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Energy Security: A Global Challenge

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By
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### Report Documentation Page

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Standard Form 298 (Rev. 8-98)

Prescribed by ANSI Std Z39-18
The United States Air Force Exists to DOMINATE
Air, Space, and Cyberspace for America

The mission of the United States Air Force is
to fly, fight and win…
in air, space, and cyberspace

Global Vigilance, Global Reach and Global Power
Air Force 2008 Energy Use

Over $9 billion spent for energy in 2008

Energy Cost and Consumption Trends

Energy Cost Breakdown

Energy Consumption is Decreasing While Costs are Increasing

Integrity - Service - Excellence
We can't rest until we harness the renewable energy that can create millions of new jobs and new industries. …That's how we can grow our economy, enhance our security, and protect our planet at the same time.
- President Obama, 29 Apr 2009

The Air Force energy strategy furthers an energy future that is secure, efficient, and environmentally sound.
- Michael Donley, Secretary of the Air Force, Jan 2009

We must continue to identify innovative ways to conserve energy and take actions to build upon our success. Let's be passionate energy advocates, set the example, and remind those around us that our individual actions can make a significant difference in creating a more energy-efficient Air Force.
- General Norton Schwartz, USAF Chief of Staff, Jan 2009
Air Force Energy Policy

Formally Established the AF Energy Program: Strategy, Goals, Objectives and Metrics

Integrity - Service - Excellence
Air Force Energy Plan

3-Part Strategy
Reduce Demand
Increase Supply
Change the Culture

Vision
Make Energy A Consideration In All We Do

Integrity - Service - Excellence
Energy Strategy Supports the Administration's Energy Agenda

Administration’s Key Energy Challenges
- Dependence on Foreign Oil
- Global Climate Change
- Costly Energy

Administration’s Energy Agenda
- Create new Jobs in the Clean Energy Economy
- Investing in the Next Generation of Energy Technologies
- Breaking Dependence on Oil
- Producing More Energy Domestically
- Promoting Energy Efficiency
- Reducing Green House Gases

Air Force Energy Goals
- Reduce Demand
- Increase Supply
- Culture Change

Integrity - Service - Excellence
Air Force Energy Program: “Reduce Demand” Goals

Increase Conservation
- Implement pilot fuel efficiency measures
- Incorporate pilot fuel efficiency elements in UPT training syllabus

Improve Efficiency
- Reduce installation energy intensity by 3% per annum
- Reduce aviation fuel consumption by 10% (from a 2006 baseline)

Enhance Energy Security
- Reduce motor vehicle fleet fuel use by 2% per annum

Goals
- 2009
- 2011
- 2013
- 2015
Reduce Demand: Focus Area Initiatives

Aviation
- Reducing aircraft weight
- Optimizing flight routes
- Evaluating training fuel loads

Infrastructure
- Decreasing energy use
- Purchasing energy efficient supplies and low-speed vehicles
- Reducing vehicle fossil fuel use

Acquisition & Technology
- Designing more efficient and adaptive engines
- Pursuing more energy efficient aircraft
Air Force Energy Program: “Increase Supply” Goals

Increase Alternative Fuels

- Acquire 50% of AF’s domestic aviation fuel requirements via an alternative fuel blend

Increase Renewable Energy

- 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

Utilize Public-Private Partnerships

Enhance Energy Security

Increase non-petroleum-based fuel use by 10% per annum in the motor vehicle fleet

2010 2015 2020 2025
Increase Supply: Focus Area Initiatives

Infrastructure
- Largest Federal green power purchaser and 8th largest in US
- Exploring commercial-scale energy projects
- Using ethanol and biodiesel flex-fuel vehicles
- Testing deployable alternative fuel stations

Acquisition & Technology
- Testing and certifying alternative aviation fuels
- Design energy conversion systems to be fuel-flexible
Air Force Energy Program: “Change the Culture” Goals

Leadership
- Implement an Energy Curriculum
- Educate and train all personnel in energy awareness

Training
- Communicate energy awareness across the enterprise consistently and regularly

Education
- Provide energy leadership by example and through energy governance framework

Communication

Goals
- 2009
- 2011
- 2013
- 2015
Change the Culture: Focus Area Initiatives

- Make Energy A Consideration In All We Do
- Lead by example, build a movement
- Train & Educate
  - Basic Training, Air University, USAFA, Technical and Leadership Schools
- Communicate
  - Measure & publish progress constantly
  - Celebrate success vigorously
- Collaborate with Allies, sister services, agencies, on energy best practices

Lead, Educate, Train, Communicate

Integrity - Service - Excellence
Air Force Energy Initiatives are Many and Varied

Solar  Geothermal  Biomass & Wind  Other Initiatives

Integrity - Service - Excellence
## Air Force Energy: Successes and Challenges

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<th>Challenges</th>
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<td>□ Air Refueling Optimization</td>
<td>□ Culture Change</td>
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**Challenges**
- □ Fly more efficiently
- □ Energy Demand Reduction While Maintaining Core Competencies
- □ Culture Change

**Infrastructure**
- □ Expand Renewable Energy
- □ Optimize Assets
- □ Manage Costs
- □ Improve Current & Future Infrastructure
- □ Reduce Energy Intensity
- □ Grid Vulnerability
- □ Alternate Fuel Vehicles

**Acquisitions & Technology**
- □ Aircraft Technology modernization
- □ Energy Independence and Renewable Energy Procurement
- □ Coordination with Commercial Alt. Fuel Efforts
- □ Lifecycle Costs
- □ Culture Change
U.S. AIR FORCE

http://www.safie.hq.af.mil/