BREAKTHROUGH INSTITUTE

November 30, 2023

The Honorable Shalanda Young
Director of the Office of Management and Budget
Eisenhower Executive Office Building
1650 Pennsylvania Avenue
Washington, DC 20504

The Honorable Arati Prabhakar
Director of the Office of Science and Technology Policy
Eisenhower Executive Office Building
1650 Pennsylvania Avenue
Washington, D.C. 20504

The Honorable Thomas Vilsack
Secretary
United States Department of Agriculture
1400 Independence Ave SW
Washington, DC 20250

The Honorable Chavonda Jacobs-Young
Chief Scientist
United States Department of Agriculture
1400 Independence Ave SW
Washington, DC 20250

Dear Director Young, Director Prabhakar, Secretary Vilsack, and Dr. Jacobs-Young,

As you work to develop the fiscal year 2025 (FY25) budget submission for USDA, **the Breakthrough Institute urges you to request no less than $45 million for the Office of the Chief Scientist to support the Agriculture Advanced Research and Development Authority (AgARDA)**. The Breakthrough Institute is a global research center that identifies and promotes technological solutions to environmental challenges. Our Food and Agriculture program recognizes the important role federally-driven research and development (R&D) programs play in making agriculture more productive, resilient, and environmentally sustainable.

We commend the Biden-Harris Administration's support for technological innovation and its commitment to deploying historic investments in climate-smart agriculture. Through investments in USDA conservation programs from the Inflation Reduction Act of 2022 and the grants issued under the Partnerships for Climate-Smart Commodities, the administration has significantly advanced the transition to a net-zero future. However, public funding for agricultural research in the US has fallen, undermining long-term productivity growth and the sector's ability to cut its carbon footprint in line with national and global climate goals[1]. Investments in AgARDA could help to reverse this concerning trend by generating the knowledge and tools needed to more quickly decarbonize agriculture; improve farmers' international competitiveness; and enhance producers' resilience to climate impacts, supply chain disruptions, and other shocks.

AgARDA was authorized in the 2018 Farm Bill to support high-risk, high-reward research at USDA to address the most far-reaching challenges facing the food and agriculture system. Modeled after other successful advanced research agencies, such as the Department of Defense's Defense Advanced Research Projects Agency (DARPA) and the Department of Energy's Advanced Research Projects Agency-Energy (ARPA-E), Congress created AgARDA to bring a proven model of transformative research to USDA. AgARDA was designed to help de-risk

[1] https://www.ers.usda.gov/amber-waves/2022/june/investment-in-u-s-public-agricultural-research-and-development-has-fallen-by-a-third-over-past-two-decades-lags-major-trade-competitors/

innovative technologies by funding research with significant potential benefits, but which may be too early-stage or technically challenging for private-sector investment.

ARPA-style research has led to proven results in other sectors. For example, DARPA made significant contributions to the US economy as well as strategic military operations with the research and development of GPS systems. This model inspired development of ARPA-H, which received $1.5 billion in FY23 to catalyze biomedical innovation, and ARPA-I to advance next generation transportation infrastructure technologies. By standing up AgARDA, USDA can fill a critical gap in the existing federal research ecosystem for high-risk, advanced research, ensuring the US maintains global leadership in climate-smart agricultural innovation.

As an ARPA-style agency, AgARDA would have more flexibility than other programs within the Research, Education, and Economics mission area to take on higher risk projects with a mission-driven approach. The research that AgARDA produces has the potential to complement and enhance the work being done at the Agricultural Research Service and under the National Institute of Food and Agriculture competitive and capacity grant programs.

Despite the proven success of ARPA-style research and the demonstrated need for AgARDA, as well as the administration's support for the program in previous budget requests, AgARDA was omitted entirely from the fiscal year 2024 budget request. AgARDA has only received $2 million in annual appropriations to date, despite being authorized for $50 million per year. This is not a sufficient level of funding for USDA to stand up AgARDA and bring the program to its full potential. We also understand the constraints of the current fiscal environment and funding caps in place under the Fiscal Responsibility Act of 2023. In light of these tight budgetary conditions, it is even more imperative that the administration demonstrate its confidence in the need for an advanced research program for agriculture in its FY25 budget submission.

As described in the AgARDA Implementation Framework released by USDA earlier this year, the agency could design and fund several mixed award portfolios to tackle high impact, transdisciplinary and convergent research areas with $45 million in FY25[2]. The program is well poised to advance research on underfunded areas including improved mechanization technologies, emerging crop and livestock pests and diseases, and climate change mitigation and adaptation. For example, AgARDA could fund a portfolio of universities and companies to explore promising approaches to breed the next generation of cattle with lower methane emissions, greater heat and stress tolerance, and improved animal health[3].

AgARDA has bipartisan, bicameral support in Congress and wide-ranging support from the agriculture and research communities[4], demonstrating broad confidence in the need for a permanent advanced research program at USDA. We urge the administration to continue to demonstrate its commitment to ensuring the program reaches its full potential by requesting no less than $45 million for AgARDA in FY25.

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[2] https://www.usda.gov/sites/default/files/documents/agarda-strategic-framework.pdf

[3] https://thebreakthrough.org/issues/food-agriculture-environment/the-clean-cow

[4] https://thebreakthrough.imgix.net/ACE-Ag-Support-Letter-Nov-2023.pdf

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Sincerely,

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Director of Food and Agriculture
The Breakthrough Institute

Emily Bass
Federal Policy Manager, Food and Agriculture
The Breakthrough Institute

CC: Senator Martin Heinrich
Senator John Hoeven
Representative Andy Harris
Representative Sanford Bishop