

Department of the Air Force

Integrity - Service - Excellence

Air Force Operational Energy - Weather Planning Impact



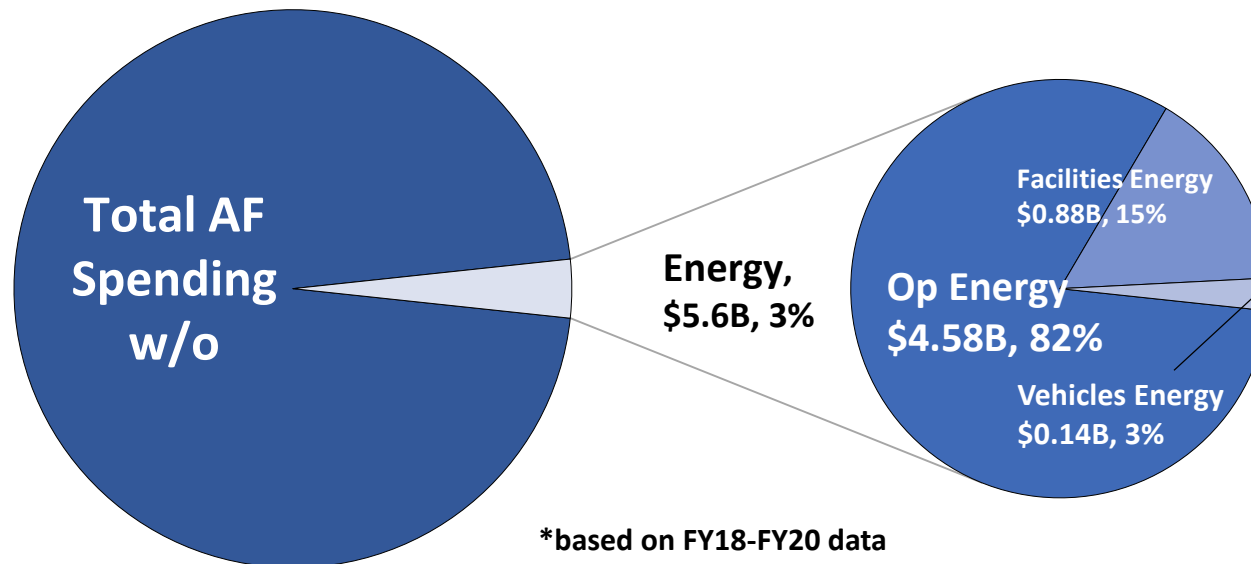
Mr. James Olden
USAF Operational Energy
Current Operations
APR 2022



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Air Force Operational Energy (SAF/IEN)

- **Operational Energy** is the energy required for training, moving, and sustaining military forces and weapons platforms for military operations. In the Air Force, operational energy is aviation fuel
- **Mission:** Enhance combat capability and mitigate operational risk to the warfighter through energy-informed solutions
- **Goal:** Deliver **optimal operations planning** and execution solutions for existing gaps

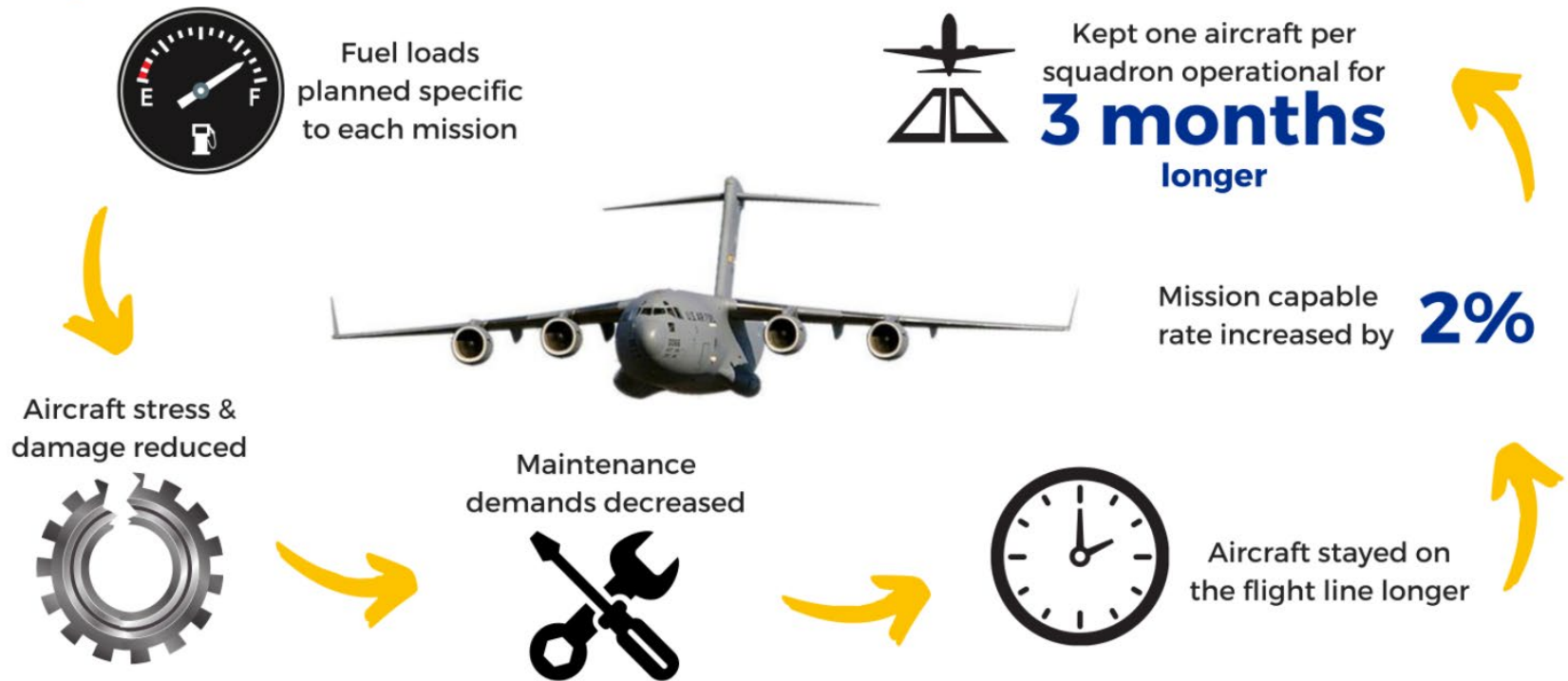




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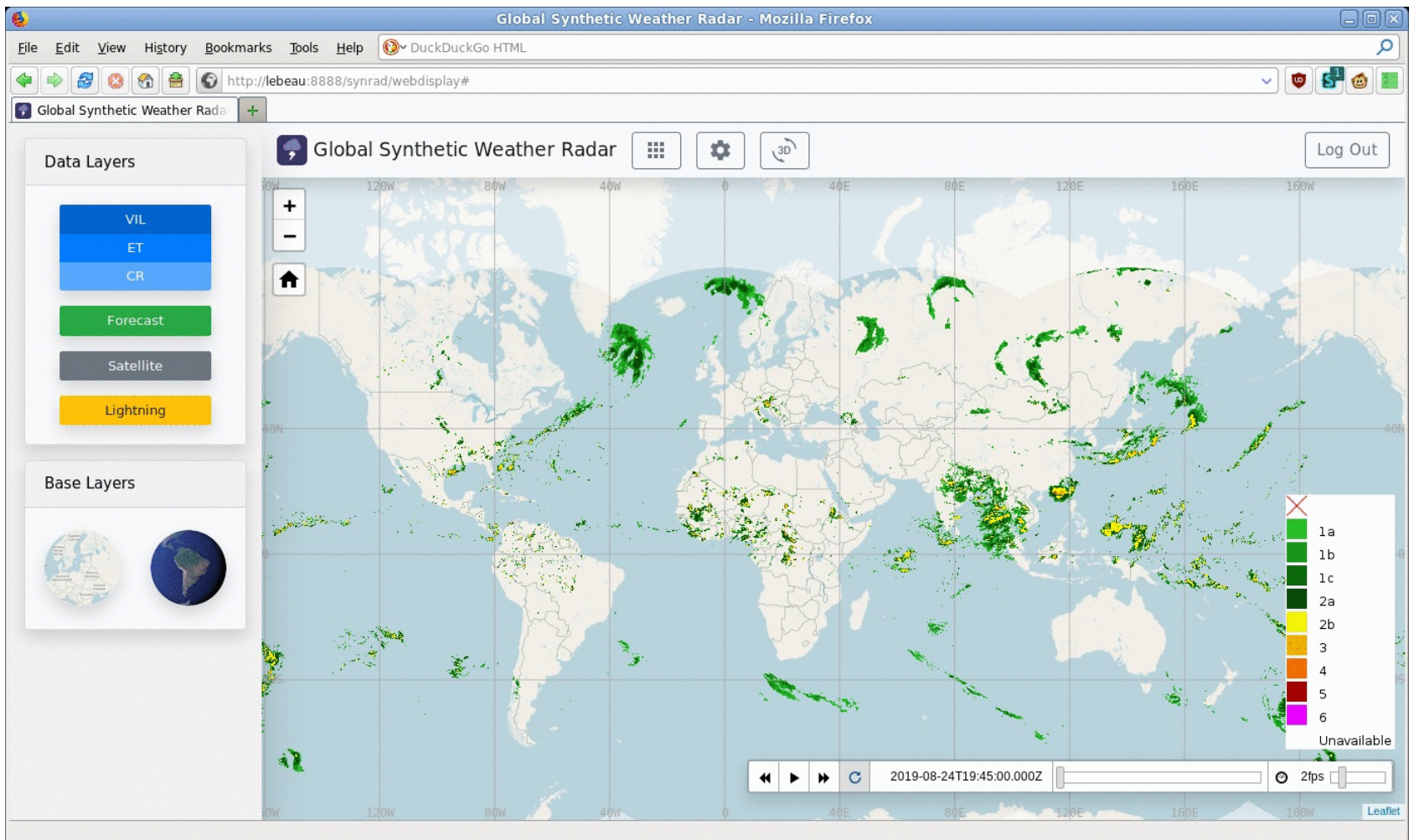
Precision Fuel Planning

- Given the **average Defense Logistics Agency fuel prices**, potential savings across 8 applicable aircraft are estimated to save 25.9M gallons of fuel or a cost savings of \$72M per year





Global Synthetic Weather Radar



GSWR 15 minute update rate

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LINCOLN LABORATORY
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618th Air Operations Center (AOC)

- **Plans, tasks, executes and assesses a fleet of over 1,100 aircraft on global, daily flights**
- **Missions include combat delivery, airlift, air refueling, and aeromedical operations**
- **Weather Operations Directorate & Flight Management Division provided operational utility feedback of Global Synthetic Weather Radar capability**
 - **Potential integration into flight planning systems**
 - **Opportunity for real-time analysis hours earlier**
 - **Data and analysis critical for increased accuracy and predictability**
- **Ongoing work with:**
 - MIT Lincoln Lab, Air Mobility Command,**
 - Program Offices, 557th Weather Wing**

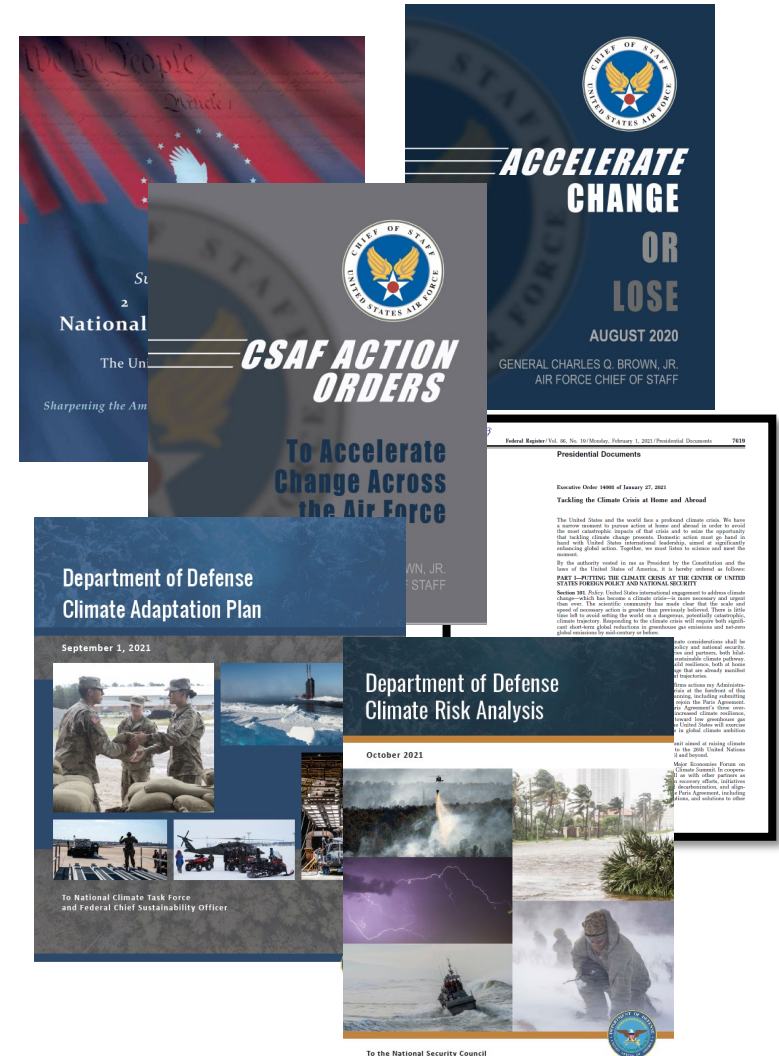




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Action Orders

- **Operational energy (aviation fuel and energy to power aircraft) offers the most cost-effective opportunity to dramatically optimize our mission operations and increase lethality, while simultaneously reducing GHG emissions**
- **To remain ahead of our adversaries in a complex and ever-changing battlespace, we must enhance our energy competitiveness and continue to develop a more agile and optimized approach**





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Summary

- Better weather visibility and prediction accuracy will improve flight plan accuracy, precision fuel planning, and flight following
 - Leads to higher trust for flight managers and aircrews
 - Increases capability modernization, decreases readiness risk
- Due to the size of the Air Force fuel requirements, greenhouse gas mitigation and cost savings will follow

NO FUEL.  NO FIGHT.

Are you **energy** aware?
#EnergyAbleMissionCapable

 safie.hq.af.mil/OpEnergy  Twitter.com/AFEnergy  Facebook.com/AirForceEnergy

The graphic features a blue background with a white fighter jet and a white tanker aircraft flying in formation. The text "NO FUEL. NO FIGHT." is prominently displayed at the top in yellow, with the Air Force wings logo between the words. Below this, the question "Are you energy aware?" is written in white, followed by the hashtag "#EnergyAbleMissionCapable". At the bottom, a yellow banner contains three social media links: a globe icon followed by "safie.hq.af.mil/OpEnergy", a Twitter icon followed by "Twitter.com/AFEnergy", and a Facebook icon followed by "Facebook.com/AirForceEnergy".