

As the Department of the Air Force (DAF) becomes increasingly dependent on energy at installations in order to execute its mission, the Office of the Deputy Assistant Secretary for Environment, Safety, and Infrastructure is piloting the development of an Energy-as-a-Service business model to better support DAF installations in meeting their energy requirements.

Did You Know...

The “as-a-service” business model is growing in the commercial energy sector, and the DAF is excited to be at the forefront of testing it within the federal government. The DAF is seeking to leverage lessons learned and innovation from industry in order to better meet increasingly complex and stringent mission owner energy requirements.

Continue checking
safie.hq.af.mil/installationenergy
for updates.

Energy-as-a-Service

Why it Matters

The DAF needs energy to fly, fight, and win. DAF installations serve as weapon systems platforms and require assured energy supplies, particularly electricity, to conduct the mission. Under Energy-as-a-Service (EaaS), the DAF will partner with industry to deliver reliable and resilient energy to installation mission owners more cost effectively than is done through current DAF energy management and procurement approaches.

EaaS Model

Through the EaaS business model, the DAF envisions realigning energy procurement, operations, and management functions through a single industry provider to cost effectively and comprehensively deliver reliable and resilient energy to mission owners. To accomplish this, the EaaS provider would be responsible for optimizing the integration of the energy delivery chain (Figure 1), which covers commercial energy supply procurement, distribution, onsite generation, and load management. Consistent with the “as-a-service” business model, the Air Force is taking a technology agnostic approach and focusing on the desired level of service instead of prescribing technologies or exact technical solutions.

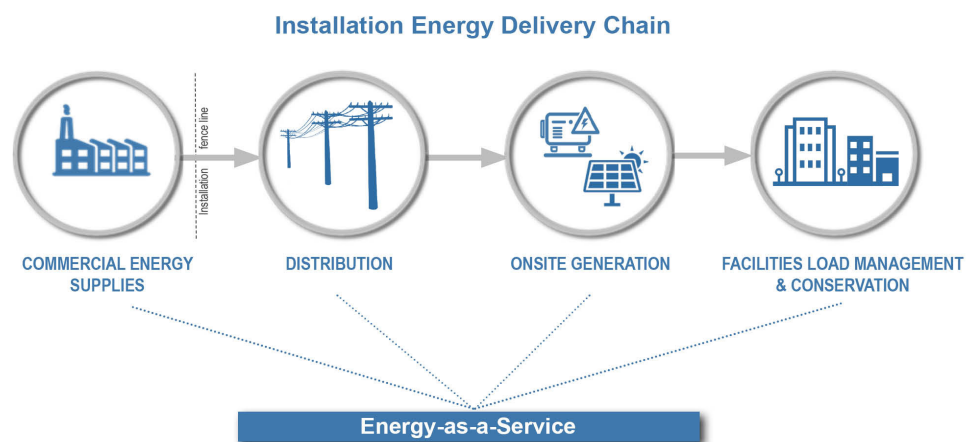


Figure 1: Installation Energy Delivery Chain.





EaaS Pilots

In 2017, two pilot sites – Altus Air Force Base in Oklahoma and Hanscom Air Force Base in Massachusetts – were selected to demonstrate EaaS. The two pilot locations represented different missions and state regulatory environments, but together provided a unique opportunity to understand how EaaS may be implemented within the Air Force. Despite the differing conditions at each installation, both leveraged a new approach by pursuing a single provider to integrate the installation energy delivery chain.

Altus Air Force Base Update

In August 2020, the DAF received a technical and pricing proposal from Western Farmer’s Electric Cooperative in response to the Air Force’s Energy-as-a-Service Request for Proposal at Altus AFB. WFEC’s proposal outlined a phased, 10-year effort to address power availability, power quality, power outage duration, energy efficiency, mission readiness, and cybersecurity. The proposal, and associated engineering study WFEC completed in 2020, provided the DAF with insights into key areas for improved energy reliability and resilience. However, ultimately a mutual understanding that anticipated risks outweighed the potential to achieve the intent behind EaaS led the DAF to cancel the requirements at Altus AFB and close out the solicitation in May 2021. The DAF intends to share key lessons learned from this initiative later in 2021.

Hanscom Air Force Base Update

In July 2020, the DAF issued a Request for White Papers for an EaaS solution at Hanscom AFB. The DAF pursued this solicitation through Other Transaction (OT) authority under 10 USC §2371b, in collaboration with the Hanscom Air Force Lifecycle Management Center and the Consortium Management Group. Following a rapid down-selection process, the DAF kicked off drafting the Statement of Work (SOW) for a three-year prototype agreement. If the prototype is successfully completed, the DAF may enter into a follow-on production contract with the down-selected vendor that scales up the scope of work to more comprehensively address Hanscom AFB’s energy requirements.

What’s Next

The DAF will continue to examine its lessons learned from the Altus pilot, seeking to translate those lessons to future innovation efforts in installation energy, especially as the “as-a-service” business model continues to grow.

In parallel, the DAF will continue its ground-breaking work on 10 USC §2371b prototype projects, furthering its pilot at Hanscom AFB and pursuing broader interpretation of allowable appropriations.

Hand-In-Hand: Resilience & Decarbonization

The Hanscom EaaS prototype is a good example of how the DAF is looking to pursue resilience while also achieving decarbonization objectives. Climate change mitigation strategies, such as clean energy generation, energy efficiency, and system optimization are key parameters within the three-year prototype. The prototype will examine an integrated energy solution that includes solar PV, battery energy storage, building controls, and load management strategies to help ensure the Department achieves its resilience needs cost-effectively using clean and efficient energy solutions.



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

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