Equipping USCA States for Natural and Working Lands Mitigation: Agriculture Policy and Practice Support
Agriculture’s Importance to USCA State Economies

- Top 10 agriculture states (cash receipts): California, Iowa, Texas, Nebraska, Minnesota, Illinois, Kansas, North Carolina, Wisconsin, Indiana
- Top 3 US milk states (production): California, Wisconsin, New York
- Top 3 US soybean states (production): Illinois, Iowa, Minnesota
- Top 4 US corn states (production): Iowa, Illinois, Nebraska, Minnesota
- Top 3 US hog/pig states (sales): Iowa, North Carolina, Minnesota
- California accounts for 48% of all fresh vegetable production in the US
<table>
<thead>
<tr>
<th>State</th>
<th>Near-term Target</th>
<th>Long-term Target</th>
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<tbody>
<tr>
<td>California</td>
<td>40% below 1990 by 2030</td>
<td>Net zero by 2050</td>
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<tr>
<td>Colorado</td>
<td>26% below 2005 levels by 2025</td>
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<tr>
<td>Connecticut</td>
<td>45% below 2001 levels by 2030</td>
<td>80% below 2001 levels by 2050</td>
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<td>Delaware</td>
<td>Recommended target of 30% below 2008 levels by 2030</td>
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<td>Hawaii</td>
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<td>Net zero by 2045</td>
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<td>Maryland</td>
<td>40% below 2006 levels by 2030</td>
<td>80-95% below 2006 levels by 2050</td>
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<td>Massachusetts</td>
<td>25% below 1990 levels by 2020</td>
<td>80% below 1990 levels by 2050</td>
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<tr>
<td>Minnesota</td>
<td>30% below 2005 levels by 2025</td>
<td>80% below 2005 levels by 2050</td>
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<tr>
<td>New Jersey</td>
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<td>80% reduction below 2006 levels by 2050</td>
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<tr>
<td>New York</td>
<td>40% below 1990 levels by 2030</td>
<td>80% below 1990 levels by 2050</td>
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<tr>
<td>North Carolina</td>
<td>40% [below 2005] levels by 2025</td>
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<td>Oregon</td>
<td>10% below 1990 levels by 2020</td>
<td>75% below 1990 by 2050</td>
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<td>Puerto Rico</td>
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<tr>
<td>Rhode Island</td>
<td>45% below 1990 levels by 2035</td>
<td>80% below 1990 levels by 2050</td>
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<tr>
<td>Vermont</td>
<td>50% below 1990 levels by 2028</td>
<td>75% below 1990 levels by 2050</td>
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<td>Virginia</td>
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<tr>
<td>Washington</td>
<td>25% below 1990 levels by 2035</td>
<td>50% below 1990 levels by 2050</td>
</tr>
<tr>
<td>Illinois</td>
<td>1990 levels by 2020</td>
<td>60% below 1990 levels by 2050</td>
</tr>
<tr>
<td>New Mexico</td>
<td>10% below 2000 levels by 2020</td>
<td>75% below 2000 levels by 2050</td>
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Supporting States Reach Climate Targets: NWL Challenge

USCA States committed to Natural and Working Lands Challenge:

- Improve inventory methods for land-based carbon flux;
- Identify best practices to reduce GHG emissions and increase resilient carbon sequestration;
- Advance programs, policies, and incentives to reduce GHG emissions and enhance resilient carbon sequestration;
- Undertake actions that will support a collective, Alliance-wide goal to maintain natural and working lands as a net sink of carbon and protect and increase carbon storage capacity, while balancing near- and long-term sequestration objectives; and
- Integrate priority actions and pathways into state GHG mitigation plans by 2020.
Agricultural Support

Initial Work by AFT and C-AGG is Focusing on Agriculture Practices and Policies
Alliance states have requested more information on additional potential agriculture practices, what policies other states are considering, and approaches to estimate agriculture offset potential in their states.
Identify Additional Agricultural Land Mitigation Practices

Agricultural Practices Initially Explored:

- **Cover Crops** – Carbon sequestration
- **Nutrient Management** - $N_2O$ reduction
- **Improved manure management** – $CH_4$ reduction
- **Riparian buffers**
- **Windbreaks**
- **Silvopasture**

Most agricultural soils are still losing rather than gaining carbon.

**Failure to apply measures to prevent soils losing carbon may well outweigh actions to increase carbon levels in other soil types.**

The importance of food security must be a factor in any climate action plan.

Practices should not be suggested independently but as a system-level approach.

Numerous indirect GHG reductions and secondary ecosystem services currently not adequately addressed for agriculture.
Agricultural Systems Management for Climate Mitigation & Resiliency

- Carbon Sequestration
- Reduced Pesticides
- Reduced Energy
- Drought Resilience
- Increased Biodiversity
- Reduced Nitrogen Inputs
- Reduced N₂O
- Recapture & Recycling of N
- Improved Air Quality
- Yield Stability
Articulate mitigation vs. adaptation impacts of various agronomic practices and management systems to ensure agricultural resilience is considered together with science-based GHG emissions reduction and carbon sequestration potential to best inform program and policy planning.

Synthesize research literature on agricultural practices and systems targeting both offensive (mitigation) and defensive (adaptation) strategies.

Identify and prioritize missing or additional agriculture pathways – including avoided conversion of cropland to sprawling development as a missing ag practice. Compact growth and farmland protection can help reduce future emissions.

Create a web-based clearinghouse on potential agriculture pathways for Alliance states and other agricultural states.
Create an Agriculture Policy Toolkit

Agricultural Solutions for Mitigating Climate Change: A Policy Toolkit for State Governments

Tools include:

◦ policies and programs driving adoption of agriculture pathways that reduce GHG emissions and increase carbon sequestration at the state, regional, and federal level
◦ private sector efforts such as corporate sustainability and environmental markets.

Work organized in 2 phases
State profiles for all USCA States
Interviews with state teams
Refine profiles
Identifying most innovative & effective programs
Begin federal profile of programs and funding opportunities

Behind the scenes

Presented in toolkit

Alliance state policy comparison matrix
Synopsis of existing and proposed state policies/programs as well as regional and federal
Most-used federal programs
Tips to promote successful policy/program adoption and implementation:
  - Best practices
  - Potential key opportunities, key challenges, trends
  - Case studies/lessons learned

State Profiles
Interviews with State Teams
Refine and Update Profiles
Data Analysis
Draft Toolkit 1.0
State Profiles

Create baseline of what exists at each state

- Organizations involved at or within the state
- Overview of related state-level policies, programs, and legislation
- State agricultural, environmental, and climate context

**Completed:**
- California
- Colorado
- Connecticut
- Delaware
- Maryland
- Massachusetts
- Minnesota
- New Jersey
- New York
- North Carolina
- Oregon
- Puerto Rico
- Rhode Island
- Vermont
- Virginia
- Washington

**More to come**
State Team Interviews

Identify key program opportunities and challenges, interests

• Share program challenges, successes, best practices, motivators
  • Particular focus on programs with greatest current or potential impact for sequestering carbon/reducing GHGs
• Confirm state profiles
• Identify where state is in terms of policy development
• Identify how the toolkit can best help advance state efforts
Analysis and Comparison

Generate Useful Information and Tools

- Identify what policies states have in place and what they are considering
- Highlight the most innovative and effective programs
- Pinpoint helpful tools for implementing innovative and effective programs
Initial Results of Comparison: Programs that Support Carbon Sequestration and/or Reduce GHG Emissions In Agriculture

- Methane Reduction
- Water Efficiency
- Healthy Soils
- Climate Resiliency
- On-Farm Energy (RE/EE)
- Nutrient Management
- Water Quality
- Farmland Conservation, Preservation

State Profiles, Interviews with State Teams, Refine and Update Profiles, Data Analysis, Draft Toolkit 1.0

17 states/territory
Next Steps

Incorporate regional initiatives and federal policies

Develop specific tools
  ◦ Tips for successful policy/program adoption and implementation
  ◦ Program examples
  ◦ Potential pathways, opportunities, and barriers
  ◦ A few related case studies/lessons learned

Begin draft of toolkit
Identify most efficient means of presenting toolkit based on state feedback
Phase 2: Planned Activities

• Resources to help states leverage funding
  • supply chain, corporate sustainability, conservation finance, environmental markets
• Researching incentives to accelerate program/policy adoption (e.g., technical assistance and training)
• High-level review of quantification tools and methodologies (in coordination with inventory work/WRI activities)
INVENTORY: PROCESS FOR 2019

- Circulate discussion questions to states
- Synthesize state needs; develop guidance resources; define objectives & milestones
- Calls with states to take stock of goal, baseline, & inventory efforts and key challenges
- Regional learning labs
- Pre-work assignments to prepare for regional learning labs
- Identify outstanding needs and next steps for 2020
Ideas and Opportunities for Expansion

- Labor/income/farm size statistics
- Advanced data on climate change impacts
- More detailed acreage by use
- Targeting states that need more help
- Farmer case studies
- Additional regional profiles/programs
- Cooperation with SLCP Initiative
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