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

ENERGY express

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Senior DOD, AF leaders visit Tyndall CE energy operations

By Emily Mifsud
AFIMSC Public Affairs

TYNDALL AIR FORCE BASE, Fla. — On June 8, Joseph Bryan, Department of Defense chief sustainability officer and his advisor Andrew Knox had the opportunity to tour Tyndall AFB, Florida, facilities.

They met with the Air Force Civil Engineer Center's Energy Directorate, Readiness Directorate and Facility Engineering Directorate's Natural Disaster Recovery Tyndall Program Management Office to learn about efforts and initiatives to improve energy and climate resiliency, including Air Force North's microgrid, energy resilience and coastal resilience projects.

Tyndall's energy team briefed Bryan, Knox and Nancy Balkus, Deputy Assistant Secretary of the Air Force for environment, safety and infrastructure, on the Advanced Meter Reading System, a utility system management tool that can adapt to each installation's specialized needs to monitor a variety of data points including a building's breaker health, volts and power factors. The AMRS team is working to deploy the system across the enterprise to serve as a backbone of future Air Force smart building to provide energy managers with a clearer picture of energy consumption, with near real time data, to identify any potential areas of improvement.

Dr. Glenn Johnson, scientist with AFCEC's Readiness directorate, briefs Joseph Bryan, Chief Sustainability Officer of the Department of Defense and Nancy Balkus, Deputy Assistant Secretary of the Air Force, on airfield recovery and resilience research and development efforts. (U.S. Air Force photo by Emily Mifsud)

In this issue:

Expanding the non-tactical vehicle fleet electrification pilot program

By SAF/IEE Energy Team

The Office of the Deputy Assistant Secretary of the Air Force for Environment, Safety and Infrastructure is facilitating the integration of the Department of the Air Force efforts to electrify the non-tactical vehicle fleet. The goal for SAF/IEE is to create a strategic energy resilience ecosystem where the fleet has the infrastructure it needs to complete the mission.

The focus is to electrify more than 48,000 non-tactical leased vehicles to provide unique mission capability and perform daily critical tasks. In addition, it serves as the first step towards future DAF mission electrification efforts, which also includes the Air Force Research Laboratory Advanced Power Technology Office pilot program to electrify flight-lines at Holloman Air Force Base, New Mexico, and Robins Air Force Base, Georgia. The efforts are another example of the DAF leading the Department of Defense in electrification while ensuring mission and energy resilience remain paramount.

In response to Executive Orders 14008, *Tackling the Climate Crisis at Home and Abroad* and EO 14057, *Catalyzing Clean Energy Industries and Jobs Through Federal Sustainability*, the DAF is accelerating the integration of zero-emission vehicles into the fleet by establishing goals and requirements for ZEV acquisitions and electric vehicle supply equipment.

SAF/IEE kicked off the first round of the Fleet Electrification program in 2021 at two pilot sites—Joint Base Andrews, Maryland, and Joint Base McGuire-Dix-Lakehurst, New Jersey.

Using a systematic approach and working in close cooperation with Headquarter Air Force Logistics and Civil Engineers, including the 441st Vehicle Support Chain Operations Squadron, the team collaborated with JBA and JBMDL to develop installation-specific analysis and opportunity timelines, outline functional requirements, strategize acquisition pathways, define elements of operations and sustainment and consider scalability and continuous expansion.

SAF/IEE will publish the resulting documentation, "DAF Vehicle Fleet Electrification Framework," in collaboration with the Air Force Civil Engineer Center's Energy directorate, Office of Energy Assurance and Utilities Privatization team detailing a standardized, scalable and repeatable process for vehicle electrification.

Putting the Fleet Electrification Framework to the test

The next step is to put the Fleet Electrification Framework to the test. The pilot program is set to deploy to an additional 15 installations. Using a tiering process and reviewing the status of Installation Energy Plans, the locations were identified based on factors including the number of candidate vehicles available for for ZEV transition, existing EVSE infrastructure and favorable utility partners and contract structures.

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NexGen IT Energy Reporting Update

As of June 2022, 88 active and reserve Air and Space Force installations have migrated to NexGen IT and 77 are reporting monthly energy/water consumption. The AFCEC Energy Directorate provides extensive NexGen IT training and support to energy managers and is currently providing training to nine bases.

NexGen IT provides the enterprise an integrated system to support civil engineering functional areas across real estate, operations, work order, project and energy management. Monthly inputs improve the accuracy of the Annual Energy Management and Resilience Report and assist various energy and financial planning actions.

E|e Profile

Edwin Oshiba

Meet Edwin "Ed" Oshiba, Assistant Secretary of the Air Force for Energy, Installations, and the Environment

Mr. Oshiba is responsible for overseeing the Department of the Air Force's Infrastructure Investment Strategy, energy optimization resilience initiatives, a vast environmental portfolio, safety and occupational health, strategic basing and climate mitigation and resilience efforts. He took time to answer questions from SAF/IE and provide insight into his Air Force career experiences and his vision.

What is your background within DAF and how has it prepared you for your current role?
I've been in and around the installations business for the better part of 33 years — roughly a third at base-level and at deployed locations, a third at Headquarters Air Force and a third at a mixture of developmental and intermediate headquarters assignments. My last assignment was in the logistics and sustainment community. That diverse mix of experiences has given me a multi-faceted view of installations, which informs policy recommendations and hopefully will result in better long-term enterprise decisions to support the DAF's strategic priorities.

From your perspective, what roles do DAF installations play in enabling mission success?
Installations are foundational to Air Force and Space Force mission success. Every DAF mission starts and ends on an installation. Our Airmen and Guardians train and equip for joint operations, generate readiness, test new weapon systems and provide safe and healthy communities at our Air Force and Space Force installations. Because DAF installations enable Joint Force mission success around the world, their readiness, resilience and sustainability are matters of strategic importance.

What do you see as the greatest challenges facing the DAF regarding installation resilience and mission assurance?
The DAF operates at the nexus of complex challenges; competitive operating environments, turbulent economic conditions, adversarial cyber threats and a changing geopolitical landscape all threaten our critical infrastructure, energy and power supplies, and access to the global commons. Installations require a full range of resilient, cyber-secure and sustainable energy and water solutions to meet the substantial needs of mission critical functions, and we are actively working to conserve energy and water to reduce demand where possible. Additionally, the growing effects of climate change pose new risks to DAF operations, readiness, installations and facilities. We have experienced first-hand the impacts climate and severe weather can have on our installations and operations, and these impacts are only likely to worsen.

Why are installation energy and water resilience so important to the DAF?
Secure and reliable access to energy and water enables the DAF to continue its operational and training missions. Natural hazards, water scarcity and adversarial threats pose growing risks to water availability and prolonged power outages for installations and their surrounding communities. We are conducting Energy Resilience Readiness Exercises to help installations assess mission readiness during a controlled loss of power. We have also developed an Installation Water Dashboard to streamline water data collection and reporting to help determine existing water vulnerabilities.

Your portfolio also covers DAF operational energy initiatives, including policy and guidance. Why is this crucial to our force?
Without fuel, there is no fight. Operational energy, or aviation fuel for the Air Force, is critical to our ability to deliver airpower – anywhere, anytime. Our goal is to enhance combat capability and mitigate operational risk to the warfighter through four key objectives: modernizing new and legacy aircraft with innovative energy solutions; upgrading aircraft sustainment technologies and processes; delivering 21st century software tools for streamlined planning; and addressing energy security and fuel logistics risk through wargaming, modeling and simulation. Our goal is to fly smarter, not less.

What are three things you would like to accomplish as the Assistant Secretary of the Air Force for Energy, Installations, and the Environment?
There are really two primary items on my to-do list: (1) Ensuring resilient, optimized installations and energy for effective mission execution; and (2) Developing and retaining energy, installation and environmental experts with the diversity, talent and innovative spirit to solve the challenges of today and tomorrow with an enterprise-wide view. I'm confident we have what we need to deter and, if necessary, defeat any pacing adversary we may face because we have the one advantage our adversaries don't — our people. We can never forget that and must make it our overriding priority to cultivate this most valuable resource!

PILOT PROGRAM

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The team officially kicked off the expansion round of the pilot program with an orientation meeting on June 8. SAF/IEE will provide installations with individualized support by supplying a detailed plan of action, planning materials and timeline schedule based on the framework. To further support installation leadership, the team also plans to have in-person visits with many pilot locations to learn how to provide the best support in this exciting and high-visibility endeavor.

To learn more about the Fleet Electrification Pilot Program please contact Seema Aziz-Hall, NTV Electrification Pilot Program manager, at seema.aziz-hall@us.af.mil, or Nathan Getty, support contractor point of contact at getty_nathan@bah.com.

Additional information on DAF fleet electrification efforts (e.g., White House reporting, scheduling targets, ZEV and EVSE acquisitions, EVSE Real Property categorization, reimbursements and tracking, personally owned vehicle charging) will be available in the July 2022 quarterly strategic updates.

A step in the right direction: Reducing Misawa's carbon footprint and enabling energy independence

By Airman 1st Class Leon Redfern
35th Fighter Wing Public Affairs

MISAWA AIR BASE, AOMORI, JAPAN — In the midst of protecting U.S. interests in the Indo-Pacific region, defending Japan and deterring adversaries; Misawa Air Base is taking action to simultaneously overcome a different enemy – climate change.

According to the National Oceanic and Atmospheric Administration, as climate change worsens, people around the world can suffer from dangerous weather events becoming more frequent or severe; damage to the economy; and diminished agriculture, water and air quality.

U.S. Air Force Col. Jesse J. Friedel, 35th Fighter Wing commander, alongside members from the 35th Civil Engineer Squadron, showcased the nearly completed $206 million Energy Savings Performance Contract at Misawa Air Base, Japan, June 8, 2022. The contract included stops at the Misawa Air Base solar field and natural gas plant.

Yoshinori Kohiyama, Misawa City mayor, and Andrew Lee, U.S. Consulate General of Sapporo consul general, attended the event to view and learn about the contract, which will dramatically reduce the base's carbon footprint and lessen the burden on the greater Misawa community's power grid.

"The 35th Fighter Wing has 27 green initiatives that speak to our commitment to being good stewards of the environment," Friedel said. "Projects like the solar farm are the basis for clean and independent energy generation, which allows for Misawa Air Base to be completely autonomous in the event that energy from our surrounding community is not available."

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MISAWA

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The Energy Savings Performance Contract currently contains two major on-base projects:

The first project, which was initiated in 2018 and is now nearing completion, is a solar field which reduces installation energy demand by 35 percent. Equipped with 18,000 solar panels, it will soon provide up to six megawatts of electricity going directly to Misawa Air Base's power grid.

"This action by Misawa Air Base aligns with President Biden's commitment for the United States to lead by example in tackling the climate crisis, while working with allies and close partners like Japan to decrease our reliance on fossil fuels and reduce emissions," Lee said. "I'm proud to see Misawa Air Base working together with Misawa City's residents in our shared fight against climate change."

The solar panels will also help combat greenhouse gas emissions and reduce the collective dependence on fossil fuel by providing a clean and renewable source of energy, ultimately improving air quality, human health and preventing further climate change. Additionally, solar power does not rely on fossil fuels and may be stored on the base power grid for future use, allowing Misawa to save costs.

U.S. Air Force Col. Jesse J. Friedel, 35th Fighter Wing commander, Yoshinori Kohiyama, Misawa City mayor and Andrew Lee, U.S. Consulate General of Sapporo consul general, answer interview questions in front of a newly constructed solar panel at Misawa Air Base, Japan. (U.S. Air Force photo by Airman 1st Class Leon Redfern)

Alongside the solar field, Misawa Air Base is currently scheduled to complete their second project in 2023, the U.S. Air Force's first natural gas plant. The natural gas plant will burn cleaner than diesel fuel, while projecting to reduce nitrogen oxides by 43 percent, carbon dioxide by 25 percent and sulfur oxides by 100 percent, further reducing greenhouse gas emissions.

"Before this tour," Kohiyama said, "I looked at Misawa Air Base solely as a defense force partner; and now I fully appreciate the U.S. government in their efforts to generate 70-80 percent of the installation's entire energy in order to ease the burden on Japan's energy sector."

If you would like to nominate someone to be profiled in an upcoming issue, please contact us at AFIMSC.PA.Workflow@us.af.mil.

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