

Ecosystem Services Market Consortium

Comments to the House Energy and Commerce Committee



What are the key policy, regulatory, and market consideration that should inform the development of comprehensive climate legislation? Please provide specifics.

The Ecosystem Services Market (ESM) program is a new, agricultural scale ecosystem service market-based program. The ESM program is working to measure three important soil health attributes: soil carbon and net GHG impacts; water quality; and water quantity. ESM is designing a program that works for farmers to sequester carbon and to reduce net GHG through agricultural practices. Better data and greater access to USDA and other data from government programs, as well as access to scientific expertise are needed to help support the development of and expansion of this program.

Crafting measurable, verified conservation improvements based on economically viable farm practices has been challenging in carbon and other ecosystem services markets. 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. Pilot testing, feedback from farmers, and understanding the economics for farming operations as well as the market pricing for credit/certificate purchasers all figure into the future success of the program and ability to scale, and scale impacts.

The impacts of improved ecosystem services include increased agricultural sustainability and resilience, enhanced natural resource stewardship, improved water quality and water conservation, and climate change mitigation and adaptation.

Please describe any innovative concepts for climate policy design, including both sector-specific and economywide measures, that you believe the Committee should consider.

Any federal policy impacting agriculture should recognize that agricultural production systems across the U.S. are highly variable and highly managed to deal with weather, climate, pests and diseases as well as market issues; effective policies must encourage flexibility, adaptation and must not restrict innovation to be successfully adopted and maintained. Technology and innovation are thriving in the agriculture sector, and as farmers and ranchers embrace and adopt technology that leads to greater

efficiencies in agriculture production and resource use, additional positive impacts can and will be generated.

Policies must focus on voluntary conservation adoption, and continued support of programs that work cooperatively with farmers and ranchers to adopt conservation practices is necessary. Farmers should retain rights to any carbon, GHG, water quality, or water quantity credit that may be generated from adopting these practices regardless of whether program support is provided.

Policy should allow for and support private ecosystem services markets that are in development to continue to operate based on transparent, science-based and standards-based protocols and requirements that have been spelled out in each market and agreed to by all participants in that market.

If you work in, advise, or are familiar with sectors that are particularly challenging to decarbonize, have you identified any effective (and scalable) solutions that should be included in comprehensive climate legislation?

Within the agricultural sector, solutions must provide feedback to farmers and ranchers to show the benefits to them in order to be effective, scalable, and durable. To effectively increase soil carbon sequestration and reduce net GHG, they must also be science-based, measured, and outcomes-based, and meet the needs of the corporate supply chain partners and buyers of agricultural products and commodities. The ESMC is building a solutions-based program that meets all those needs and that can track impacts over time, and track specific systems-based impacts to specific systems-based improvements. New sensor-based and remote technologies that can improve measurements of changes in GHG and increased soil carbon are in the investment and development phase, and deployment and pilot testing will be necessary to scale. Support to continue to build and field test a national-scale, compatible system that achieves these critical outcomes is needed to ensure that we have the tools to deliver measured outcomes demanded by society.

If your organization has adopted carbon pollution reduction goals, how have those goals – or your plans to meet those goals – evolved of the last decade?

ESMC's goal is to launch a national ecosystem services market place for agriculture in 2022. This will be a marketplace built for farmers and ranchers. ESMCs goal is to enroll 30 percent of available land in the top four crop regions and top four pasture regions to impact 250 million acres by 2030. We are developing tailored protocols for all major US agricultural production systems in all geographies, and are adapting each to accommodate these highly variable systems, and pilot testing each as we expand. Our goal is to effect change by creating additional ambition among farmers and ranches as well as corporate supply chain partners by taking on the task of tool development that can provide the feedback and support needed by farmers and ranchers to continue to improve; and by corporates and buyers to continue to buy. The greatest evolution of our goals has been in the area of further linking supply side and demand side needs to ensure scalable outcomes that will last and continue to evolve over time as tools, technologies and science continue to improve our understanding.

If applicable, what actions has your organization already taken, or do you plan to take, to reduce carbon pollution?

ESMC developed a first edition protocol to address three environmental attributes: soil carbon sequestration / net greenhouse gases, water quality and water quantity. Each attribute allows participating ranchers and farmers to generate saleable assets as a result of soil health and other agricultural improvements within their operations.

Our base protocol, specifically developed for agricultural production systems in the Southern Great Plains, describes the process that ranchers and farmers participating in the ESM Program must follow to generate saleable assets in an ecosystem services market. ESMCs role is to quantify, monitor, report, verify, and register the environmental assets or credits generated by their activities. Generated environmental assets range from certificates to credits and are intended to be compatible with corporate reporting requirements and existing ecosystem services markets. Our system will offer the tools to suppliers and buyers that will ensure increased ambition and scalable impacts.

ESMC's Protocol is designed to meet the needs of farmers, ranchers, and potential buyers considering participation; the protocol monetizes all three environmental attributes through a singular point of entry. Potential buyers will have access to GHG, water quality, and water quantity assets generated through a scientifically rigorous and cost-effective process to meet corporate sustainability and reporting standards or to meet existing voluntary carbon markets or compliance grade water markets.

Pilot testing of ESMC's integrated ecosystem protocol is underway on 50,000 acres of rangeland and farmland in Texas and Oklahoma. This initial test is part of a land stewardship pilot, which is focused on development of a cause and effect assessment of agricultural production system management practices on environmental and economic outcomes. Future ESM pilot plans include the Midwest corn/soy region and at least 2 other major production systems and geographies in 2020, with expansion into at least 6 in 2021. By the 2022 market launch, the program will encompass all major agricultural production systems and geographies in the United States.

ESMC is working now with the Natural Resources Conservation Service (NRCS), to develop protocols in order to launch pilot projects in four additional regions beyond our first pilot in the Texas/Oklahoma Southern Great Plains. Four additional regions and agricultural production systems for study will be identified for evaluation and development of systems-based protocols to quantify ecosystem impacts including soil organic carbon, greenhouse gas emissions, water quality and water use efficiency.

We are currently developing the protocol for the Soy and Corn Belt. ESMC will work in 2020 with soybean farmers in Illinois, Indiana, Iowa, Minnesota, Missouri, Nebraska and Ohio in a pilot project covering 50,000 acres.

What have been the challenges or barriers to making meaningful carbon pollution reductions, and how have you responded to those challenges or barriers?

Agricultural producers are adopting conservation practices and utilizing new tools and technologies to sequester carbon in soil and to reduce methane and nitrous oxide emissions. 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. A significant challenge remains in developing scalable and economically feasible measurement and verification systems that can measure, monitor and track impacts to ensure desired outcomes in a transparent but scientifically rigorous manner. ESMC has developed protocols to quantify soil carbon, net GHG, water quality and water quantity; and we are pilot testing the protocol in the Southern Great Plains and beginning to expand to other regions of the country and additional cropping systems. Creating a friction-less system that is practice neutral and yet can impact desired change in a national-scale approach that utilizes harmonized metrics is important to achieving scale. Addressing the economics and the economic impacts to farmers and ranchers is also challenging given the dearth of data and the difficulty in tracking it. Finally, more scientific data on GHG impacts of various agricultural production systems in varied geographies is required to better advise farmers and ranchers how to achieve desired outcomes cost-effectively.

How can the Federal Government assist you in reducing carbon pollution?

Access to federal Government research and data, especially data and research conducted by the U.S. Department of Agriculture, can be instrumental to help facilitate development of a science-based, transparent system to scale GHG mitigation within the agricultural sector. Research and development of soil-based sensors to track changes in GHG in soils underway at the Department of Energy / ARPA-E should also continue, since it can help to cost-effectively scale GHG mitigation in agriculture at a faster pace than has been possible to date.

USDA Natural Resources Conservation Service voluntary conservation programs have been and continue to be important programs for working directly with farmers and ranchers to adopt conservation practices on their farming operations. 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.

Are there any additional comments or feedback you would like to add?