CASE STUDY

United States Air Force (USAF) Pilot Installation Energy Plans, Various Locations

AECOM developed the USAF's methodology and template output for IEPs including the required planning and strategy development for future project execution. These IEPs ensure the energy and water needed to sustain critical missions and installation assets. These deliverables will guide the sustainment of energy resiliency and efficiency across the AF for the foreseeable future.

Client
United States Air Force

Location
California, Virginia, New York, USA

Contract Value
USD 2.7MM

Years
2018-2020

More Information: AskEnvironment@aecom.com

Project Overview

In March 2016, a memorandum from the Office of Assistant Secretary of Defense established a policy that requires all US DoD components to develop installation-level energy plans. The USAF Office of Energy Assurance engaged AECOM to execute USAF's pilot program to develop a methodology, process, and standardized Installation Energy Plan (IEP) template and execute IEPs for seven installations.

The IEP creates an implementable roadmap of strategies that enable an installation to improve their energy resiliency posture to meet the requirements of critical missions. The methodology and reporting template developed in this pilot is being used for the execution of IEPs enterprise-wide.

Client Benefits

- Identified infrastructure vulnerabilities and resilience gaps
- Improved the installation's energy and water resilience and sustainability posture
- Helped USAF develop a centralized energy management program
- Met aggressive project timeline
- AECOM received "Very Good" CPARS in all categories

Work Performed

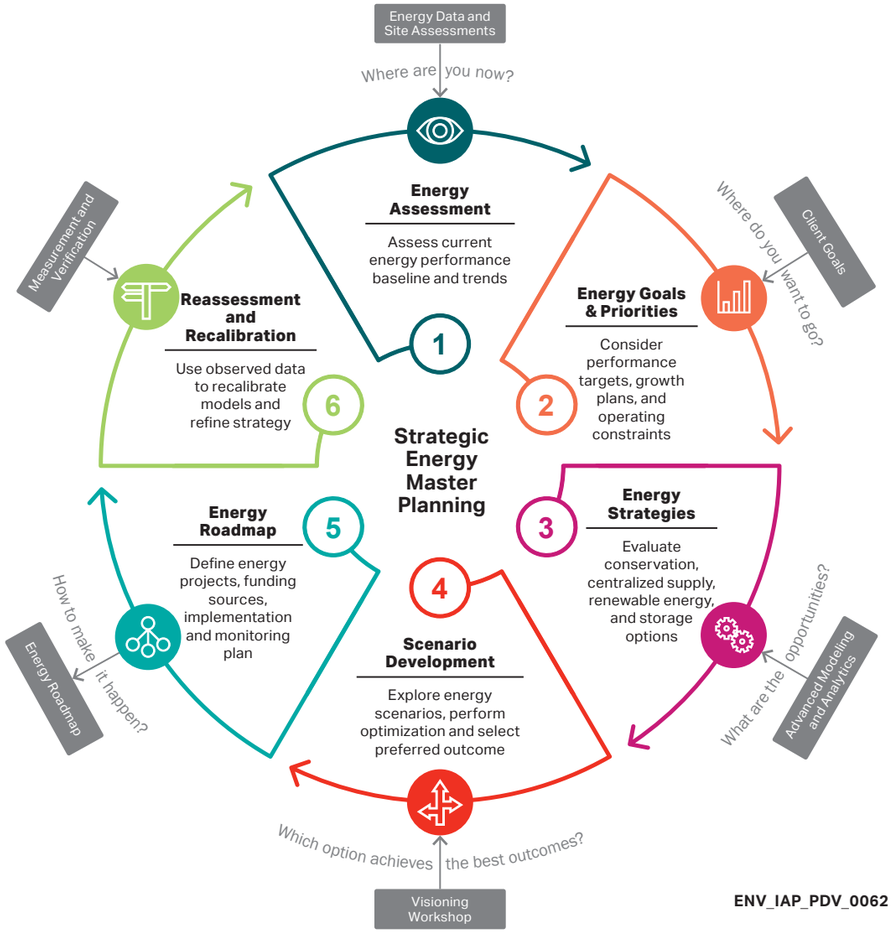
Under an effort led by the USAF Office of Energy Assurance (OEA), Mobile District engaged AECOM to execute USAF's pilot program to develop a methodology, process, and IEP templates. AECOM demonstrated the effectiveness of the process by using it to develop IEPs for seven USAF installations. The IEP creates a roadmap of strategies to improve energy and water resiliency posture and meet critical mission requirements. AECOM collected data and conducted on-site interviews to delineate energy and water requirements to sustain critical missions and understand threats and infrastructure vulnerabilities during a range of disruptive events. A team of engineers conducted assessments of mechanical and electrical system that service critical missions to collect, process and analyze energy performance data, conditions and redundancies. We modeled the asset baseline to identify vulnerability/resilience gaps in the ability to resist and recover from threats, which results in scorecards for each mission's current posture based upon the "Five R's of Resiliency" (Robustness, Redundancy, Resourcefulness, Response, and Recovery). AECOM conducted on-site Course of Action (COA) workshops to validate proposed strategies to mitigate resiliency gaps. We developed phased Action Plans outlining strategies for implementation. To assist OEA to make future updates to the Excel-based Interim Resiliency Model, AECOM delivered a User's Guide and a video.

The IEP framework AECOM developed is adaptable to circumstances at every installation while providing a consistency in quantifying the installation's energy and water resilience and sustainability posture and the impact of each COA. The aggressive timeline of the project was challenging, requiring effective logistics and nationwide deployment of AECOM staff.

The rapid transition of USAF energy goals and priorities – from energy cost savings to mission assurance and resiliency - presented an opportunity for AECOM to develop a new kind of energy and water planning, with mission sustainment at its center. This methodology is innovative both in the tools (the resiliency modeling) and the make-up of the multi-disciplinary teams (e.g., energy engineers, water engineers, cyber-security specialists, and military planners).

The USAF leveraged AECOM's technical experience to develop a centralized energy management program to allow maintenance of energy assurance and resiliency plans and employ technology and funding solutions towards projects to address resilience requirements. The IEPs support informed decisions for energy policy/project execution at the HQ, MAJCOM and Installation level. The analytics also allowed the development and modification of new or existing plans and procedures such as a policy to allow dual fuel generators.

Based on the success of this pilot project, the Air Force is deploying this framework across its portfolio. Since the completion of these IEPs, AECOM has led the development of over twenty additional IEPs and the program is ongoing.



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