

"Leading the Way in Delivering Air Force Installation Energy Assurance"

ENERGY | express

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Energy Action Month highlights the critical role energy plays in strategic competition

Shown is a rendering of the blended wing body prototype aircraft. On Aug. 16, 2023, the Department of the Air Force selected JetZero for the BWB prototype aircraft project. The effort aims to mature BWB technology and demonstrate its capabilities, giving the department and commercial industry more options for future air platforms. (U.S. Air Force graphic)

Secretary of the Air Force Public Affairs

ARLINGTON, Va. (AFNS) — In recognition of Energy Action Month, the Department of the Air Force is showcasing energy's critical role in great power competition, particularly in the Indo-Pacific Region.

Building on its three-year theme, "Powering Possibility," the department is advancing game-changing energy

technologies and processes to secure safe, reliable, and efficient energy for the joint fight and ensures its ability to deter adversaries, and if needed fly, fight and win.

"Welcome to great power competition, welcome to Energy Action Month! Energy will be the margin of victory in near peer conflict. Whether it is operational or installation energy, we must work to

advance innovation and re-optimize to set the pace in this arena," explained Dr. Ravi Chaudhary, assistant secretary of the Air Force for Energy, Installations, and Environment. "Energy efficiency ruggedizes our installations, increases our combat capability, and offers redundant energy systems that increase survivability. It also increases our range and endurance,

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capabilities that are fundamental to the success of an Air Force.”

Delivering operational and installation energy capabilities that increase agility of the joint force and investing in technologies that revolutionize Department of the Air Force energy use are among the assistant secretary’s top priorities. This year, the department advanced key energy initiatives, including introducing the Climate Campaign Plan to adapt to and mitigate the effects of a changing climate, choosing JetZero for the next phase of a Blended Wing Body prototype aircraft project, and progressing a first-of-its-kind nuclear micro-reactor at Eielson Air Force Base, Alaska.

Operational energy, or aviation fuel, comprises the majority of the Department of the Air Force’s energy usage, providing a tremendous opportunity to optimize energy consumption and build flexibility in places like the Indo-Pacific.

Operational energy initiatives increase the lethality of the department by improving the combat power and training effectiveness of every ounce of fuel use. These initiatives increase the efficiency of legacy aircraft by reducing drag and improving engines, add productivity to our missions with advanced planning and scheduling

tools, and deliver tactical solutions to operators to extend range or time on station while ensuring that fuel is available where and when the warfighter needs it.

The Blended Wing Body project supports the Secretary of the Air Force’s operational imperatives that act as a roadmap for successfully bringing about new technologies to deter and, if necessary, defeat modern-day adversaries.

The BWB project does this by leveraging new transformational aircraft technology that is significantly more efficient (at least 30%) than current platforms, offering more aircraft range, refueling capability, and cargo capacity. This transformational technology decreases logistics risks, improves readiness, and will be vital for a fight in the Pacific.


Installations are also foundational to projecting combat power in air, space, and cyberspace. Reliable access to sufficient, quality power and water ensures missions are on time and proceed to target.

The Department of the Air Force has launched a series of pilot initiatives across the enterprise to explore electrification, carbon pollution-free procurement, and

innovative energy technologies to build resilience for installations.

For example, the department is pursuing non-tactical vehicle pilots across 45 installations and continues to advance the nuclear micro-reactor pilot program. This clean energy technology can operate independently from the commercial grid and can produce both power and heat for long intervals between refueling, making it a promising power source for remote domestic military installations critical to the national security infrastructure.

The department is also using innovative contracting methods to implement microgrids, which supply bases with on-site power and bolster mission continuity by “islanding” from local grids during unplanned commercial outages. For example, the microgrid at Kadena Air Base, Japan, kept base power intact during a recent typhoon. The microgrid was funded by innovative energy savings methods piloted by 18th Wing leadership.

To help spread awareness of energy initiatives, visit the Energy Action Month [website](#), and follow the hashtag #PowerDAFPossibility on [Facebook](#) and [Twitter](#). 

Geothermal power generation solutions, like those the Department of the Air Force is considering for Joint Base San Antonio and Mountain Home Air Force Base, Idaho, emit little to no carbon dioxide and can leverage an installation’s goals for clean energy production and increased resiliency. (Courtesy photo by Bureau of Land Management, New Mexico)



Evaluating and addressing installation resilience across the DAF



Resilience is the ability to anticipate, prepare for, and adapt to changing conditions and withstand, respond to, and recover rapidly from disruptions and is critical to the Department of the Air Force's ability to fly, fight and win—any time, anywhere.

To meet the ever-evolving challenges facing our enterprise, the Deputy Assistant Secretary of the Air Force for Environment, Safety, and Infrastructure has created a new directorate – Resilience Integration – to enhance our ability to integrate resilience, sustainability, and sustainment activities and ultimately secure mission success not only today, but well into the future.

SAF/IEE is responsible for all matters pertaining to DAF built and natural infrastructure, installation energy, environment, safety, and occupational health. The new directorate will implement an integrated approach to resilience and sustainability across all SAF/IEE activities through stakeholder coordination and policy development.

To accomplish this, the Resilience Integration directorate will operate at the intersection of the military installation resilience components outlined in DAF Policy Directive 32-10 Installations and Facilities: built and natural infrastructure, energy, cyber, and response. Installation resilience postures will continue to be assessed through a suite of tools including the Installation Energy Plans (IEPs), Installation Climate Resilience Plans (ICRPs), the “5Rs” of Resilience, and the new “CASE” Framework.

Recognizing that resilience must be

climate-informed to secure mission assurance over longer planning horizons, SAF/IEE released the “CASE” Framework as a complement to the “5Rs” of resilience. Both frameworks are comprised of “Preventative” attributes, which reduce the impact of threats and hazards, and “Performance” attributes, which enable the DAF to bounce back faster after events.

Named after its attributes - Clean, Agile, Secure, and Efficient – “CASE” is meant to take existing, traditional resilience solutions and make them climate-informed to deliver mission success present and future. It accomplishes this by helping the DAF identify, prioritize, and put forth competitive climate-informed initiatives that are measurable and defensible.

For example, a mission may require redundant power to support 24/7 no-fail

operations. Under the “5Rs,” the DAF may consider a backup diesel generator as a “Redundancy” measure. However, a climate-informed resilience solution like a solar array and battery energy storage system or other renewable energy technology may be preferable to deliver the same “Redundancy” but with technology that is also “Clean” and helps the DAF meet its sustainability goals. This example illustrates how Resilience Integration will lead organizational change across the DAF for improved resilience and sustainability of power project platforms, today and tomorrow.

To learn more about the DAF's resilience approach and the new Resilience Integration Directorate, please reach out to Christa Gunn, Director (christa.gunn@us.af.mil), and Marc Thomas, Installation Resilience Advisor (marc.thomas7@us.af.mil).

Preventative

Performance



‘Powering Possibility’ at Department of the Air Force installations

Secretary of the Air Force Public Affairs

Each October, the Department of the Air Force celebrates Energy Action Month to highlight the critical role energy plays in mission assurance. Embracing the Department’s three-year theme of “Powering Possibility,” the installation energy program is pursuing a series of pilot initiatives that showcase the department’s forward-looking approach to energy innovation and powering the future force in the face of growing operational threats.

“We must equip our installations with a full range of resilient and modernized energy solutions to remain competitive and secure in an evolving geopolitical and environmental climate” explained Nancy Balkus, Deputy Assistant Secretary of the Air Force for Environment, Safety, and Infrastructure. “That’s why we are investing in a series of transformational technologies like nuclear and geothermal and electrifying our non-tactical vehicle fleets. Our pilot initiatives will help diversify our energy supply while mitigating our impact to the environment.”

The Department of the Air Force has 337 active renewable energy projects across 115 sites, spanning solar, wind, biomass, and ground source heat pump efforts. Additionally, the Department is progressing a nuclear micro-reactor pilot at Eielson Air Force Base, Alaska, and is working with the Defense Innovation Unit to leverage enhanced geothermal technology to meet installation electricity needs at Mountain Home Air Force Base, Idaho, and Joint Base San Antonio, Texas.

Leveraging its scale and procurement power, the Department of the Air Force is also participating in a Department of the Defense-wide initiative with utility providers to accelerate the deployment of clean energy and decrease greenhouse gas emissions.

Specifically, the department is supporting initiatives to bring carbon pollution-free electricity to bases in the Carolinas, Texas, Arkansas, and Colorado. The pilots align with the Department of the



Air Force’s Climate Action Plan target of achieving 100% CFE by 2030.

In conjunction with its range of CFE pilot projects, the Department of the Air Force is modernizing installation infrastructure by electrifying buildings, non-tactical vehicles, and flightline equipment. These initiatives will reduce risks to operations, bolster energy resilience, and achieve objectives outlined in the Climate Action Plan by creating energy redundancies, reducing emissions, and domesticating fuel supply for immediate delivery.

The Department of the Air Force’s 75,000 vehicular assets represent thousands of opportunities to increase installation energy resilience, reduce military oil dependency, and decrease operations and maintenance costs, while achieving federal emission targets.

To prepare for a fully electric non-tactical vehicle fleet, the Department is conducting a multi-phase fleet electrification pilot program, which now spans 45 installations across the enterprise. Lessons learned are also being coalesced

into a comprehensive framework that will provide step-by-step guidance to installations on acquiring charging infrastructure and vehicles.

The Department of the Air Force is also conducting base-level electrification pilots including at Patrick Space Force Base, Florida, and Joint Base Charleston, South Carolina. These pilots will help integrate clean energy modernization in master planning, identify electrical grid impacts from electrifying fleets and building systems, and will inform long-term investment needs.

These pilot programs represent just a few ways – large and small – the Department of the Air Force is working to revolutionize its approach for energy security so it can meet the pacing threat and “Power Possibility” for decades to come.

To help spread awareness of energy initiatives, visit: www.safef.hq.af.mil/EnergyActionMonth/ and follow the hashtag #PowerDAFPossibility at www.facebook.com/AirForceEnergy and www.twitter.com/AFEnergy. 

CONGRATULATIONS


Every year, the Federal Energy Management Program honors federal employees who go above and beyond their standard responsibilities to achieve mission success while also cutting energy waste, reducing costs, optimizing performance, and advancing America's progress toward energy independence, resilience, and security. The Department of the Air Force is pleased to announce that two Air Force Civil Engineer Center Office of Energy Assurance employees were selected as 2023 FEDS Spotlight honorees for their impressive achievements over the past year.

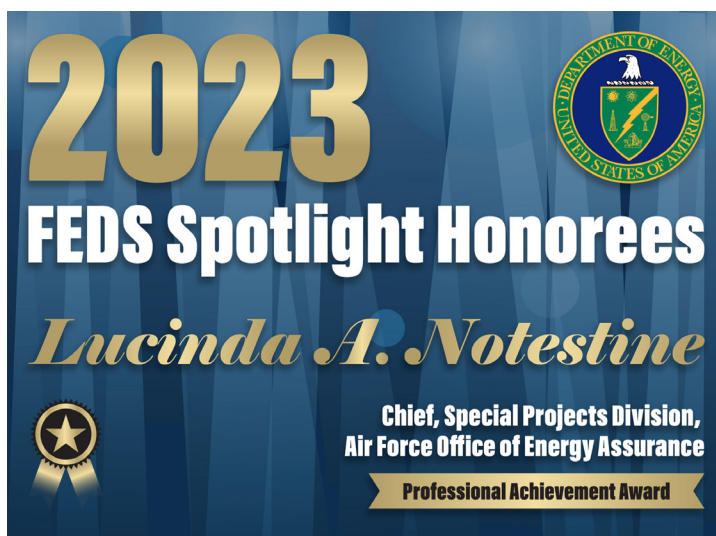
Lucy Notestine is the Director of Special Projects for Air Force Civil Engineer Center's Office of Energy Assurance, where she plays a critical role in bolstering energy and water security across the enterprise. Ms. Notestine spearheaded the Department's first nuclear micro-reactor pilot and Fleet Electrification Pilot Program compliance, organized the January 2023 Energy Assurance Regional Stakeholder Meeting, and assisted with the International Forum Towards a Secure Energy Supply in a Net Zero Emission Society.

Dan Soto is the former Deputy Director for the Department of the Air Force's Office of Energy Assurance. In this role, Mr. Soto played a vital part in the implementation of innovative alternative energy solutions to enhance mission assurance across the Department. In 2022, Mr. Soto organized a workshop to develop a \$996 million execution plan for an Air Force energy resilience program and secured the purchase of credits for 121,000 megawatt hours for all Air Force renewable energy projects, saving the

Department nearly \$180,000. From briefing Air Force Institute of Technology students on Air Force energy assurance program capabilities and responsibilities to providing mentorship and key guidance to new energy managers, Mr. Soto also

demonstrated his commitment to instilling Department-wide knowledge to ensure mission success.

Congratulations to Ms. Notestine and Mr. Soto for being recognized for all their hard work and excellence! 



2023
FEDS Spotlight Honorees
Lucinda A. Notestine
Chief, Special Projects Division,
Air Force Office of Energy Assurance
Professional Achievement Award



2023
FEDS Spotlight Honorees
Dan Soto
Former Deputy Director,
Air Force Office of Energy Assurance
Professional Achievement Award



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Reach-Back Center
(888) 232-3721
DSN 523-6995
AFCEC.RBC@us.af.mil



AFCEC Commander: Brig. Gen. William Kale

Energy Director: Kirk Phillips

Public Affairs: Mark Kinkade

Layout & Design: Jim Martinez

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