



Rural Development  
U.S. DEPARTMENT OF AGRICULTURE


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# Perspectives on Hydrogen for Mining, Construction and Agriculture Applications

What factors are driving agriculture, forestry and other industries to adopt new technology?

Executive Order 14008 Tackling the Climate Crisis at Home and Abroad

<https://www.whitehouse.gov/briefing-room/presidential-actions/2021/01/27/executive-order-on-tackling-the-climate-crisis-at-home-and-abroad/>

- Take a Whole-of-Government Approach to the Climate Crisis
  - Leverage the Federal Government's Footprint and Buying Power to Lead by Example, including clean energy and biobased products
  - Rebuild Our Infrastructure for a Sustainable Economy
  - Revitalize Energy Communities
  - Secure Environmental Justice and Spur Economic Opportunity
  - Advance Conservation, Agriculture, and Reforestation
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# Tackling the Climate Crisis at Home and Abroad— Climate-smart Agriculture and Forestry Strategy

USDA's objectives include voluntary adoption of climate-smart agricultural and forestry practices that decrease wildfire risk fueled by climate change and result in additional, measurable, and verifiable carbon reductions and sequestration and that source sustainable bioproducts and fuels. In part:

- Decarbonizing agriculture and forestry (inputs)
  - ❖ Energy efficiency
  - ❖ Renewable energy (Produced with renewable energy inputs.)
- Carbon Sequestration and reduced emissions (outputs)
  - ❖ Agricultural production and forestry practices
  - ❖ Agricultural and forestry products including biobased products and renewable energy and fuels (feedstock for renewable hydrogen)

<https://www.usda.gov/sites/default/files/documents/climate-smart-ag-forestry-strategy-90-day-progress-report.pdf>

# USDA Resources and Activities

Agriculture Research Service - USDA Regional Biomass Research Centers (RBRC) and Labs

- Eastern Regional Research Center in Wyndmoor (Philadelphia) PA conducts research on hydrogen

National Institute of Food and Agriculture - Small Business Innovation Research Program

USDA Rural Development Energy Programs – Farm Bill Title IX

- Hydrogen produced from renewable energy
- Hydrogen produced from biomass
  - Biomass gasification
  - Biomass-derived liquid reforming
  - Microbial biomass fermentation

USDA programs to support Hydrogen supply chain and infrastructure

- Rural Energy for America Program
- Biorefinery, Renewable Chemical, and Biobased Manufacturing Assistance Program
- Business & Industry Program

# Questions & Discussion

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