Agri-Climate Solutions for Maryland’s Eastern Shore

For far too long, prevailing conventional wisdom has been that environmentalists and farmers will always be at odds over the impact of government policies, oversight, and regulation. It’s time to change that.

By adopting a collaborative approach to these issues, we can think with imagination and innovation about the ways that our agricultural communities can be a part of our climate solutions and how farmers can benefit from these practices.

We need a strategy that supports our farmers as they deal with the negative effects of climate change and one that also supports the agricultural practices that will help address the severe, immediate climate crisis that we all face.

Maryland—and especially the Eastern Shore—is highly vulnerable to the current and future effects of climate change. When it comes to rising sea levels, our region has the dual misfortune of the threat of rising waters of the Chesapeake Bay and its tributaries as well as sinking land. Our farmers stand to lose the most if we fail to act on the threats of saltwater intrusion, coastal flooding, and severe weather events—but our vibrant agricultural community also stands to benefit the most when we think creatively about how to partner for success.

Creating a National Soil Health Initiative

Successful agricultural communities depend on the quality and health of the soil that is feeding their crops. As the effects of climate change are dramatically impacting soil conditions, we must get ahead of the curve on mitigating these challenges by supporting a robust and visionary plan to create a new project called the National Soil Health Initiative (NSHI) through the USDA that would address the problems of saltwater intrusion, reform key conservation programs, and leverage greater use of carbon farming which can boost soil health and store carbon in the soil, positively impact the climate crisis, and contribute to agricultural resilience. This project could begin as a pilot program for the Delmarva / Chesapeake Bay region to prove its benefits before rolling it out as a national program.
Farming Carbon: Soil-Based Sequestration

While certain agricultural practices can release net carbon emissions, others do the opposite by sequestering carbon from the atmosphere into the soil. Scientists estimate that each year, soils could sequester over a billion extra tons of carbon.¹ However, we must support the implementation and continuation of carbon storing practices to achieve maximum soil carbon outcomes.

There is a growing carbon credit market providing an opportunity for farmers to get paid for mitigating the effects of climate change through soil-based carbon sequestration.²

Large corporations who want to offset their carbon footprint are in the market to buy carbon credits. Farmers generate carbon credits they can sell in this marketplace when they go through the process of certifying and calculating the carbon they store in the soil through practices using cover crops, diversified crop rotation, use of natural inputs such as compost, conversion to perennial grasses and other conservation cover, reducing chemical inputs, and pastured rotational animal production, to name a few.³

To address this potential, the NSHI will invest in research to test and identify optimal carbon storage practices and will facilitate the tracking and measurement of organic matter and soil carbon to help drive best practices and maximize participation in carbon markets. The program will assist with the transition to and continuation of practices which achieve optimal per-acre carbon storage.

The National Soil Health Initiative will expand and scale opportunities for more farms to sequester carbon in the soil by providing:

- **Technical assistance** and educational resources for land managers and farmers seeking to measure their carbon sequestration efforts and to learn techniques that are best suited for their land and which will optimize soil carbon storage.
- **Financial incentives** that will drive adoption (including transition costs, financial risk management, and grants for equipment needs). The USDA will explore utilizing the Commodity Credit Corporation to pilot best practices that store carbon in soil, utilizing an outcomes-based rather than performance-based framework for incentive payments.
- **Research & Development** that will set a centralized, coordinated, and expanded research vision for this work within the USDA.
- **Technology incentives** for equipment modification so that compost turners, roller-crimpers, no-till vegetable seeders, flame weeder, and other necessary tools for regenerative farming practices are available and affordable for mid/small-sized farms.

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² There are already good proposals pending in Congress to support this third-party, private sector model. One approach worth exploring is Senator Mike Braun’s (R-IN) Growing Climate Solutions Act, which would authorize the USDA to establish a voluntary Greenhouse Gas Technical Assistance Provider and Third-Party Verifier Certification Program to help reduce entry barriers into voluntary environmental credit markets for farmers, ranchers, and private forest landowners.

³ Carbon markets are not a future fantasy. We have already seen this process at work on the Eastern Shore. In Kent County, Harborview Farms was recently paid $120,000 for carbon credits they generated for sequestering an estimated 8,000 tons of carbon over a three-year period on 4,000 acres they have so far dedicated for this work.
**Measurement, monitoring, and verification** will be improved through new processes, standards, software technologies, and data inventories through robust soil surveys needed to advance soil carbon science. Critically important soil health parameters such as organic matter and soil carbon will be measured and verified.

**Reforming Conservation Programs**
The USDA has an alphabet soup of programs that collectively work to conserve land by compensating farmers and landowners who voluntarily engage in conservation practices. The NSHI will advance some key reforms to these programs by:

- Increasing rental payments under the Conservation Reserve Program (CRP) for projects tied to climate-conscious practices that focus on increasing organic matter, soil carbon, and soil health as well as better management of nutrient runoff into waterways. CRP will also add educational and technical assistance programs to inform landowners of available programs and assist with participation and enrollment.
- Updating the Environmental Quality Incentives Program (EQIP) and Conservation Stewardship Program (CSP) to give weighted priority to projects devoted to soil-boosting practices which provide optimal per-acre carbon storage outcomes.
- Using the Conservation Reserve Enhancement Program (CREP) to provide federal bonus payments to farmers enrolled in state cover crop programs, effectively leveraging additional state funds for this purpose and maximizing enrollment in existing state cover crop programs. CREP will also authorize incentive payments for rewarding best practices in measured outcomes for soil carbon storage.
- Amending conservation programs to put an increased emphasis on helping farmers create individualized soil health plans, including plans for soil carbon storage.
- Amending conservation programs to allow farmers to receive rental payments for land that is no longer suitable for agriculture because of saltwater intrusion if they install some form of alternative and sustainable energy source on that marginal land.

**Boosting Technical Assistance and Decreasing Administrative Burdens**
USDA programs supporting soil health and soil carbon storage, education, and assistance are underfunded and oversubscribed. There is a significant need for more federal investment in technical assistance and support throughout all USDA programs to meet the growing demand. The Natural Resources Conservation Service and its Soil Conservation Districts is just one example of where we must invest in more technical assistance offerings to help farmers implement robust soil health plans that are envisioned under the NSHI. In addition to program expansion, the NSHI is dedicated to decreasing administrative burdens that can limit access and engagement in these programs.

**Addressing Saltwater Intrusion**
In addition to severe weather events, rising sea levels also pose a significant threat to our farming traditions as saltwater intrusion dramatically impacts growing conditions. As saltwater leaches from the Bay onto our fields and into our aquifers, the rising salinity level in the soil makes it challenging to grow an array of cash crops that have become staples for our region.

To address these challenges, the NSHI will invest in research to test and determine which cash crops are most capable of withstanding salty soils and periodic flooding; track salinity changes over time in groundwater wells and surface water; and map these areas as a way to highlight
where it will be most cost-effective to implement adaptation measures such as planting salt-tolerant crops. The NSHI will also make changes to existing conservation programs to inform landowners of available programs and ease transition of impacted farmland to marsh fields that will protect biodiversity and improve carbon storage.

**Crop Insurance: Keeping it Affordable and Rewarding Good Climate Practices**

The Federal Crop Insurance Program (FCIP) protects farmers from the impacts of unpredictable weather but as insurance claims increase because of severe weather events, farmers may be faced with higher premiums to keep the program solvent. The USDA projects that the severity of predicted climate change could cause FCIP costs to increase by up to 22 percent. We must ensure that farmers are not bearing the burden of these increased costs through higher premiums for their crop insurance. A better approach is to make fossil fuel companies pay for climate mitigation and devote a portion of that funding towards FCIP solvency.

In addition to keeping crop insurance premiums from rising, the USDA should reward farmers with lower FCIP premiums if they are using best practices to make crops more resilient against severe weather.

Farmers who increase organic matter and carbon in the soil can produce more climate resilient crops, which withstand the extreme and unpredictable swings between drought and heavy rains. These practices contribute to more resilient yields and reduced federal crop insurance claims; however, the USDA gives no consideration to whether a farmer deploys these practices when determining crop insurance premiums. By modernizing this program to give farmers credit for good climate practices through lowered FCIP premiums, the USDA would create an incentive that is good for the farmer as well as the land.

**Transforming Poultry Litter Into Biofuel and Potting Soil**

The Eastern Shore is home to some of the highest concentrations of broilers in the country with the poultry industry employing thousands of Marylanders in our region. For decades, excessive chicken litter was applied directly to agricultural fields, resulting in high nutrient levels in the Bay, algae blooms, and dead zones. How to properly manage excess poultry litter has been an ongoing challenge for our region, but an innovative public-private partnership may offer a sustainable solution to this problem.

Planet Found Energy Development is a Maryland-based company of scientists, farmers, and business leaders dedicated to developing manure management technologies that will safeguard

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4 Saltwater intrusion expert and University Maryland professor Kate Tully has researched the threats posed to the Eastern Shore. The NSHI would provide more resources to researchers like her to identify areas at risk of saltwater intrusion and explore innovative solutions to managing intruded land.


6 This idea would be a new dedicated use for Senator Chris Van Hollen’s (D-MD) Polluters Pay Climate Fund Act.
the environment as well as the economic viability of our agricultural communities in the Chesapeake Bay Region. Planet Found has built a patent-pending system for treating poultry litter and converting it into renewable energy, potting soils, and fertilizers while eliminating liquid discharge. In the process, the majority of phosphorus introduced to the system is captured as a phosphorus-based fertilizer, removing it from the nutrient cycle in sensitive agricultural and ecological environments.

This project is currently being piloted on the Lower Shore in Pocomoke City. As innovations like this one come to market, there is an opportunity to use agricultural technology to solve some of the most stubborn environmental challenges created by certain farming practices. Reducing agricultural runoff into our waterways and lowering our phosphorus nutrient loads will dramatically improve the health of our Chesapeake Bay. Doing so by investing in and scaling up technologies that transform poultry litter into value-added products for commercial sale is a win-win-win.

This Agri-Climate plan envisions a world where Eastern Shore- and Maryland-based companies with next generation solutions to agricultural and environmental challenges benefit from strong public sector support and advocacy. To start, we must make sure we compete for our fair share of $250 million in new federal grants that will soon be administered through the Region III EPA Office specifically targeted to helping with the goal of cleaning the Chesapeake Bay.\(^7\)

Send a Farmer-Conservationist to Congress to Represent You

I come from a long line of family farmers. Agriculture and the love of land runs deep in my DNA.

Driving a combine with my uncles through the corn fields or watching the loader fill the bean wagons are images of my youth that I cherish. I spent my middle and high school summers working in the fields each season as a detasseler for a seed corn company to save money for college. Friends have always joked, “you can take Heather out of the cornfields, but you can’t take the cornfields out of Heather.”

For the past ten years, my spouse and I have owned a small 34-acre organic farm in Kent County that is our forever home. We see ourselves as stewards and work to always be in right relationship to the land and its habitats and ecosystems.

It is in the spirit of a farmer-conservationist that I sponsored a roundtable discussion which gathered local stakeholders ranging from farmers and environmentalists to academics, non-profit leaders, and industry entrepreneurs to discuss ideas for how agricultural policies can partner to help solve our climate crisis.

This Agri-Climate plan is the result of this collaboration. I am dedicated to delivering representation to our Congressional district that truly listens, seeks input from all stakeholders,\(^7\)

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and generates policy solutions that will advance exciting and innovative solutions to solve some of our biggest challenges. I am a skilled legislator who knows how to turn a plan into action, ideas into law. I am ready to be your Congresswoman.