

World Campus Capstone Summary

EME 466 - ENERGY AND SUSTAINABILITY IN SOCIETY



Student Alex Riedel in Afghanistan 2017

Student Info

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Location

Whiteman Air Force Base, Missouri

Faculty Advisor

Prof. Haley Sankey

Community Partners

- Glenn Golson
Environmental Program
Manager
- John Allen
Energy Manager
- Andrea Goodson
Chief, Asset Optimization

Deliverables

- "Sustainability Flight Plan Pitch Presentation"
- Sustainable Flight Plan Outline
- Sustainability Program Review and Proposal

"Sustainable Stealth: Strategies for Implementing Energy & Sustainability Policy at a Missouri Air Force Base"

Executive Summary

U.S. Air Force installations are important power projection platforms. Nowhere is this truer than at Whiteman Air Force Base, the nation's only home of the B-2 Spirit nuclear-capable stealth bomber. Enduring military installations in the continental U.S. and overseas are also part of their surrounding communities and operate similarly to small towns, cities and college campuses.

This case study examined existing energy & sustainability applications at Whiteman Air Force Base with consideration to current plans and attempted to identify potential program improvements and efficiencies. The research and interviews conducted for this capstone project resulted in the proposal of a Strategic Sustainability Flight Plan to address the energy source-based efficiency and emission reductions possible by utilizing various small-scale, sustained environmental program efforts, behavior adaptations and a renewed communication leadership role at Whiteman AFB.

Project Review

HOW I APPROACHED IT

As a Public Affairs Airman, I have always been surprised by the absence of a cohesive narrative for sustainability at my home installations. Through this capstone, I was able to work with the civil engineers responsible for the environmental management system on base to examine how the installation approaches overall environmental protection, energy efficiency and sustainability policy in daily practice.

I conducted research via a literature review on existing federal mandates, scholarly analysis, military net-zero energy/waste installation case studies and examined potential program applicability at Whiteman AFB. I further analyzed the results of past energy feasibility studies, conducted various stakeholder interviews and performed several site visits to our base recycling center, waste water treatment facility, heat steam plant and civil engineering center.

I then began my review and analysis and developed summary recommendations for future objectives, tools and approaches for sustainable development at WAFB.

The results of my capstone will be used to create a local communication plan that will shape our installation's online community engagement presence, public accountability reporting and demand reduction/behavior awareness campaigns.

HOW IT CHALLENGED MY THINKING

While I am familiar with the regulatory environment of Air Force Squadrons and Wings as a service member in the public affairs field, my research has greatly amplified my experience and understanding of the current dynamics in the Air Force energy/environmental program structure. I learned that the primary drivers that motivate environmental action within the DoD are mission-driven performance incentives and compliance with laws and regulations.

I was surprised to learn that my installation simply does not have a sustainability plan; this, to me, was a glaring omission and missed opportunity. While very skilled engineers worked diligently to improve base load and energy intensity, leadership support for a cohesive vision was lacking. While enterprise level guidance exists, along with case studies from the corporate world, such guidances are surprisingly not implemented locally. Despite this disappointment, I quickly grew interested in the processes and methods for compiling a sustainability plan/report and the overall importance of a multi-disciplinary plan to gain leadership support and overcome system inertia toward policy implementation. I was able to synthesize my professional experience with ESP coursework and draft strategies for creating environmental action by leveraging communication tools to create bottom-up awareness. Based on my research, I recommended various proven strategies that are mirrored at University campuses and increasingly at U.S. military installations, to include: establishment of a multi-functional sustainability task force with the goal of establishing a cohesive sustainability vision, metrics and plans; regular emissions and energy performance inventories to track the success of programs; and strong support for employee/service member and community engagement that strengthens understanding and support for sustainability efforts base wide.

WHAT I LEARNED

I began this project as a an insider to the 509th Bomb Wing, my home unit, but an outsider to the environmental management and energy programs of our civil engineering unit. The program allowed me close access to our asset management and energy experts. This gave me crucial insights into program management limitations, such as funding, but also enabled me to pinpoint opportunities for strategic improvements to the status quo of the installation programs. Furthermore, it allowed me to create important groundwork for partnerships that will pave the way for future cooperation. This existing experience will provide me with the knowledge and know-how necessary for me to advocate more effectively for a sustainability programs at WAFB - beginning with public communications.

I learned that effective communication with stakeholders and internal program managers is crucial in de-conflicting interests and focus areas. Many military leaders are not focused on sustainability because regulations and mandates have never sufficiently challenged them to do so. This will inevitably change as the understanding of climate change as a threat to national security and mission readiness increases.

I initially approached this program as a research thesis, which unfortunately cost valuable time. If given the opportunity, I would focus much more strongly on the real-world applicability of the behavior-oriented stakeholder communication program. For instance, we have little to no recycling presence in many buildings and our public reporting is minimal - even when there are good news to report. All this distracts from focusing attention on the important programs contributing to overall installation sustainability.

I also learned to analyze data and represent findings visually in order to communicate crucial details and opportunities that otherwise may be lost to the casual reader/observer.

Moving forward, I will use the existing plan to draft a new sustainability program website, draft a new communication plan for stakeholder engagement and make recommendations toward a "Leadership & Environmental Action Flight" volunteer group to foster environmental stewardship and training among Airmen.

