the Air Force on legal matters related to energy management, in addition to the responsibilities outlined in Section 3.8 of this Directive,.

3.5. The Deputy Chief of Staff for Operations (AF/A3), in addition to the responsibilities outlined in Section 3.8 of this Directive, will:

3.5.1. Develop official guidance/procedures to address and manage energy consumption, throughput, and requirements for Air Force air, space, and cyberspace operations in alignment with Air Force requirements, policies, and strategic direction.

3.5.2. Provide SAF/IE with the information required to support governance and perform oversight of energy management to support Air Force air, space, and cyberspace operations.

3.5.3. Identify and address energy security risks and vulnerabilities to national defense missions, assets, and capabilities, and provide continuity planning for mission assurance.

3.6. The Deputy Chief of Staff for Logistics, Engineering and Force Protection (AF/A4), in addition to the responsibilities outlined in Section 3.8 of this Directive, will:

3.6.1. Develop official procedures and objectives to address and manage energy and water consumption, throughput, and requirements for Air Force installations, facilities, ground vehicles, equipment, logistics, and weapon systems sustainment, in alignment with Air Force requirements, policies, and strategic direction.

3.6.2. Provide SAF/IE with the information required to support governance and perform oversight of energy management activities across Air Force installations, facilities, ground vehicles, equipment, logistics, and weapon systems sustainment.

3.7. The Deputy Chief of Staff for Strategic Plans and Requirements (A5/8), in addition to the responsibilities outlined in Section 3.8 of this Directive, will support SAF/IE to ensure operational capabilities and JCIDS documents address energy requirements, where applicable.

3.8. All Headquarters Air Force Directorates will:

3.8.1. Identify, plan, develop, and implement energy programs within their area of responsibility, IAW with energy and water policies and direction provided by SAF/IE and in support of Air Force strategic energy priorities and goals.

3.8.2. Develop policies, guidance, procedures, and practices that provide maximum opportunities to enhance the Air Force energy security posture and energy productivity.

3.8.3. Ensure Air Force publications written within their area of responsibility are consistent with Air Force energy goals and objectives.

3.8.4. Assess operational, facility, and process energy use and risks to identify investment opportunities and efficiency measures that can enhance capability and mission success.

3.8.5. Support the energy governance structure.

3.9. Core Function Leads (CFLs) will integrate operational energy, energy security, and energy resilient measures and opportunities as identified through AF mission initiatives and priorities.

3.10. Air Force Materiel Command (AFMC), in addition to the responsibilities outlined in Section 3.12 of this Directive, will perform an oversight role as the parent Major Command (MAJCOM) for AFIMSC that is appropriate and consistent with other AFMC Centers.

3.11. Air Force Installation and Mission Support Center (AFIMSC) will:

3.11.1. Develop and execute (centralized and decentralized) facility energy programs, plans, and policies in support of the Air Force strategic energy priorities and goals with integration of MAJCOM mission requirements.

3.11.2. Manage MAJCOM/DRUs facility energy portfolio.

3.11.3. Assess facility and process energy use and risks to identify investment opportunities and efficiency measures that can enhance capability and mission success.

3.11.4. Provide guidance on energy project development, utility recommendations and requirements validation, capabilities oversight and resource advocacy, and oversight and guidance on budgeting and execution funding.

3.11.5. Promote policies, procedures and practices that provide maximum opportunities to enhance AF energy security posture and energy resiliency.

3.11.6. Develop standardized processes for the facility energy program.

3.11.7. Coordinate with HAF functional staffs and MAJCOMs to ensure consistent information and application.

3.12. All MAJCOMs, ANG, and Direct Reporting Units (DRU) will:

3.12.1. Develop and execute programs, plans, and policies within the MAJCOM/ANG/DRU's mission and responsibilities that support Air Force strategic energy direction, and consult with those organizations that manage energy-related programs and portfolios on the MAJCOM/ANG/DRU's behalf to ensure any identified impacts to the mission of the MAJCOM/ANG/DRUs are evaluated and addressed.

3.12.2. Assess operational energy use and risks to identify investment opportunities and efficiency measures that can enhance capability and mission success. Integrate those opportunities and measures within the MAJCOM controlled processes and operations. Forward those opportunities and measures not within MAJCOM control to the appropriate AF energy portfolio managers (e.g., facility energy, operational, ground transportation, etc.).

3.12.3. Support the energy governance structure, with an emphasis on the mission of the respective MAJCOM or DRU.

- 3.12.4. Identify potential incompatibilities with Air Force energy policies that occur due to mission requirements or situations with significant financial impacts based on cost-benefit analyses, and request exceptions on a case-by-case basis from SAF/IE.
- 3.12.5. Provide information and data to HAF to support policy development and oversight.
- 3.12.6. Manage execution of non-facility energy projects and activities (i.e., those related to Air Force operations, ground vehicles, equipment, logistics, and depot maintenance) based on oversight, policies, direction and guidance set by HAF.
- 3.12.7. Adopt and promulgate facility energy portfolio requirements for their installations.
- 3.12.8. Promote total energy awareness throughout their organization.
- 3.12.9. Identify new energy requirements to the responsible CFL.

DEBORAH LEE JAMES
Secretary of the Air Force

Attachment 1**GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION*****References***

AFMAN 33-363, *Management of Records*, 1 March 2008

AFPD 23-2, *Management of US Air Force Bulk Petroleum and Related Products*, 17 December 2012

AFI 33-360, *Publications and Forms Management*, 1 December 2015

AFI 33-115, *Air Force Information Technology (IT) Service Management*, 29 October 2015

Chairman of the Joint Chiefs of Staff Instruction 3170.01H, *Joint Capabilities Integration and Development System*, 10 January 2012

DoDI 4170.11, *Installation Energy Management*, 11 December 2009

DoDI 4140.25, *DoD Management Policy for Energy Commodities and Related Services*, 25 June 2015

DoDD 5134.15, *Assistant Secretary of Defense for Operational Energy Plans and Programs*, 17 May 2011

DoDD 4180.01, *DoD Energy Policy*, 16 April 2014

HAF Mission Directive 1-18, *Assistant Secretary of the Air Force (Installations, Environment and Energy)*, 10 July 2014

Adopted Forms

AF Form 847, *Recommendation for Change of Publication*

Abbreviations and Acronyms

AFPD—Air Force Policy Directive

AFI—Air Force Instruction

AFIMSC—Air Force Installation and Mission Support Center

AFMAN—Air Force Manual

ANG—Air National Guard

CFL—Core Function Lead

DoD—Department of Defense

DoDD—Department of Defense Directive

DoDI—Department of Defense Instruction

DRU—Direct Report Unit

HAF—Headquarters Air Force

MAJCOM—Major Command

OPR—Office of Primary Responsibility

OSD—Office of Secretary of Defense

POC—Point of Contact

POM—Program Objective Memorandum

SecAF—Secretary of the Air Force

SP3—Strategy, Planning, and Programming Process

Terms

Energy—Any usable power, including, but not limited to, electricity and power produced from coal, petroleum products, steam, natural gas, propane, military operational fuels and propellants, alternative fuels, and alternative and renewable energy sources, such as solar, wind, geothermal, and nuclear.

Energy Assurance—Activities across three main categories—preparation and planning, mitigation and response, and education and outreach—focused on the goal of energy resiliency.

Energy Governance—Energy governance is the combination of procedures, structures, and authorities implemented by the Air Force to achieve energy priorities and goals.

Energy Key Performance Parameter—A characteristic considered critical or essential to the development of an effective military capability that is included in requirements documents and is intended to ensure combat capability of the force by balancing the energy performance of systems and the provisioning of energy to sustain systems/forces required by the operational commander under applicable threat environments.

Energy Management—The process of developing, executing, and overseeing plans, programs, and initiatives to achieve energy and water goals and objectives across all functional areas.

Energy Resilience—The ability to anticipate, prepare for, and adapt to changing conditions and withstand, respond to, and recover rapidly from energy disruptions.

Energy Security—The state of having assured access to reliable supplies of energy and the ability to protect and deliver sufficient energy to meet mission essential requirements.

Facility Energy—Energy consumed in any building, structure, or other property (including any applicable fixtures) owned or operated by, or constructed or manufactured and leased to, the Federal Government where the majority of energy use is devoted to the heating, cooling, lighting, ventilation, or to service the water heating energy load requirements of the facility.

Fully Burdened Cost of Energy—The commodity price for energy (to include fuel) plus the total cost of all personnel and assets required to move and, when necessary, protect the energy from the point at which the energy is received from the commercial supplier to the point of use.

Installation Energy—The energy used to power all facilities located on military installations and enduring locations, as well as fuel for the non-tactical fleet vehicles used at those locations and the energy consumed in manufacturing, maintenance, and other processes.

Operational Energy—Energy required for training, moving, and sustaining military forces and weapons platforms for military operations. The term includes energy used by tactical power systems, generators, and weapons platforms.

Process Energy—Energy consumed in support of a manufacturing, industrial, or commercial process other than conditioning spaces and maintaining comfort and amenities for the occupants of a building. This includes, but is not limited to, energy consumed by industrial facilities (such as maintenance depots), data centers, simulators, and laboratory equipment.