



June 22, 2020

Senator Debbie Stabenow  
Ranking Member  
Senate Committee on Agriculture, Nutrition and Forestry  
328-A Russell Senate Office Building  
Washington, DC 20510

Dear Ranking Member Stabenow:

Thank you for the opportunity to provide comments for the Senate Committee on Agriculture, Nutrition and Forestry's legislative hearing to review the Growing Climate Solutions Act (GCSA), S. 3894.

Agriculture is uniquely positioned to address climate mitigation and implement climate resilient strategies through on-farm conservation practices that have on-farm and societal benefits beyond climate mitigation. Climate smart agriculture can sequester soil carbon, thereby increasing the largest carbon sink – the terrestrial sink – while also improving water quality and water use efficiency. The Ecosystem Service Market Consortium (ESMC) and our members are working to scale climate smart agriculture across the US to increase agricultural resilience in a manner that is economically beneficial to farmers. Our market approach is not prescriptive; it allows individual farmers and ranchers to make the choices that fit best within their farming operation.

### **Ecosystem Service Market Consortium**

ESMC's mission is to advance ecosystem service markets that incentivize farmers and ranchers to improve soil health systems that benefit society. ESMC is a member-based organization launching a national scale ecosystem services market for agriculture to recognize and financially reward farmers and ranchers for their environmental services to society. ESMC members represent the spectrum of the agricultural sector supply chain with whom we are scaling sustainable agricultural sector outcomes, including increased soil carbon, reduced net greenhouse gases (GHG), and improved water quality and water use conservation.

ESMC's program will enable farmers and ranchers to voluntarily adjust crop and livestock production systems in ways that increase soil carbon sequestration and retention, improve water quality, conserve water use, and provide many additional ecosystem service outcomes. ESMC's program allows producers to choose only those changes they desire to undertake, and as few or as many as they select, with the understanding that they will be paid based on outcomes, and the more impact change we can quantify each year, the greater their payments for credits generated.

The program is currently operating in full piloting and deployment stage prior to official market launch in 2022.

ESMCs innovative market quantifies ecosystem services impacts in a science-based, standards-based, verified and soon-to-be certified program and monetizes the impacts as ecosystem services credits or assets of value to demand side buyers. Our program meets multiple, heterogeneous market needs, rather than just one, and creates stacked benefits allowing multiple payments for multiple credits, including for soil carbon, net GHG, water quality and water quantity. Farmers and ranchers are paid for beneficial outcomes, and the attributes or credits are sold in a national ecosystem services market to entities seeking to reduce their indirect environmental impacts.

The ESMC program was designed and conceived exclusively for the agriculture sector, after careful analysis and consideration of challenges in current and past carbon and other ecosystem service markets that have not scaled opportunities for the sector. ESMC is making programmatic and technically advanced investments to scale measurable, verified ecosystem services and climate mitigation improvements based on economically viable farm practices. Practices adopted by farmers must make agronomic sense for farming operations, allow for continued crop and livestock production, and be economically feasible -- not costing farmers more than the potential benefits to them. For ecosystem services markets, understanding which practices reduce GHG or increase sequestration is important, but impacts of any given practice can be variable across different production systems and different geographies and climates in the U.S. In the agriculture sector major challenges have included finding systems-based approaches that can be tailored to the unique needs of farmers and ranchers in highly variable and diverse geographies and with diverse systems; and ensuring flexibility while encouraging innovation. Addressing the economics and the economic impacts to farmers and ranchers is also challenging given the dearth of data and the difficulty in tracking and analyzing it.

ESMC's full-scale pilot testing now underway will include feedback from farmers and ranchers to allow us to understand the economics of the farming operations as well as the market pricing for credit/certificate purchasers which all figure to allow for the future success of the program and ability to scale our reach, and impacts.

## **Farm Bill**

This Committee's work on the Farm Bill established a base for many of the ongoing efforts to quantify the ecosystem benefits of voluntary conservation practices and can provide data and information to support successful ecosystem markets. USDA's voluntary incentive-based conservation programs provide conservation technical and financial assistance that can support individual farmer adoption of conservation practices. The Agricultural Conservation Easement Program, Conservation Stewardship Program, the Environmental Quality Incentives Program and the Regional Conservation Partnership Program each provide tools to farmers, including

financial cost sharing and technical assistance to expand adoption of conservation practices that sequester carbon, reduce greenhouse gases and improve water quality and water use efficiency. These programs require farmers to share in the cost of the practice with USDA financial assistance covering a portion of the practice cost.

The Farm Bill's establishment of the Foundation for Food and Agriculture Research (FFAR) and research funding is being matched dollar for dollar with private sector funding to advance innovative research and understanding of agricultural systems to enable viable ecosystem service markets built specifically to reward and recognize the impacts of sustainable farming and ranching. USDA grants, leveraging private matching funds, enable wide ranging research, development, demonstration and deployment of technologies and applications to scale U.S. based carbon sequestration efforts. FFAR-funded research will help develop, demonstrate and deploy technologies to better quantify, monitor and verify the environmental impacts of agricultural producers' conservation efforts to recognize and pay them through an ecosystem services marketplace.

### **Growing Climate Solutions Act**

ESMC would like to thank Committee members Senators Braun and Stabenow and Senators Graham and Whitehouse for introducing the GCSA. As the Committee reviews GCSA and other proposals, an underlying principle of any policy action should be to not adversely impact private activities and private markets advancing agricultural sector participation in, and payment for, carbon sequestration and environmental services. Significant efforts are underway by ESMC and the private sector to further develop private markets focusing on providing soil carbon sequestration, reduced net GHG, and water quality and water quantity credit sales to recognize and reward farmers and ranchers for their services. Private markets operating at scale can do so in a manner that produces the highest carbon sequestration in a cost effective, efficient manner. Any policy that Congress develops must allow for and recognize the existing private markets and not adversely interfere or duplicate private sector efforts. Private sector markets can operate at a lower cost than Federal Government programs.

The GCSA will result in a cadre of technical providers that growers can rely on to assist them with participation in voluntary ecosystem markets. Creating a recognized and certified group of technical service providers and verifiers ensures that growers have access to resources they need to facilitate entry into markets, and that these service professionals have training and expertise in agriculture and forestry practices and markets. Building the capacity of service professionals that understand agriculture and forestry land management market opportunities, protocols and standards will support ecosystem markets operation at scale. Ecosystem service markets suffer from a lack of appropriately trained technical assistance and verification professionals with agricultural expertise. This bill would help to rectify that problem and ensure that certification of these professionals remains current.

As Congress continues to discuss agriculture's role in climate policy and the GCSA, legislative efforts should allow for the continued development and success of private sector markets and not place the federal government into a role that competes with the private markets. The government's role should be to provide science-based data and information to ensure private markets have access to the best scientific and agricultural sector data available.

ESMC suggests the Committee eliminate certain provisions of GCSA that even upon introduction have caused confusion due to duplicating private sector market activities and roles that do not require and will not benefit from redundant efforts. Specifically, the GCSA in *SECTION 1240N (d) Standards* directs the USDA to "publish a list and description of standards that are taken from widely used industry protocols for greenhouse gas credit markets (including calculations, sampling methodologies, accounting principles, systems for verification, monitoring, and reporting, and methods to account for additionality, permanence, and leakage, and avoidance of double counting; where appropriate) that covered entities registered under the Program shall maintain expertise in and adhere to, as appropriate." These standards are maintained by market registries with long-standing expertise and global recognition, and USDA need only indicate a need for certified technical assistance providers and certifiers to remain current with these standards. Standards for certified verifiers already exist in these markets; what is largely missing from them is adequate representation of certified verifiers with agricultural sector expertise, which the legislation can and should remedy, without engaging in any efforts to set or duplicate the standards of the markets.

ESMC suggests below several new and supporting provisions of the bill that can be added to tap USDA data and scientific expertise in support of improved quantification of ecosystem service impacts from agriculture. ESMC encourages Congress to ensure that USDA make available research data and data sets that can improve all quantification process models utilized in this space, rather than making data available to only select model developers or tool developers. Within USDA there are multiple GHG quantification and water quality models preferred for different uses and by different agencies; rather than making USDA data available for only certain tools or models, Congress should direct USDA to make data available for all quantification models, and should standardize the way the data is collected and publicly shared to ensure that publicly-funded actions benefit the broadest potential audience of users working to benefit the agricultural sector constituency.

ESMC supports the use of process based GHG and water quality quantification models as the basis and the key to advanced, cost-effective impact quantification at scale. The private sector can continue to provide leadership in developing and improving science-based quantification models; USDA should develop guidelines to guide publicly funded academic and industry research to ensure the resulting data is standardized, accessible, and usable to any modeler or researcher. Continued public investments in this important arena serve both public and private constituencies of USDA, many of whom are ESMC members, partners, collaborators and stakeholders. ESMC's success, like the success of any market-based and outcome-based

program, relies upon the soundness and transparency of science underlying its quantification protocols and methodologies. Sound quantification protocols and methodologies allow for reliable, credible, transparent ecosystem service credit generation, which in turn engenders trust in market-based programs seeking to improve the GHG and environmental performance and impacts of US agriculture.

### **USDA Resources and Expertise in Support of Ecosystem Services Quantification**

There are additional roles that USDA can undertake to standardize criteria, technical guidance and data collection to support ecosystem markets. USDA leadership can harmonize and standardize criteria utilized by public and private modeling communities to improve rigor and outcomes for all GHG and water quality models. Process-based GHG quantification and water quality models should be used as the basis and the key to advanced, cost-effective quantification of impacts and outcomes at scale. These models can be improved if the modeling community unifies behind standardized criteria for data to calibrate and validate such models, including criteria for how data that is used to populate and run the models should be collected. USDA technical guidelines should encourage and perhaps support the development of an open-source, national research data set repository(ies) to enable calibration and validation of all processed-based GHG and water quality models. To this end, the technical guidelines should set transparent, standardized, and flexible criteria and protocols for data collection, formatting, storage, and access to ensure that modelers have access to consistent, harmonized, high-quality data to improve process-based models.

Additionally, criteria for soil sampling and data collection is not uniform or uniformly agreed to, even within USDA or among soil scientists. These criteria and protocols should include, among other things, criteria and guidelines for soil sampling frequency, depth increments, and analysis requirements; and for data collection, formatting, entry, and quality control, including automation wherever and whenever possible to remove human error. Also, even soil carbon sampling data that is publicly funded is not available to private sector modelers to calibrate and validate their tools, even when being utilized to benefit US farmers and ranchers.

Finally, and as important, ESMC recommends that USDA not select specific tools or models to utilize in estimating or measuring GHG emissions and emissions reductions and increased sequestration from agriculture, but instead provide leadership across all sectors in developing standardized criteria that are applicable to the accurate and appropriate use of models or tools for market-based purposes as well as other non-market purposes, such as USDA assessment of conservation program outcomes.

Public and private sector work to better quantify and track environmental impacts of agricultural practices is ongoing. There continues to be a need for more scientific data on GHG and economic impacts of various agricultural production systems in varied geographies to better advise farmers and ranchers how to achieve desired outcomes cost-effectively. USDA could

provide aggregated data on conservation practice adoption and management systems to better inform the markets and project developers to support dedicated efforts to better scale impact. Continued and improved tracking and reporting by USDA of practices and management systems utilized by farmers and ranchers in different geographies would benefit ESMC and all outcomes-based monitoring approaches by allowing the creating and tracking of baselines and changes in adoption and rates of adoption that can impact change at scale. As policies and programs are reviewed, ESMC encourages the Senate to consider enhanced funding and structure of programs to collect and report data in an aggregated manner that allows for continued improvement in understanding agricultural production systems, environmental outcomes and economics of incorporating practices and changes to management systems.

Thank you for holding a hearing on this bill and facilitating the discussion on agriculture's role in providing solutions on climate issues.

Sincerely,



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