



*DAF is electrifying its installations, buildings, non-tactical vehicles, and flightline equipment to modernize infrastructure, reduce risks to operations, and bolster energy resilience.*



Plugging in hybrid vehicle, Hanscom AFB  
Photo By: Linda LaBonte Brit



## Approach to Electrification

### Why it Matters

Ensuring mission readiness and strengthening resilience at installations, the Department of the Air Force (DAF) is pursuing electrification as one of several key strategies to reduce operational risks associated with emissions and climate impacts. To better understand electrification complexities, DAF is conducting a series of pilot programs focused on base, fleet and flightline electrification with cutting-edge, all-electric technologies. Insights from the pilots will inform future DAF policy approaches and investment needs to meet mid- and long-term resilience goals.

### Policy Drivers

Aligned with the Administration's priorities and national security imperatives, the Department of Defense issued *Electrification of Standard Building Operations*, a memorandum requiring all services to maximize the use of all-electric technologies where market-ready technologies exist. In response, the Office of the Deputy Assistant Secretary of the Air Force for Environment, Safety and Infrastructure (SAF/IEE) released guidance in February 2024 for DAF installations on maximizing use of market ready, all-electric technologies in building design, construction, repair, and operations. Exceptions will be reviewed on a case-by-case basis and limited to unique and extenuating circumstances where the use of all-electric technologies do not safeguard facilities, missions and/or personnel.

SAF/IEE is also leading several pilot programs in alignment with the DAF Climate Action Plan (CAP) to understand electrification and modernization requirements and inform future policy. Key targets include:

- A **net-zero** emissions building portfolio by Fiscal Year (FY) **2046**, including a **50%** emissions reduction from 2008 levels by **FY33**
- **100%** carbon pollution-free electricity (CFE) on a net annual basis by **2030**, including **50% 24/7 CFE**
- **100%** non-tactical zero-emission vehicle acquisitions by **FY35**



# Overview of Pilot Programs

The DAF is modernizing installations by electrifying buildings, non-tactical vehicles (NTV) and flightline equipment. These initiatives will reduce risks to operations, bolster energy resilience and achieve objectives outlined in the DAF CAP by creating energy redundancies, reducing emissions and domesticating fuel supply for immediate energy delivery.

## NTV Fleet Electrification Pilot Program

SAF/IEE, Headquarters Air Force, Logistics (AF/A4L) and the Air Force Civil Engineer Center Office of Energy Assurance (AFCEC/CNS) are collaborating under the NTV Fleet Electrification Pilot Program to evaluate fleet electrification opportunities and potential impacts at pilot installations. The program will support the development of a NTV Fleet Electrification Framework to guide installations through fleet electrification.

The pilot program launched in December 2021 with two initial sites and has since expanded to include 50 installations. These installations represent a diverse scope of geographic conditions, missions, sizes and tenants.



Electric vehicle charger, Dover AFB  
Photo by: Airman 1st Class Dieondiere Jefferies)

## Flightline Electrification Pilot Program

Installation flightlines are essential for enabling operations and securing mission success. Electrifying installation flightline equipment can lead to multiple benefits, such as:

- Reduced fuel consumption and associated emissions
- Reduced flightline noise and improved Airmen communication

All-electric versions of flightline support equipment and vehicles will be used, where possible. The Air Force Research Laboratory is leading several DAF pilots to develop and test prototypes including:

- Flightline generators
- Mobility aircraft cargo loaders
- Light carts



Hybrid Aircraft Loader, Dover AFB  
Photo by: Jamie Cooper

The Department of the Air Force is taking a resilience-focused approach concentrated on providing strategic agility for missions and installations.

For more information:

 <https://www.safie.hq.af.mil/Programs/Resilience-Integration/>

 AirForceEnergy

 @AFEnergy

