Sustainable Forest Resources

Recommendations for North Central Region feedstock development and use (full version)

Workgroup members

Ken Skog, USDA Forest Service

Chuck Keegan, Univ. of Montana

Dean Current, Univ. of Minnesota

Gregory Josten, South Dakota Dept of Agriculture

Pat Miles, USDA Forest Service

Steve Shifley, USDA Forest Service

Tim Rials, Univ. of Tennessee

Vern Everson, Wisconsin DNR

Jay West, US DOI Bureau of Indian Affairs

Jennifer Lund, South Dakota State University, recorder

Sustainable Forest Resources Feedstock Development

- Scope includes use of forest biomass for
  - **biofuels** (liquid)
  - **Wood energy** (for heat and electric power)
- To collaborate with stakeholders we need to recognize goals to expand biomass use for both biofuels and wood energy

Key Actions to expand Sustainable Forest Resource Use for Biofuels and Wood Fuel

1. Foster Collaborations by supporting multiple objectives
2. Refine Billion ton report estimates, estimate costs, use estimates for site evaluations
3. Ensure environmentally sustainable sourcing with research, extension, and policy efforts
4. Pursue Research Needs
5. Communicate Key Messages
6. Monitor/ learn from efforts underway

Foster collaborations with key stake holders

- Recognize objectives and info needs of key stakeholders
  - land owners
  - forest products industry
  - other biomass generators (e.g urban),
  - biomass users (FP industry, utilities, biorefineries)
  - economic development specialists

Refine Billion ton report estimates, estimate costs, use estimates for site evaluations

- Major sources are reasonable with some adjustments (5-10 million od tons/ yr for NC region)
- High uncertainty for public land sources
- Uncertainty should be evaluated when assessing sites for a plant
- Generate local supply curves using GIS framework to assess uncertainty
  - Logging residue
  - Thinnings
  - Transport cost

Ensure environmentally sustainable sourcing with research, extension, and policy efforts

- Develop best management practices for residue harvest
- Logger and landowner education
- Possible role for certification programs?

Pursue Research needs

- Protocols to estimate stand biomass amounts
- Protocols to value nonmarket benefits e.g. wildlife, biodiversity, carbon offsets, water quality, fire hazard reduction
- Modified forest management scenarios
- Technologies to add to existing industry – e.g. pulp mills
- Harvesting and transportation systems
- Cleaning dirty (lower cost) wood chips

Communicate key messages

- Communicate public benefits of biomass use
- Communicate opportunities for management to private landowners using consulting foresters, industrial foresters, extension, and state programs
  - (eg. Contribution in gallons per acre)

Monitor/ learn from efforts underway (e.g.)

- Feasibility study for wood energy for combined heat and power for Fond du Lac Band of Lake Superior Chippewa, MN
- Market and feasibility analysis for electric power generation (1-3 MW) from wood by St. Croix Chippewa Indians of Wisconsin
- Feasibility study of wood biomass use for bio-oil production for thermal and power generation for Red Lake Band of Chippewa Indians, MN
- Feasibility study for producing pulp and energy using wood, flax residue, and cereal straw by Northern Cheyenne, MT.

Monitor/ learn from efforts underway (e.g.)

- Biomass energy producing power utility –Laurentian energy authority, MN, WI? Using wood from fuel reduction operations in Superior NF
- Biomass for energy (process heat) at Little Falls ethanol cooperative, MN
- Biomass for “fuel for schools” project in several states (heat)

Next steps

- Partnership between public and private landowners, forest products industry, and research institutions for integrated forest management for wood feedstock production, biomass fuel, fiber, and saw logs – e.g. Univ of MN
- Develop framework to contain information, education, and research needs (forest resources group) (bibliography, expert list)
- Follow on refinement of Billion Ton estimates for North Central region (forest resources group)
- Become more spatially explicit in specifying forest resource supply in GIS along with other feedstock supply, road networks, infrastructure
- Funding needed for prioritized research and partnerships