

**Congress of the United States**  
**Washington, DC 20515**

September 17, 2019

The Honorable Gene L. Dodaro  
Comptroller General of the United States  
U.S. Government Accountability Office  
441 G Street, NW  
Washington, D.C. 20548

Dear Mr. Dodaro:

As the U.S. seeks to reduce greenhouse gas emissions, we are seeking GAO's help in assessing agriculture's role in promoting proper environmental stewardship. Farmers play a key role in promoting soil health, reducing surface runoff, and storing carbon. It would be useful to examine how effectively the government's efforts are encouraging these actions and what more can be done.

In 2017, the U.S. agriculture sector accounted for 8.4 percent of U.S. greenhouse gas emissions. However, agriculture also provides unique opportunities for removing greenhouse gases from the atmosphere by capturing atmospheric carbon dioxide and storing it within plants or soil, known as biological carbon sequestration. For example, agricultural practices that reduce greenhouse gas emissions or store carbon include no-till farming and the use of cover crops. Storing carbon in soil can offset greenhouse gas emissions from other sources, and it provides both environmental and agricultural production benefits, such as increased soil quality and crop yields and decreased water and fertilizer use. The U.S. Department of Agriculture's (USDA) Agricultural Research Service estimates that U.S. agricultural soils currently store 20 million metric tons of carbon and an additional 180 million metric tons could be stored. Additionally, energy-efficiency and renewable energy generation strategies in the agricultural sector can help to further reduce greenhouse gas emissions. According to the 2017 Census of Agriculture, the number of U.S. farms with renewable energy systems doubled from 2012 to 2017.

Land grant universities have an important role to play. Universities, including land grants, are among the leaders setting net zero energy and carbon neutrality goals. Through National Institute of Food and Agriculture programs, such as the Agriculture and Food Research Initiative, university researchers are finding new ways to address increasing variability of climatic conditions. In addition, Extension agents play a critical role in deploying that research to farmers on the ground.

USDA also has a suite of voluntary conservation programs that aid farmers in incorporating conservation practices on their farms, as well as ten USDA Climate Hubs across the country. The 2018 Farm Bill also included a new Soil Health Demonstration Trial that will encourage farmers to adopt and measure soil health practices that sequester carbon. Additionally, USDA has established the Greenhouse gas Reduction through Agricultural Carbon Enhancement network (GRACEnet) research program to identify and develop improved management practices to

decrease greenhouse gas emissions and enhance carbon sequestration in soils. One goal of this research program is to provide the scientific basis for an agricultural market-based emissions trading plan. The Rural Energy for America Program helps farmers and other businesses invest in renewable energy systems.

Given agriculture's potential capacity for reducing greenhouse gas emissions and storing carbon through biological carbon sequestration, we request GAO's assistance in addressing the following questions:

1. What actions has USDA taken and what additional actions could USDA take to encourage greenhouse gas emission reduction and carbon sequestration practices in the agricultural sector, including the status of USDA's Climate Hubs, USDA's Building Blocks for Climate Smart Agriculture and Forestry framework, efforts to identify techniques and technologies at the National Institute of Food and Agriculture, and partnerships with external stakeholders?
2. To what extent is the U.S. agriculture sector implementing practices that reduce greenhouse gas emissions and sequester carbon, and to what extent do economic drivers impact farmers' implementation of these practices?
3. What are the potential benefits and challenges of agricultural carbon markets and emissions trading plans?
4. What steps can be taken to ensure that markets are based on recognizing the intrinsic value of carbon so that there might be options for alternative carbon use and long-term sustainability?
5. What actions has USDA taken and what additional actions could USDA take to develop technologies and techniques necessary for the implementation of an agricultural carbon market, including alternative uses for captured carbon and techniques to measure carbon stored in soil?
6. What actions has USDA taken and what additional actions could USDA take to encourage net zero energy buildings in the agricultural sector, including on farms and at land grant universities?

If you have any questions, please contact Kelliann Blazek (Rep. Pingree) at [kelliann.blazek@mail.house.gov](mailto:kelliann.blazek@mail.house.gov) or Alan Feyerherm (Rep. Fortenberry) at [alan.feyerherm@mail.house.gov](mailto:alan.feyerherm@mail.house.gov). Thank you for your assistance in this matter.

Sincerely,



Chellie Pingree  
Member of Congress



Jeff Fortenberry  
Member of Congress