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Carbon Sequestration Potential in Natural & Working Lands

Insights for the Council of State Governments–Eastern Regional Conference

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IPCC: TARGET IS GLOBAL CARBON NEUTRALITY



- **1.5°C:** carbon neutrality by mid-century
- 2°C: carbon neutrality by late-century



 U.S. Midcentury Strategy left 2 gigatons on the table in 2050

LAND SECTOR IS KEY TO REACHING CARBON NEUTRALITY

INVENTORY CATEGORY



Source: US GHG Inventory

WIDE RANGE OF PRACTICES CAN AUGMENT THE CARBON SINK

INVENTORY CATEGORY	RELEVANT PRACTICES
Forests Remaining Forests	Reforestation/restocking, forest mgmt
Land Converted to Forest	Reforestation
Settlements Remaining Settlements	Urban forestry
Cropland Remaining Cropland	Cover cropping & other soil carbon practices
Grassland Remaining Grassland	Grazing optimization, legumes
Land Converted to Grassland	Avoided deforestation, grassland restoration
Land Converted to Settlements	Avoided deforestation, avoided grassland conversion
Land Converted to Cropland	Avoided grassland conversion
-800 -700 -600 -500 -400 -300 -200 -100 0 100	
2016	MMTCO ₂ Eq

Source: US GHG Inventory

WE NEED TO PURSUE MULTIPLE PATHWAYS...





...AND EXPLORE NEW ONES





SEQUESTRATION OPPORTUNITIES IN THE NORTHEAST



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MEASURING RESULTS

Option 1: EPA State Inventory Tool/ Forest Inventory & Analysis

- "Default" approach based on federal data
- Forest carbon estimates are rolling 7-year averages
 - Not ideal for tracking disturbances and land use change
- Misses trees outside of forests
- Coarse resolution at sub-state level (e.g. county, forest type, ownership class)

Option 2: Remote Sensing Tools

- University of Maryland is developing a pilot approach for lidar-based inventory in Maryland and Delaware
 - Add-on to baseline data collected for all Northeastern states
- OpTIS uses satellite data and AI to monitor cover crop and no-till adoption in the Midwest



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KEY TAKEAWAYS

Include the land sector in climate action strategies

Pursue multiple pathways (and encourage experimentation)

Follow the tons

Measure, measure, measure!





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Thank you!

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