

California Environmental Protection Agency



Air Resources Board

*Forest Sustainability
Benchmarking Task*

July 10, 2012

Forest Sustainability under LCFS

Board Resolution 09-31 has directed staff to:

- Work with the Interagency Forest Work Group (IFWG), the California Energy Commission, CalFIRE, and other regulatory agencies
- Consider the impacts of incentivizing the use of forest waste for biofuel production
- Evaluate measures to ensure the sustainable and environmentally beneficial use of forest biomass

Forest Biomass to Meet LCFS Targets

- Cellulosic biofuels are a key component of LCFS and RFS2 compliance scenarios
- Draft LCFS fuel pathways for cellulosic ethanol from forest waste and from farmed trees yield carbon intensity (CI) values lower than crops
- Some forest residues are currently used for energy and present opportunities to be used as feedstock for biofuel production

California Forests

- Approximately 33 million acres of CA are forestland
- ~ 40% private ownership; ~ 60 % public
- 20 million acres of US Forest Service land in CA
- Benefits from the forest are many, including:
 - Habitat for rare, threatened, endangered species
 - Carbon sequestration
 - Water resources, recreation, cultural sites, etc.



Forest Woody Biomass

- Forest biomass generated from other activities:
 - Forest thinnings: silvicultural practices to improve forest health
 - Fuel hazard reduction: to reduce forest fire potential
 - “Slash”: residues from timber harvest— logs, branches, wood left on ground
- Biomass that would otherwise need to be removed or may be burned
- Other sources of forest biomass: short-rotation woody biomass crops (tree “plantation”)

California Forest Biomass Projections

Forest biomass inventory projections for energy/ biofuel

- 14.2 MBDTY (California Biomass Collaborative, 2008)
- 4.2 MBDTY (CAL FIRE Fire and Resource Assessment Program (FRAP) 2005)
- 1.3 to 5.1 MBDTY (Western Governors' Association, 2008)

California Forest Biomass Projections (Cont.)

References: CEC March 2008

<http://biomass.ucdavis.edu/files/reports/2008-cbc-resource-assessment.pdf>;

WGA, 2008

http://www.fpl.fs.fed.us/documnts/pdf2008/fpl_2008_gordon001.pdf

FRAP, 2005

http://frap.fire.ca.gov/publications/BIOMASS_POTENTIALS_FROM_CA_FOREST_AND_SHRUBLANDS_OCT_2005.pdf

Forest Sustainability Benchmarking

Task: Evaluate existing laws, regulations, rules applicable to private and public forestlands in California to determine if consistent with sustainability principles and criteria

- Identify gaps
- ARB authority under LCFS provisions limited to sustainable biofuel production, not overall forest management
- Focus recommendations on areas of concern that would apply to woody biomass removal for biofuel production

Forest Sustainability Benchmarking (cont'd)

- Methodology: Compare existing regulatory framework for California forests with principles and criteria of recognized forest certification systems (“benchmarking”)
 - Forest Stewardship Council (FSC) and
 - Sustainable Forestry Initiative (SFI)
- Previous work
 - Cal Poly 2003: “A Comparison of California Forest Practice Rules and Two Forest Certification Systems”
 - Dodge, Gary (FSC): Presentation to the Air Resources Board, July 2009

Forest Sustainability Benchmarking (cont'd)

- Identify forest sustainability criteria or concerns for use of biomass for forest not addressed by certification principles and criteria
- Forest carbon/GHG evaluation should be addressed in the lifecycle analyses and CI evaluation

Federal Forest Sustainability

- Federal Laws: Endangered Species Act, Clean Water Act, NEPA
- 2012 Forest Planning Rule (Fed. Register: April 9, 2012):
 - Enhanced sustainability provisions to be included in development of local forest management plans
 - Streamlined review process for forest management plan revision
 - More local involvement
- NEPA pilot program to streamline decision-making for federal forests, especially for forest restoration projects

Federal Forest Sustainability (cont'd)

- 8 National Forests selected to implement new federal planning rule including 3 California forests: Inyo, Sierra, Sequoia
- Lake Tahoe Basin Management Unit Land and Resource Management Plan released June 2012
- “Increasing the Pace of Restoration” for National Forests (February 2012)
 - New forest restoration projects expected to generate higher volumes of woody biomass from forest thinnings, hazardous fuel reduction, and timber harvests

Federal Forest Sustainability (cont'd)

- October 22, 2007, “National Forest Certification Study: An Evaluation of the Application of Forest Stewardship Council (FSC) and Sustainable Forestry Initiative (SFI) Standards on Five National Forests”
- U.S. Forest Service sought comments on certification for federal forests (Fed. Reg. Volume 73, Number 181, September 17, 2008)

Benchmarking Forest Regulations in California: Federal Forests

- Local forest level decision-making focus
- Forest unit management plan required by regulation to ensure that timber harvesting, including for forest thinning and hazardous fuel reduction, done “in a manner consistent with the protection of soil, watershed, fish, wildlife, recreation, and aesthetic resources”
- Comparison to FSC and SFI standards best at local forest management level
- Federal forestland decision-making may be more sustainable due to public scrutiny

Private and State Forest Regulation

- Z'berg-Nejedly Forest Practice Act of 1973 established Forest Practice Rules (FPRs) to be enforced by California Department of Forestry and Fire Protection (CALFIRE)
- CA and Federal Endangered Species Acts
- Federal Clean Water Act and Regional Water Quality Control Board requirements
- California Environmental Quality Act (CEQA)

Timber Harvest Plans

- A Timber Harvest Plan (THP) required by CALFIRE for removal of wood from the forest
- Modified Timber Harvest Plan For Fuel Hazard Reduction (MTHP-FHR)
- THP is functionally equivalent to CEQA environmental impact review
- THP review is conducted by a team involving representative from other agencies including Department of Fish and Game, the Regional Water Quality Control Board, other agencies as needed

One Forest Certification System: FSC Principles

- PRINCIPLE #1: COMPLIANCE WITH LAWS AND FSC PRINCIPLES
- PRINCIPLE #2: TENURE AND USE RIGHTS AND RESPONSIBILITIES
- PRINCIPLE #3: INDIGENOUS PEOPLES' RIGHTS
- PRINCIPLE #4: COMMUNITY RELATIONS AND WORKER'S RIGHTS
- PRINCIPLE # 5: BENEFITS FROM THE FOREST
- PRINCIPLE #6: ENVIRONMENTAL IMPACT
- PRINCIPLE #7: MANAGEMENT PLAN
- PRINCIPLE #8: MONITORING AND ASSESSMENT
- PRINCIPLE # 9: MAINTENANCE OF HIGH CONSERVATION VALUE FORESTS
- PRINCIPLE # 10: PLANTATIONS

Benchmarking CA regulations compared to FSC Standards

Needs further study:

- Retention of habitat components: snags, down woody material
- Land conversion to non-forest use
- Rare, Threatened, Endangered species protection
- Old Growth (High Conservation Value) Forest
- Riparian and watercourse zone protection: buffer zone
- Monitoring to ensure ongoing compliance

Proposed Massachusetts Sustainable Harvest for Renewable Energy Credit

- Eligible Biomass Woody Fuels for Renewable Energy Credit limited to: 1) Forest thinnings, 2) Timber harvest residues (tops and branches), or 3) Dedicated energy crops planted on previously non-forested land
- Sustainability
 - Volume limits of eligible biomass residues removed from a forest site based on soil type
 - Naturally down woody material must be retained in the forest
 - Forest litter, forest floor, roots and stumps must be retained and protected
 - Live cavity trees, den trees, and other live decaying trees or snags must be retained and protected in quantities to maintain important habitat

Conclusions and Next Steps

- Further study needed for detailed benchmark current Forest Practice Rules regulations against certification systems
- Renew coordination efforts with CEC, CALFIRE, U.S. Forest Service (IFWG)
- Workgroup comments? Suggestions?

Contacts

Susan Solarz

Air Pollution Specialist

Transportation Fuels Branch

916-323-2790

ssolarz@arb.ca.gov

Mike Waugh, Chief

Transportation Fuels Branch

916-322-6020

mwaugh@arb.ca.gov