

Abstract Submitted
for the DPP17 Meeting of
The American Physical Society

A U.S. Strategy for Timely Fusion Energy Development¹ MICKEY WADE, General Atomics — Worldwide energy demand is expected to explode in the latter half of this century. In anticipation of this demand, the U.S. DOE recently asked the National Academy of Science to provide guidance on a long-term strategic plan assuming that “economical fusion energy within the next several decades is a U.S. strategic interest.” Delivering on such a plan will require an R&D program that delivers key data and understanding on the building blocks of a) burning plasma physics, b) optimization of the coupled core-edge solution, and c) fusion nuclear science to inform the design of a cost-attractive DEMO reactor in this time frame. Such a program should leverage existing facilities in the U.S. program including ITER, provide substantive motivation for an expanding R&D scope (and funding), and enable timely redirection of resources within the program as appropriate (and endorsed by DOE and the fusion community). This paper will outline a potential strategy that provides world-leading opportunities for the research community in a range of areas while delivering on key milestones required for timely fusion energy development.

¹Supported by General Atomics internal funding.

Mickey Wade
General Atomics

Date submitted: 14 Jul 2017

Electronic form version 1.4