

Closing the Energy Gap: Improving Energy Analysis in OPLANs and Weapon System Acquisition

March 13, 2023 | 12:00–12:50 pm PST | Spanagel 103F

Dominick Wright, PhD

Air Force Operational Energy (SAF/IEN)



Dominick Wright, PhD

Abstract

While the need to “fuel the fight” has been apparent for millennia, military planners and decision makers have not always appreciated the need to overcome challenges to doing so. Recently that has changed, whether considering congressionally directed investments in fuel infrastructure throughout the Western Pacific or the Secretary of the Air Force’s bold decision to pursue the Next Generation Aerial Refueling System (NGAS; note the similarity to NGAD or Next Generation Air Dominance fighter).

Analytical capabilities in modeling, simulation, and other methods are not collectively ready to match the change in emphasis. Much of the deliberate planning for fuels stills occurs via manual entry with little (or no) scripting in spreadsheets. Some energy supportability analyses, used to inform specification of the Energy Key Performance Parameter (E-KPP) for weapon systems in acquisition, are a kluge combination of simulations and parametric analyses that are incomplete, despite analysts’ best intentions. The purpose of today’s discussion is to add detail to these energy analysis cases, focusing on where the processes are broken and what steps DoD can take to remedy them.

Biography

Dr. Dominick’ Wright works for Air Force Operational Energy (SAF/IEN) in support of wargaming, deliberate planning, acquisition analysis, and other special projects. A common thread throughout these tasks is his advocacy and use of models, simulations, and other analytic methods in combination with expert insights. Prior to joining Air Force, he worked for Office of the Secretary of Defense Operational Energy as a deputy for analysis on loan from the Institute for Defense Analyses, where he previously worked on a variety of operations research projects that covered everything from COIN and manhunting to the research and development of analytical applications supporting intelligence activities and deliberate planning.

