



AgEcon SEARCH
RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

The World's Largest Open Access Agricultural & Applied Economics Digital Library

This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.

Help ensure our sustainability.

Give to AgEcon Search


AgEcon Search
<http://ageconsearch.umn.edu>
aesearch@umn.edu

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*

U.S Department of Agriculture
Agricultural Outlook Forum 2001
February 22 & 23, 2001

**OPPORTUNITIES FOR CO-FIRING ELECTRIC POWER
GENERATION WITH WOOD OR GRASSY PLANTS**

Patricia Hus
Program Leader
Climate Change and Renewables
NiSource



Opportunities for Co-Firing Electric Power Generation from Wood or Grassy Plants

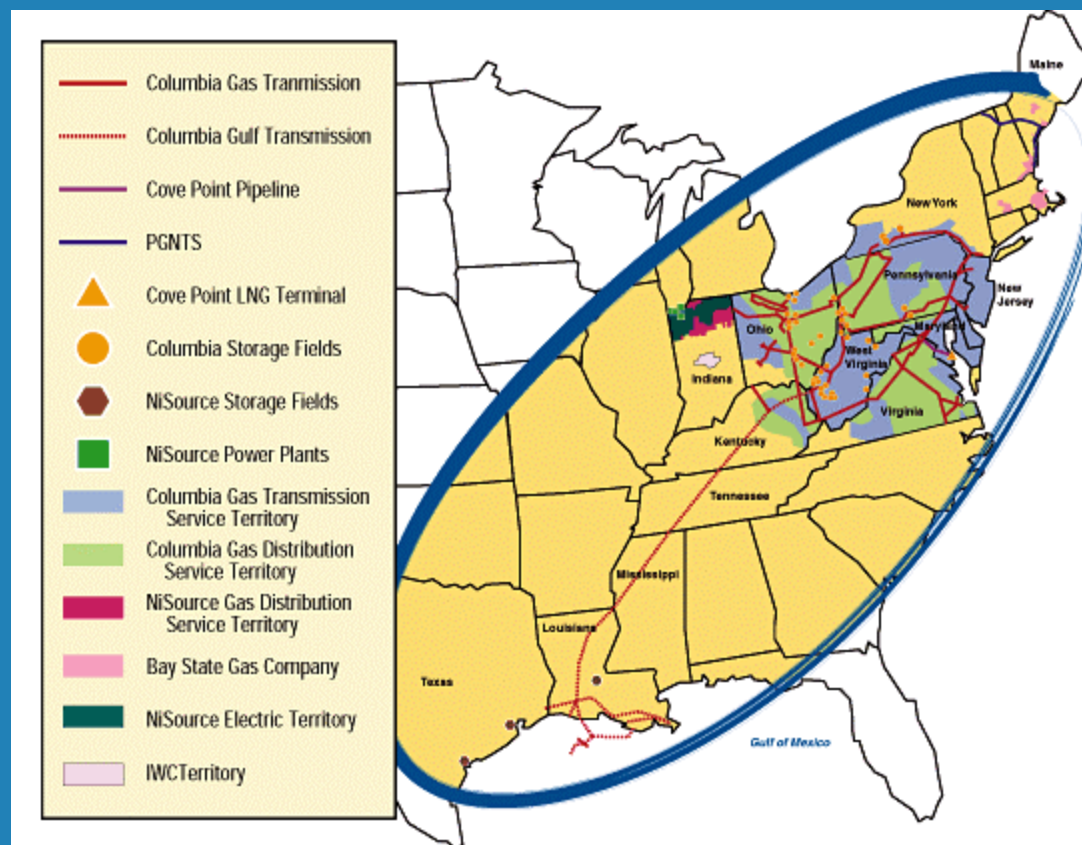
USDA Agricultural Outlook Forum 2001

February 22-23, 2001

Arlington, Virginia



Delivering life's essential resources





Commitment to the Environment

- Natural Gas
- Energy Efficiency
- Combined Heat and Power Projects
- Distributed Generation
- Renewables
- Economic Sustainability



Why Biomass Co-Firing

- Green Power - Customers or Wholesale
- Renewable & Alternate Fuel Source
- Customer Retention
- Allows us to use existing facilities
- Electric Restructuring CO₂ Mitigation



Biomass Progress to Date

• 1997

- Study to assess potential of growing Willow on our ROWs
- 4-day Co-firing test at 460 MW Michigan City Generating Station

• 1998

- Engineering and design of tri-firing tests at Bailly Generating Station



Biomass Progress to Date

• 1999

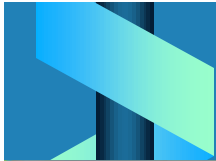
- 3-30 day tests using biomass, petroleum coke and coal
- Biomass gasification technology assessment

• 2000

- Biomass fuel assessment of Northern Indiana











Opportunities

• Co-firing with Coal in Existing Facilities

- Waste Wood & Opportunity Fuels
- Green Wood
- Agricultural Residues - Stover, old seed corn

• Biomass Gasification w/ Nat'l Gas CTs

- Agricultural Residues
- Dedicated Energy Crops
- Energy Residues

Comparison

	HHV (BTUs/cu. ft.)	Cost (\$/mmBtu)
Biomass	90,000 - 10,000	\$0.90 – \$5.00
Coal	500,000 – 600,000	\$0.90 – \$1.50
Nat'l Gas		\$3.50 - \$10.00+



Issues

- Public outreach and awareness
- Incentives to encourage co-firing
- Regulatory Relief
- Biomass for electric generation should not compete with Ethanol or Chemicals
- Material Handling
- Availability

