



MICHIGAN STATE
UNIVERSITY

E X P A N D I N G

BIOENERGY OPPORTUNITIES

FROM WORKING FORESTS AND RANGELANDS

THE COOPERATIVE EXTENSION SERVICE



WHAT IS EXTENSION DOING NATIONALLY TO EXPAND BIOENERGY OPPORTUNITIES?

North Central Region

The North Central region has marginal and state-owned lands available for production and has a history of wood processing and manufacturing.

- Extension educators provide community workshops, field days, planning sessions, and demonstrations. Topics include producing wood fuel pellets for local markets and generating power from biomass.
- Extension has developed partnerships across the region with the states' natural resource divisions, landowners, industries, power companies, NGOs, community colleges, and farmers' cooperatives.

Western Region

Extension education in this region is as diverse as the region's states themselves.

- Some states have an active Extension effort with those staff who develop and conduct workshops and demonstrations.
- Most states actively partner with a variety of stakeholders and experts to deliver Extension education in biomass and bioenergy. Program examples include state-wide collaboratives to develop renewable energy, "think tank" groups for community development of alternative energy, conferences, Web-based information, and documentation of bioenergy activities.

Northeast Region

The Northeast is a competitive environment for wood energy products; use of wood energy in public buildings is not uncommon.

- Extension facilitates community involvement with changes in the forest industry and conversion of forest products.
- The Extension biomass working group offers programs that address bioenergy social issues and decision-making.
- Extension has also developed guidelines for biomass harvesting, Web resources, and partnerships such as the Fuels for Schools program.

Southern Region

The South has areas with high levels of non-industrial private landowners.

- The central educator for the region has produced a guidebook, fact sheets, and community economic profiles. Online learning modules, presentations, and an encyclopedia are also available.
- A biomass initiative trains agents who, in turn, train communities, policy makers, landowners, and loggers.
- Extension has also disseminated research information, provided outreach programs to promote awareness, and facilitated sessions with policy makers and investors.

The Cooperative Extension Service helps communities make wise decisions about bioenergy options.

THE COOPERATIVE EXTENSION SERVICE is a national, non-credit educational program implemented in the United States through designated public land-grant universities. The Cooperative State Research, Education, and Extension Service (CSREES) agency of the USDA administers its funding in cooperation with state and county governments and the land-grant universities.



POLICY ISSUES + EXTENSION

As fossil fuel prices rise, so does the **interest** in developing **alternative sources of energy** » **WORKING FORESTS AND RANGELANDS** are a **MAJOR SOURCE OF RAW MATERIAL** being considered for applications ranging from direct combustion to ethanol production. Across the U.S., woody biomass energy is being studied for its potential to contribute to **ECONOMIC DEVELOPMENT** and the **REVITALIZATION OF FOREST AND RANGE DEPENDENT COMMUNITIES**.

The **need** for public education and dissemination of research results has increased » Landowners, forest managers, and range managers are facing **NEW QUESTIONS ABOUT BIOMASS PRODUCTION**. Plant managers and engineers are facing decisions about new processing methods and **UNFAMILIAR RAW MATERIALS**.

The goal of Extension is to **increase forest and rangeland health** as well as to help **build and sustain communities**.

WHAT ARE THE POLICY ISSUES?

The economic, social, and environmental factors catalyzing the use of biomass for energy include...

- Conversion of agricultural, range, and forest land to development
- Climate change
- Wildfire risk
- Water quality
- Land fragmentation
- Dependence on foreign fuel
- Wildlife protection
- Economic development
- The changing forest economy
- Decrease in the forest/range workforce
- Management of invasive plant and pest species
- Competing use of forests
- Increase in technical capacity for energy production and manufacturing
- Conversion of urban waste into energy

Extension can help individuals, businesses, and communities navigate this multifaceted context. In particular, **EXTENSION CAN LINK STATE AND FEDERAL LEADERSHIP WITH LOCAL NEEDS**.

HOW CAN EXTENSION HELP?

PROMOTE/ENABLE READINESS...

- Provide intense program specialist training
- Provide research sites, new technology demonstrations, and other assistance
- Inform policy through expert testimony and education on issues
- Develop a common language for bioenergy concepts such as conversion factors
- Interpret and disseminate research
- Provide workshops, conferences, Web sites, and publications

WORK WITH COMMUNITIES...

- Develop mechanisms and frameworks for community decision making
- Link collaborators, Extension specialists and researchers
- Develop professional networks and partnerships
- Encourage leadership exchanges

CONDUCT RESEARCH...

- Inventory resources
- Perform needs assessments and feasibility analysis
- Evaluate outcome effectiveness
- Document impacts and lessons learned



In June of 2008, a panel of 23 natural resource experts from every region of the U.S. met to assess current programs and to develop national priorities for forest- and range-based biomass energy. Participants from the following institutions are gratefully acknowledged for their contributions to this publication.

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