

The items listed below are for consideration and discussion, not final recommendations. The intent is for them to be vetted by stakeholders, municipalities and the public to identify the actions that will end up in the region's Climate Action and Adaptation Plan (CAAP).



AGRICULTURE AND LAND MANAGEMENT

10/16/20

- ✦ *5% of the Centre Region's GHG emissions are agriculture and parkland related*
- ✦ *Sustainable land management is part of the solution (carbon sequestration)*
- ✦ *Co – Benefits: enhanced soil integrity, improved water quality, drought and flood resistant crops, more nutritious food, healthier ecosystems, support local economy*
- ✦ **Projected Goal:**

1. Educate, encourage and promote sustainable agricultural, forest and land management practices

- A.1 Support and promote farmland preservation
 - a. Reinforce and maintain the regional growth boundary
 - b. Non ag development has 66x more GHG emissions than farms
 - c. Support infrastructure for local agriculture
- B.1 Identify best practices for parkland management such as increasing no/low mow zones, native plantings, removing invasive species and installing rain gardens
 - a. Partner with Centre Region Parks and Recreation Authority to develop a regional comprehensive plan to identify parkland opportunities
- C.1 Provide education programs to empower homeowners, landscapers and businesses (nurseries) to follow sustainable best practices by changing their landscapes
 - a. Determine if local ordinances support best practices for sustainable landscapes
 - b. Identify underused/wasted space and convert to more beautiful and ecologically healthy landscapes
 - i. Promote bee habitat – [convert parking lots to save the bees](#)
 - c. Identify best locations for urban/suburban forests/tree plantings
 - d. Educate and promote economic and ecosystem services co-benefits
 - e. Develop demonstration project to showcase best practices
- D.1 Analyze ordinances to make sure sustainable land management is encouraged.
- E.1 Support research on developing and validating carbon offsets for sustainable agricultural, forest and land management practices
 - a. Agriculture is a big part of the solution, determine how to capture that for future inventories

- b. Collaborate with [Carbon Vault](#), [Finite Carbon](#) and Penn State to identify strategies for carbon offset projects within Pennsylvania
- F.1 Equip agriculture organizations with a toolbox that includes technical assistance, ways to assess performance and funding options
 - a. Determine methods of quantifying benefits (infiltration, improved soil health, carbon capture)
 - b. Encourage adaptive management (learn from data to improve methods)
 - c. Education and promote economic and ecosystem services co-benefits
 - d. Develop demonstration farms to showcase best practices
- G.1 Support and promote agri-tourism
 - Partner with nonprofit organizations to promote purchase of local food and products
 - Promote farmers markets
- H.1 Educate and encourage participation in the [Family Forest Carbon Program](#)
- I.1 Identify where solar installations combined with grazing and/or supporting pollinators could be a beneficial land use.
- J.1 Develop strategies to reduce food waste and hunger
 - a. Food rescue
 - b. Education campaign
- K.1 Encourage and expand community gardening
- L.1 Encourage farms to work directly with organizations such as churches or schools to provide community-supported agriculture (CSA) programs.
- M.1 Identify the ability to start a Civilian Conservation Corps in the region.
- N.1 Encourage participation in PennDOT’s pollinator program - [Adopt and Beautify](#) page

2. Promote and support rebuilding soil and sustainable practices that sequester carbon

- A.2 Partner with local agricultural entities to develop and implement education and outreach programs about carbon farming practices that will enhance carbon sequestration, increase soil health, climate resilience, and crop productivity.

• Crop rotation	• Silvopasture
• Cover cropping	• Perennial cropping
• Nutrient Management	• Tree intercropping
• Alley cropping	• Planting wind breaks
• Conservation tillage/no-till	• Managed or rotational grazing
• Manure management	• Feed management

- B.2 Engage technical assistance and support through Cooperative Extension, NGOs, state and local government, federal agencies and other programs.
 - a. Engage with Regional Conservation Partnership Program (RCP) efforts - outreach, monitoring, and quantification of activities to reduce emissions and increase sequestration
- C.2 Develop sustainable funding mechanism to support best management practices
- D.2 Educate, encourage, and promote sustainable ag practices and local food programs at community gardens, schools, and parks

3. Reduce reliance on carbon heavy fuel sources

- A.3 Support local governmental entities to develop a plan to transition to electric sourced landscaping equipment.
- B.3 Promote and educate businesses and residents about benefits of electric landscaping equipment.
- C.3 Study the feasibility of farms' use of anaerobic digestion for manure, perennials and cover crop feedstocks.
- D.3 Identify best practice of farming equipment using renewable fuel - methane digestion (on site if large enough and/or shared digester).
- E.3 Review and update ordinances to allow for and promote native plantings and no-mow/low-mow areas.
- F.3 Create an educational program for residents and businesses on the adverse environmental and health impacts of leaf blowers.
 - Consider banning 2-cycle leaf blowers since it is worse than the 4-cycle.

4. Support land managers be more resilient

- A.4 Perform a comprehensive long-term assessment of agriculture to keep farms and their infrastructure viable
 - a. Move in the direction of sustainability and resiliency
- B.4 Promote best case example of farms using more efficient irrigation methods and promote/educate others
- C.4 Review riparian buffer ordinances to ensure region-wide best practice
 - a. Educate on the co-benefits
- D.4 Analyze farmland and parkland to identify disadvantaged cropland / land that could be more productive for other uses: perennial cropping, solar installations, riparian buffers, etc.

- E.4 Encourage perennialization of the landscape to help build resiliency of the landscape to extreme weather events (helps with excess nutrient load)
- F.4 Identify critical habitat areas and protect and restore the areas
- G.4 Educate and promote increase use of riparian buffers
- H.4 Prepare for potential growth in poultry farming (doubling), beef cattle (7.3%), hogs (3.2%) and decreased growth in dairy farming (-2.5%) per the 2020 PA Climate Change Impacts Assessment Update
 - a. Poultry production waste could impact nutrient pollution to the Chesapeake Bay
 - b. Determine if ag community wants to prepare for poultry production or consider other preferred uses for their land
 - c. Consider poultry waste as a possible fuel option when analyzing anaerobic digestors