



Federal Food Procurement

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Executive Summary

In order to reduce the United States' greenhouse gas emissions by 50% by 2030, President Biden should sign an Executive Order reforming federal food procurement. The goal of the proposed Executive Order is to leverage the scale and scope of federal government's food procurement system to reduce its carbon footprint and mitigate other health, and environmental externalities. The Executive Order accomplishes this by:

- (i) reforming food procurement within the Department of Defense to promote the health and security of the military;
- (ii) reforming the Federal Acquisition Regulation in order to account for the environmental sustainability of food production and distribution; and
- (iii) creating jobs and promoting economic development by investing in innovations across the food value chain.

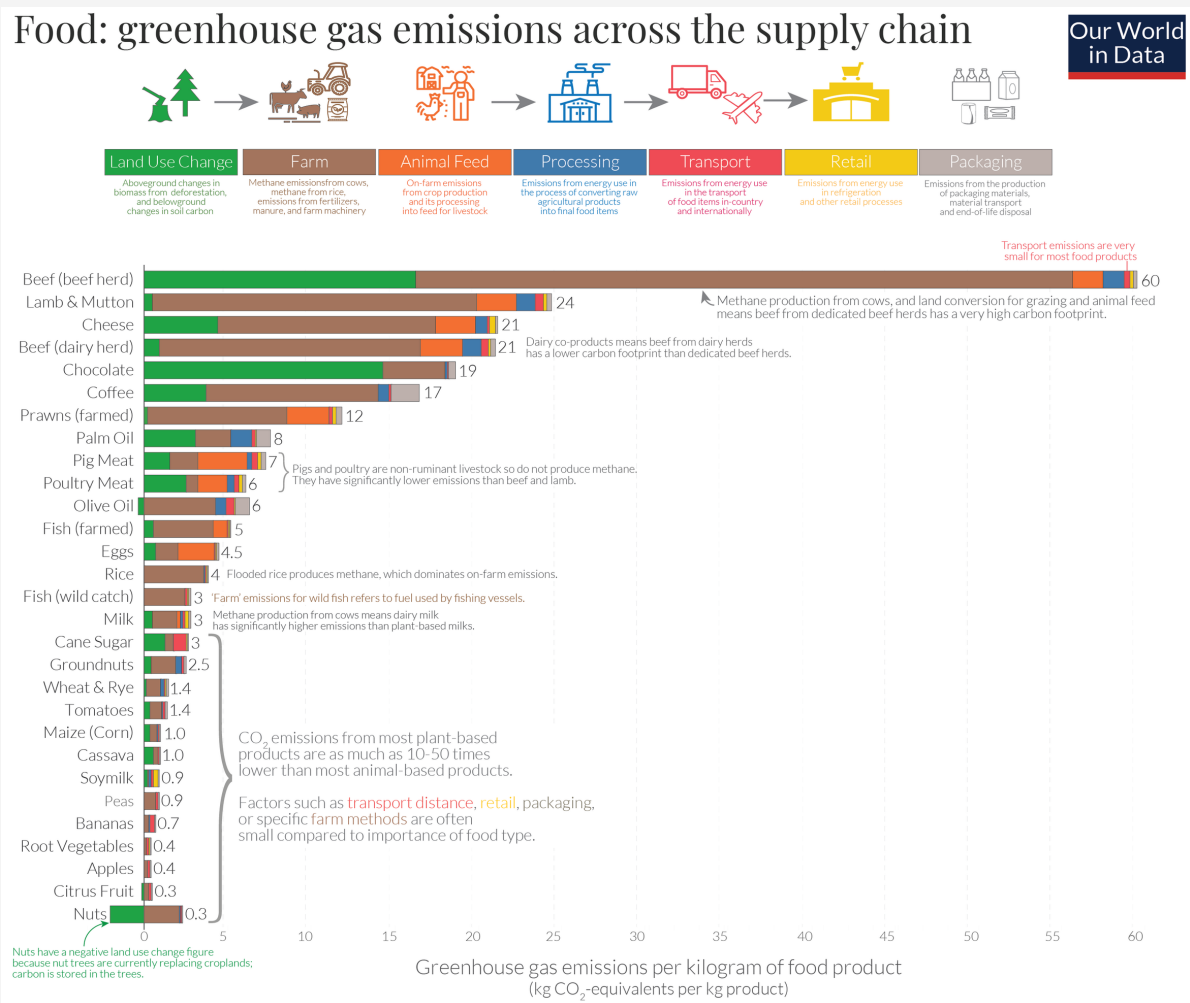
Given the Biden administration's commitment to addressing climate change and stimulating the economy, an Executive Order addressing federal food procurement can meaningfully impact the health, environment, and economy of the United States.

Introduction:

Why Food Procurement Represents a Unique Opportunity to Advance Climate, Health, and Economic Goals

Food and climate impacts

Food production is a significant contributor to climate change accounting for 26% of global greenhouse gas emission (GHG)[1] and at least 10% of the United States’ (US) GHG emissions [2]. Meat production (56.6%) and dairy products (18.3%) in particular contribute the most to the total carbon footprint in the US.[3]



Introduction:

Why Food Procurement Represents a Unique Opportunity to Advance Climate, Health, and Economic Goals

The Food System Affects Public Health and the US Economy

Beyond climate change, food systems are at the intersection of health, animal welfare, environment sustainability, economic development, and labor. Access to nutritious foods is essential to the health of the US population [4].

Agriculture and meat production systems have a role to play in reducing GHG and increasing environmental adaptability and resiliency [5]. Furthermore, the food and agriculture sectors are a critical part of the American economy. They account for 10% of US employment which amounts to approximately 22.2 million jobs [6]. Therefore, reducing carbon emissions in our food systems through food procurement can present additional opportunities to affect change across the food value chain.

The Federal Government's Foodprint

With billions of dollars spent on food annually, the federal government prominently shapes the food industry. The federal government purchases an annual average of \$1.3 billion on meat, poultry, fish products and an additional \$0.7 billion on dairy and poultry products [7]. In comparison, McDonald's (the world's largest burger chain) spends \$1.3 billion annually on beef [8]. As such, the federal food procurement complex plays a significant economic and environmental role in the global food industry. At this scope and scale, federal food procurement can influence the industry and transform the US food system into one that is healthy and sustainable.



Our Theory of Change:

The Biden administration represents a unique opportunity to advance food sustainability

The Biden administration presents a unique opportunity to improve federal food procurement through executive action in order to tackle climate change, improve public health, increase food security, and grow economic opportunity.

As Congress remains divided, executive actions have emerged as a productive tool to chart the path towards meaningful change. Within President Biden's first 100 days, President Biden has signed 42 Executive Orders (EO). Furthermore, Biden has pledged to reduce the federal government's GHGs by 50% by 2030. The Executive Order we propose specifically builds on Biden's Executive Orders improving public health [9] [10][11], tackling climate change [12], and promoting the American economy [13][14][15][16].

As the United States and the world currently faces the existential threats of a global pandemic and climate change, the Biden administration has an opportunity to act urgently and decisively. The COVID-19 pandemic highlights the need for science-based guidelines to inform public health policy. Relying on science is foundational for safe and sustainable food guidelines and supply chains. Accompanying the global pandemic are the increasingly consequential effects of climate change which the US Department of Defense has identified as a "critical national security threat" [17]. These threats impact the US economy and jobs. As such, our proposed EO on federal food procurement encompasses the main policy priorities of the administration by ensuring that food security and health guidelines are based on science, reducing greenhouse gas emissions in the food supply chain, and expanding economic opportunity through investment in innovations which stand to create more jobs for Americans.

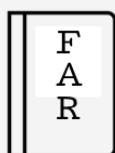
Our Proposal

Transforming how federal agencies procure food and invest in food innovations can have a lasting impact on the food sector. With the goals of food sustainability, health, and economic opportunity in mind, we propose a three-fold intervention:



RESTRUCTURE FOOD PROCUREMENT BY THE DEPARTMENT OF DEFENSE TO PROMOTE HEALTH & SECURITY

The Department of Defense is the ideal federal agency for leading action towards healthy and climate-friendly food procurement practices. As one of the largest procurers of food at the federal level, the Department of Defense's buying power is immense allowing it to wield significant influence over the food sector. It is also primed for this action as ensuring food security is part of its strategic interests and it has recently identified "tackling the climate crisis" as one of its major priorities under the new administration. The DoD's top-down governance structure also allows it to be more directly controlled by the executive, making it the perfect candidate for interventions through an EO.



PROMOTE CLIMATE FRIENDLY FOOD ACROSS FEDERAL AGENCIES THROUGH THE FEDERAL ACQUISITION REGULATION

While the same scale of interventions as those at the DoD may not be feasible across other federal agencies, avenues for initial interventions exist that can pave the way for further action in the future. The Federal Acquisition Regulation (FAR), which regulates procurement policies across the federal government, is one such avenue. Currently, the FAR does not have any provisions for food sustainability and it includes only a few scattered mentions of environmental criteria as a metric of evaluating contract bids. Building in explicit references to food sustainability and tweaking the contract evaluation metrics to increase preference for climate-friendly food represent important initial steps in this process.



PROMOTE SUSTAINABLE FOOD INNOVATIONS

The federal government has the power to not only boost demand for healthy and sustainable food through its procurement policies but also to spur innovations that further advance these goals. Many sustainable food products and agricultural technologies are currently either nascent or underfunded. The federal government can support the development of the American sustainable food economy by purchasing existing products, providing subsidies, and supporting research in the development of new and innovative technologies. This would not only provide environmental benefits but would also contribute new job opportunities.



Department of Defense

The Department of Defense (DoD) has explicitly identified climate change as one of the most pressing threats to American national security at present. It is necessary that we take a multifaceted approach to combatting this threat to the security of our nation and our troops. As stated above, the food system is a significant contributor to GHG emissions and climate change. Furthermore, the DoD is a major purchaser of food. The DoD can be a leader in the market by altering its food procurement procedures in a manner that reduces GHG emissions to help combat climate change and reduce its threat to national security.

Revising food procurement policy is also an important step for the DoD to take in the interest of servicemember health and performance. It is crucial that the DoD examine the potential health benefits of diets with reduced meat and dairy products and increased plant-based foods. The health benefits of organically-produced foods should also be measured.

Achieving a reduction in procurement and distribution of industrially produced meat and dairy will involve varied approaches that the DoD will have to examine and select internally. Some bases, for instance, may be well-positioned to decrease the carbon footprint of their food procurement by sourcing their food from nearby farms and ranches. Others may take a different approach. The diversity of circumstances will promote a similar diversity of solutions that can be tested and measured for success.



Department of Defense

As our draft Executive Order stipulates, these changes should be made in phases. First, changes should be made so that the buying and menu guidelines comport with the goal of reducing GHG emissions from food procurement as well as the health of servicemembers. Current nutrition guidelines from the CDC should be taken into account. However, our draft EO also calls for studies into the health and performance effects of alternative diets. Once the DoD has the results of those studies, the buying and menu guidelines should be reformed again as necessary to reflect those findings.

The DoD must prioritize the health and performance of our servicemembers. However, nutritional science suggests that this can be achieved while also pursuing a reduction in GHG emissions from food procurement [27]. This reduction, like other measures to combat climate change, are also priorities for the DoD as it seeks to ensure national security.



Federal Acquisition Regulation

The Federal Acquisition Regulation (FAR) is a body of law that governs the broad scope of federal procurement across agencies, except for the Department of Defense, which is governed by the Defense Federal Acquisition Regulation (DFAR) [18]. The FAR covers procurement in general, meaning that food procurement falls under its purview.

The FAR contemplates environmental sustainability and has some requirements regarding minimum standards for goods procured by the federal government. However, these standards are insufficient. There is no explicit mention of food procurement and thus no consideration of GHG emissions from the same.

This administration, specifically the FAR Council, which is comprised of the administrator for Federal Procurement Policy, the Secretary of Defense, the Administrator of National Aeronautics and Space, and the Administrator of General Services, needs to examine what reforms can be made to the FAR to decrease GHG emissions from federal food procurement [19]. First, the reduction of GHG emissions from food procurement should be explicit policy. Second, the bidding process for food procurement contracts should be regulated such that the social cost of carbon is required to be factored into all bids. Finally, federal food vendors should be required to report in a transparent fashion their GHG emissions. Ideally, some of these steps will be taken for other items procured by the federal government under the FAR, but we believe that food procurement would be a good place to start.

Sustainable Food Innovations:

Creating a DARPA for Food & Climate



The food and agricultural sectors are ripe for innovation. Federal food procurement can accelerate technologies and business ventures in the government and private sector, which reduce GHG across the entire food value chain. In addition to mitigating deleterious environmental externalities in food production and distribution, investing in a climate-friendly food system will stimulate the economy and promote workforce development for the future.

In this section of the EO, we recommend the creation of an investment and incubation initiative called the Advanced Research Projects Agency for Food, or ARPA-F inspired (in name and function) by successful initiatives at the Department of Defense and Department of Energy. We also recommend research into innovations in market design, scaling of electronic transportation for food distribution, and workforce development for the rapidly changing future of food.

The Advanced Research Projects Agency for Food (ARPA-F) would research, fund, and provide technical support and market readiness to projects and startups with high potential and high impact in the food space. Similar programs (DARPA and ARPA-E) resulted in breakthrough technologies dramatically affecting National Security and Energy industries [21][22]. The ARPA-F would focus on accelerating innovations that reimagine food production and distribution for increased sustainability, equity, and economic opportunity. In order to meet these goals, the ARPA-F will reside within the USDA but will be staffed by a presidentially appointed Administrator as well as Secretaries of Defense and Energy in order to maintain objectivity and intersectionality of the initiative.

Sustainable Food Innovations:

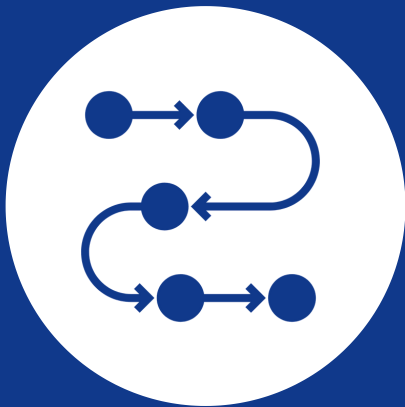
Market Design & Clean Transportation



Market design is a burgeoning field within economics and particularly well suited for innovations within federal food procurement. Much of federal food procurement relies on futures exchanges and auction bidding, which are focus areas of market design methodologies [23][24]. Further research in this field could prove fruitful to reduce the price of and increase the access to sustainable foods. For a federal food procurement system balancing the supply and demand for cheap and low carbon footprint foods, market design can reimagine the commodities market [25].

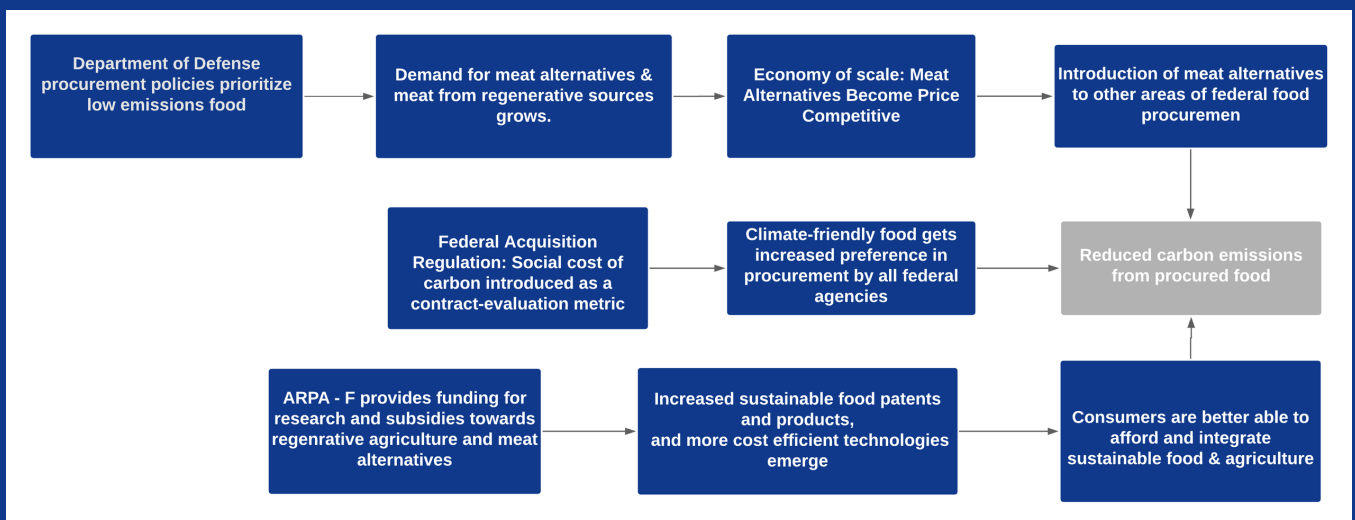
Clean transportation is another area of high impact that addresses the carbon footprint in our food system and builds on initiatives already advanced in different government agencies. According to the Institute for Electric Innovation and the Edison Electric Institute, there will be approximately 18.7 million electric vehicles on the roads in the United States by 2030 and many of them could be used to transport food across the country [26]. The federal government can stimulate and capitalize on this growth through the logistical demands within federal food procurement.

As jobs and workforce development are key political priorities of the Biden administration, and as the food, agriculture, and transportation sectors evolve, it is important to remain ahead of the curve. The EO would accomplish this in two ways. One, the government would study the effect of technology and innovation on the food proximate industries to best prepare future markets and jobs. Second, the EO focuses specifically on workforce development in order to transition the workforce towards sectors that contribute to the sustainability of the environment.



Expected Outcome:

The interventions we propose can have far-reaching consequences across the food and agriculture landscape in the United States.



By shifting procurement practices and government funding towards carbon-friendly food options and food from regenerative agriculture sources, the Federal government can not only reduce carbon emissions in procured food but also directly influence emissions across the food sector as a whole by creating demand for alternatives to industrially produced, carbon-intensive food. This will have the added benefits of promoting health and food security, environmental sustainability, and creating economic opportunities in support of a sustainable American economy.

Appendix:

Sample Executive Order

Executive Order on Reducing the Carbon Footprint in Federal Food Procurement while Promoting Health and Security, Environmental Sustainability, and Innovation

The United States and our fellow nations around the world face a profound climate crisis, and the food system is a significant contributor to greenhouse gas (GHG) emissions. As President and Commander in Chief of the Armed Forces, it is my responsibility to ensure that the federal government promotes food security, the health of American troops, the readiness of our supply chain, and the adjustment of federally-procured foods in a manner consistent with the federal government's climate agenda. As food production and services are critical to the American economy, I shall leverage federal food procurement in order to stimulate the economy and create jobs.

By the authority vested in me as President by the Constitution and the laws of the United States of America, it is hereby ordered as follows:

Section 101: Policy

It is the policy of my Administration that federal food procurement shall be altered to comport with the demands of supply-chain security, military readiness, climate considerations, and economic development. The United States will research the implications that a change in food procurement policy will have on these matters. The federal government will also move quickly to reduce its consumption of industrially-produced dairy and meat, including poultry and fish, in favor of foods that have a less exacting environmental cost in terms of carbon emissions and energy consumption. It shall be the policy of this Administration to reduce the carbon emissions from federally-procured food.

Section 102: Promoting Health and Security

(a) The Defense Department shall decrease its food-related carbon emissions by 30% by the end of 2025 and by 60% by the end of 2030.

(b) The Secretary of Defense shall make annual public disclosure of the Department of Defense's food-related carbon emissions.

Appendix:

Sample Executive Order

(c) The Department of Defense, together with the Office of the Surgeon General and the Centers for Disease Control and Prevention, shall by 2025 complete comprehensive studies of:

- (i) The health implications for soldiers consuming a reduced-meat diet, including the effects of partially substituting plant-based meat for meat and poultry and partially substituting oat milk for dairy milk;
- (ii) The cost implications of purchasing and supplying such a diet to the Armed Forces, including factors such as shipping, shelf-life, and storage requirements.

(e) No later than three months after the completion of the above-mentioned studies, the Department of Defense shall within one year complete another review and reform of its buying and menu guidelines to the greatest accordance possible with the recommendations of the studies; the Secretary of Defense shall make a public report on these reforms as soon as possible after review begins.

(f) The Defense Department shall reform its buying and menu guidelines to comport as soon as possible with the goal of reducing the purchasing and consumption of industrially-produced dairy, meat, poultry, and fish; the Secretary of Defense shall make a public report on these efforts as soon as possible.

(g) The Defense Department shall decrease its procurement and distribution of meat, including poultry and fish, and dairy.

(h) The Defense Department shall increase its procurement and distribution of meat alternatives and meat produced from small-scale regenerative agriculture sources.

Section 103: Promoting Environmental Sustainability Across All Federal Agencies

(a) All federal agencies except the Department of Defense shall reduce food-related carbon emissions by 30% by 2025 and 50% by 2030.

(b) The Environmental Protection Agency shall establish uniform standards for all federal agencies to calculate GHG emissions by the end of 2022.

(b) The members of the Federal Acquisition Regulation Council shall initiate reform efforts to:

- (i) include food sustainability and reduced food waste as explicit goals of federal food procurement policy;
- (ii) require that the social cost of carbon be factored into all federal food procurement bidding procedures;
- (iii) require vendor transparency as to carbon emissions related to food supply;

Appendix:

Sample Executive Order

Section 104: Promoting Jobs and Innovation in the Sustainable Food and Agriculture Industries

- (a) The Department of Agriculture shall create the Advanced Research Projects Agency for Food, or ARPA-F, which shall:
 - (i) Be supervised by an Administrator who shall have experience or substantial training with renewable agriculture, meat alternatives, or other sustainable food development
 - (ii) The Administrator of ARPA-F shall be appointed by the President and shall operate in coordination with a committee of appointees by the Secretaries of Energy and Defense as well as the Administrator of the Environmental Protection and Surgeon General, which appointees shall be under-secretaries or the equivalent.
- (b) ARPA-F will fund projects by American firms that create jobs, develop and improve food production with reduced carbon emissions, including regenerative agriculture, plant-based meat alternatives, cell-grown meat, and non-dairy milk and cheese alternatives.
- (c) The Administrator of ARPA-F, in conjunction with the Committee, shall produce annual public reports on the progress of any projects.
- (d) Investigate and promote the use of market design to reduce the price of sustainable food commodities:
 - (i) Review and expand the use of futures exchanges and auctions for sustainably grown foods.
- (e) Establish a task force to scale electric-powered transportation for federal food.
- (f) Study the impact of innovation and technology on the workforce in order to increase workforce opportunities and preparedness in the food, food service, and agriculture sectors.

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The CAFE Lab’s mission is to develop novel strategies to compel industrial food producers to pay the currently uncounted, externalized costs of industrial agriculture for people, animals, and the environment. For more information about the Program and the CAFE Lab and to access its publications, please visit: law.yale.edu/animals.

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