

October 13, 2023

Re: FESAC International Benchmarking Subcommittee Report on International Collaboration Opportunities, Modes, and Workforce Impacts for Advancement of US Fusion Energy

Dr. Asmeret Berhe
Director
Office of Science
U.S. Department of Energy
1000 Independence Avenue, SW; Washington, DC 20585

Dear Dr. Berhe,

On May 18, 2022, the Acting Director of the Office of Science, Dr. Stephen Binkley, charged the Fusion Energy Sciences Advisory Committee (FESAC) to assemble a subcommittee to examine the international landscape for the emerging energy technology of fusion through the lenses of the recent FESAC Long-Range Plan (LRP) report “Powering the Future: Fusion & Plasmas” and the Administration’s development of a bold decadal vision for commercial fusion energy in partnership with the private sector. The subcommittee was asked to prepare a report that is an updated benchmarking of US international collaborations for fusion energy development, fundamental plasma science, and related technology areas, to identify opportunities in the coming decade.

The charge asked the subcommittee to address the following questions:

- Since the last time FESAC assessed the opportunities afforded to U.S. scientists by international fusion facilities with unique capabilities, a number of new facilities have come online, and existing facilities have undergone significant upgrades. In what areas of research and on which facilities are there compelling opportunities for U.S. researchers over the next 10 years?
- What is the potential of these facilities to help U.S. scientists address priorities and recommendations in the LRP and the National Academies report on “Bringing Fusion to the U.S. Grid”, contribute to the Administration’s bold decadal vision for commercial fusion, and increase the U.S. readiness for ITER operation? In addition, please assess whether the existing modes of collaboration are adequate for maximizing the impact of international collaborations on the U.S. fusion program and objectives.
- How can the U.S. take advantage of its considerable and growing fusion private sector in international engagements, and how can we cooperate with overseas public-private partnership programs that focus on accelerating the development of commercial fusion?
- Within the Fusion Energy Science-supported research areas and facility capabilities for fusion energy science and discovery plasma science, what are the areas where the U.S. is leading, the areas where U.S. leadership is threatened in the near- and long-term, and the areas in which U.S. is not leading at present but where investing resources could offer

significant opportunities for leadership that would be beneficial to the U.S. fusion program goals and objectives?

- How can the U.S. ensure the availability of a highly trained and internationally competitive workforce in fusion science and technology and related areas, including the recruitment of talent from traditionally underrepresented groups within the U.S.?

The “FESAC International Benchmarking Subcommittee Report on International Collaboration Opportunities, Modes, and Workforce Impacts for Advancement of US Fusion Energy” was presented to our FESAC meeting on September 18, 2023. This report fully addressed the May 18, 2022 charge. Seventeen of the 19 FESAC members attended this meeting, reviewed the report and its recommendations, and asked questions from subcommittee members. Following discussion and deliberations, FESAC members approved each of the report’s 47 Recommendations unanimously. There was unanimous FESAC approval of the entire report with minor revisions.

With this letter, on behalf of FESAC, I respectfully submit for your consideration the final report of the FESAC International Benchmarking Subcommittee.

Sincerely,



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