

25x'25 Consensus Recommendations

A National Wood-to-Energy Roadmap

These working recommendations developed by the 25x'25 Wood-to-Energy Work Group are offered to partners for use in informing policy makers on key issues surrounding the use of wood for renewable energy.

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Introduction

The 25x'25 Alliance is backed by an array of over 900 endorsing partners, 33 governors and 15 state legislatures. Over the past 5 years the 25x'25 Alliance has served as a forum and facilitator for dialog and discussions on a new energy future for the Nation. Most recently, with the support of the Energy Future Coalition, the Energy Foundation, and the Turner Foundation, the 25x'25 alliance initiated a series of roundtable discussions with interested stakeholders to explore the challenges and opportunities with respect to the ability of our nation's forests to provide sustainable supply of biomass to meet the needs of existing and new wood using industries. The vision set forth by the contributing organizations in their initial organizational meeting was to *"Unlock the nation's potential to sustainably produce woody biomass for energy and traditional uses while providing balanced multiple benefits from public and private forests for the American public."*

In Phase I of this effort, the contributing organizations have evaluated the supply and demand for forest products, forest productivity, carbon management and accounting, sustainability, and related policy issues through a series of forums with renowned experts. In addition, they deliberated and developed the consensus recommendations found in this interim document to guide and assist partners and policy makers in the near-term on matters surrounding the sustainable use of woody biomass for renewable energy.

In Phase II of the Wood-to-Energy effort, 25x'25 will assist the stakeholders in further dialog as they collectively analyze, explore, and evaluate the findings from the initial four workshops and prepare a **25x'25 National Wood-to-Energy Roadmap** – a decisive, planned pathway forward that leads to using wood in concert with other biomass feedstocks for energy and traditional uses while ensuring our forests, soils, water and wildlife resources are sufficient and sustainable for the future. This final **"Roadmap"** product will be designed for use by the contributing organizations, their members, and partners to inform policy makers on the facts surrounding the sustainable use of woody biomass for renewable energy.

Background

Massive quantities of fossil fuels are consumed daily to supply energy for the heat, transportation and electricity needs of the United States. Importing fossil fuels results in the outflow of dollars and jobs to other countries and requires, all too often, military intervention to assure the continued flow of these needed sources of energy. Burning fossil fuels also releases large quantities of greenhouse gases into the atmosphere. Continuing this cycle of dependence

¹ These working recommendations developed by the 25x'25 Wood-to-Energy Work Group are offered to partners for use in informing policy makers on key issues under current discussion and debate surrounding the use of wood for renewable energy.

² These consensus recommendations and the Wood-to-Energy roadmap process are supported by 25x'25 and the following contributing organizations: Woody Biomass Utilization Group, Xcel Energy, Weyerhaeuser Company, Society of American Foresters, National Association of State Foresters, Forest Resources Association, American Forest Foundation, The Nature Conservancy, Biomass Thermal Energy Council, Biomass Energy Resource Center, Biomass Power Association, National Alliance of Forest Owners, National Wildlife Federation, University of Minnesota, and University of Georgia.

on domestic and foreign fossil fuels rather than seeking to replace a substantial fraction of such fuels with home-grown renewable feedstocks is not in the best interest of America's people, the economy, or the environment.

At the same time, US forest product industries and bioenergy facilities struggle to survive. Because of weak markets, owners of private timberlands are unable to make needed investments in their land that could result in substantial increases in forest growth and production. Large volumes of forest material remain unused after harvest, which when left on site reduces productive growing space, decay, and/or become fuel for wildfires. The same is true on public lands where forest health continues to deteriorate as epidemic insect infestations and wildfires take their toll. As a result, suppression and management costs on federal lands continue to escalate.

Several recent studies show that the role of wood in the production of renewable energy can be substantially increased, doubling or tripling the amount of energy it provides today while at the same time meeting our goals for providing for the needs of traditional forest industries and markets, and providing essential environmental services such as clean water, wildlife, and biodiversity. Sources for this wood include:

1. Available logging and forest management materials;
2. Increases in production on private timberlands resulting from active management practices;
3. Forest restoration activities on public lands made possible by having markets for the materials removed;
4. Woody biomass energy crops grown on marginal croplands.

Perhaps surprising to many, far from decreasing the extent of America's 755 million acres of forestland, such a focused use of wood to help meet America's energy needs could increase the extent of the nation's forest land base while:

1. Improving wildlife habitat, water quality and quantity, rural community economic development and economic opportunity;
2. Lowering the carbon footprint of America's energy supply;
3. Restoring the health, vitality and proper functioning of many of the public lands
4. Insuring the future of America's private timberlands by "keeping forests as forests"; and
5. Providing the raw materials needed by America's forest products industry while supplying a growing bioeconomy.

To cause this scenario to unfold in a way acceptable to the American public and its policymakers will require thoughtful policies and incentives combined with improved data collection and feedback mechanisms. Only in this way will the American public and its policymakers be assured that the overall system remains on a long-term sustainable trajectory and that we are obtaining the expected carbon benefits.

The time for action is now! As the U.S. Congress debates national energy and climate policy, we offer up for consideration a set of recommendations for a comprehensive woody biomass energy policy. These recommendations are designed to make a major contribution to America's energy future while protecting and enhancing our private and public forests and ensuring the continuation of the supply of raw material for our forest products industry. A more formal Roadmap will follow, but the Work Group wishes to put these consensus recommendations in the hands of policymakers now.

25x'25 WOOD-TO-ENERGY WORK GROUP RECOMMENDATIONS

■ A New Direction, Reasonable Targets

U.S. energy and carbon policy and national security concerns demand that the nation create a path towards the sustainable domestic production of our own energy. As such, our nation's forests need to be viewed as a strategic national resource, just as important as coal, oil, and natural gas in helping to meet the nation's need for heat, electric power, transportation fuel, and biobased products. Expanded markets for the use of wood for renewable energy will in turn create incentives for landowners to invest in improved forest management practices leading to long-term increases in the total supply of wood. Increasing the supply of wood from private lands through market signals and from public lands through opportunities to lower the cost of needed restoration treatments is critical if we are to maintain a balance between supplies for wood products, energy and the environmental services that forests provide. These recommendations strive to maintain that balance as the nation moves forward towards energy independence.

Production mandates for renewable energy, such as the Renewable Fuel Standard (RFS) and a Renewable Electricity Standard (RES), with accelerated timetables, will create significant new demands for the existing, and as of yet underutilized, supplies of woody biomass. Provided sufficient time, proper incentives when coupled with realistic mandates, send market signals to private landowners and public land managers that increasing supply is an investment that will be rewarded and they will respond accordingly. Incentives must be used to establish and track the pace of increasing demand for wood for energy, with feedback to policymakers such that, over time, supply can respond to demand and the two can move in concert. An unrealistic short-term mandate, coupled with large fixed incentives, could upset the balance of wood products, carbon management, environmental services, and energy necessary for long-term acceptance by the American public and its policymakers.

■ Insuring Sustainability in All We Do

Sustainability is at the core of our deliberations. We believe it is a "given" when discussing future forest uses and levels. Within the forest sector, legal and socio-economic frameworks exist that encourage sustainable forest management on public and private lands. These established frameworks must be recognized and considered explicitly in the evaluation of biomass policy options.

The Work Group has found that forest landowners operate within a well-established framework of federal and state laws, regulations and best management practices as well as private sector programs. These provide a variety of highly tailored management tools, including state environmental review laws, credible certification systems, effective state forestry programs, habitat conservation plans, conservation program participation, Best Management Practices (BMP's) and many other related measures that help assure the sustainability of soil, water, wood inventories, and species diversity over time. These tools give forest landowners a variety of ways to demonstrate local sustainability to the public, resource agencies and the investment community.

In terms of bioenergy development, the Work Group proposes that bioenergy facilities, in concert with the harvesters and suppliers of biomass and state resource agencies, be

responsible for sustainable procurement practices consistent with the legal and regulatory framework of the applicable state(s). Of necessity, very small installations, such as an institutional heating system, could be exempt from this requirement. A sustainable procurement process should be based upon regional conditions so as to take into consideration the nation's many different forest types, and can likely rely on information and guidance provided by State Forestry Agencies.

The demonstration of local sustainable procurement by the project developer in partnership with biomass harvesters and suppliers and the state resource agencies is one of two levels of sustainability review identified by the Work Group. The second is a national level demonstration of sustainability as woody biomass resources are asked to do more for energy supply while providing for traditional wood products uses and valuable environmental services. This "three legged stool" of environmental services, wood products and energy must not be allowed to develop one short leg as energy use expands. The primary tool at the national level is an enhanced Forest Inventory & Analysis (FIA) system administered by the USDA Forest Service in conjunction with the review and input from many diverse collaborating parties. This tool, described more fully in our final recommendation, must be able to demonstrate sustainability of our forests at national and landscape scales as well as provide insight into the carbon balance of this path.

■ Increasing Supplies of Wood a Key Objective

The domestic supply of wood can be increased substantially on public and private forestlands without impairing the productive capacity of these lands or degrading the varied environmental services they provide. Investment in forest resources has lagged for more than a decade as traditional markets have disappeared, or been captured by imported wood products. This, in turn, has made forest ownership less economically competitive with other land uses in parts of the country. A key legislative goal should be to keep forests as forests by creating proper incentives that will lead to that outcome. With sustainability as an overarching principle, the use of wood for renewable energy can be a key driver in not only expanding the supply of biomass for energy but also in enhancing and capturing the myriad of environmental services forests provide to the nation including; improved biodiversity, wildlife habitat, soil retention, water quality and quantity, carbon storage and recreation.

There are numerous potential sources of these increased biomass supplies. Private forests can increase production per acre substantially using management techniques such as commercial and precommercial thinning, fertilization, interplanting, and the use of improved planting stock. Reforestation and afforestation, and where appropriate, the use of short rotation woody crops planted on marginal agricultural lands can make a major contribution to biomass supply in both the short and longer-term time horizons. The intensification of management on operable private land through the application of fertilization, improved genetics and other science-based tools reduces pressures on wetlands, other forests, and sensitive sites.

There are also significant opportunities on public forest land to use biomass markets to offset the cost of restoration and wildfire fuels reduction treatments and by doing so effectively address insect and disease problems and the oversupply of small trees and brush that have built up over decades, and that now threaten nearby communities. Removal of this excess vegetation often leads to a doubling, or more, of total growth per acre. These potential supply increases are so large that the Nation need not consider entering public lands that have been administratively or legislatively set aside to preserve unique or sensitive values, unless the management plan for those areas concludes that those values could actually be enhanced or preserved by treatment, and can be accomplished within established legal guidelines.

■ A Simple Scientific Biomass Definition

Biomass has been defined in various recent policy and legislation in conflicting ways. When sustainability issues are addressed locally and nationally as described herein, and carbon impacts are scientifically addressed, a simple scientific definition of biomass is preferable. The full spectrum of public and private lands can contribute biomass towards our nation's energy goals. The definition agreed upon in future legislation establishing goals, incentives and other programs must, however, respect those public lands that have been previously set aside, or will be in the future, due to unique characteristics and values (wilderness areas, historic parks). Biomass removal in such reserved areas should be permissible only when the approved management plan for the area calls for biomass removal as a means to accomplish the goals of the reserved area (e.g. protection from fire, habitat improvement, and forest restoration).

Attempting to incorporate sustainability and carbon language into a scientific definition of biomass is problematic. It will slow progress towards the goals of expanded biomass energy and wood supply, wood for traditional uses and an expanded suite of environmental services. We should, as a nation, assure ourselves that our resource use is sustainable, that we are fully accounting scientifically for the carbon footprint of wood energy, and thus allow for a simplified definition of what wood qualifies to be counted in various programs.

■ Appropriate Scale and Efficiency Should Be Encouraged

All wood energy is local and energy facilities should be scaled appropriately to insure sustainability of the local natural resources and the marketplaces in which the facilities operate. For example, with fuel transportation cost a major issue in the expanded use of biomass, a series of smaller distributed bioenergy facilities may be more appropriate, particularly if done on a combined heat and power, or heat, power and biofuels basis, whereas other locations may have the resource capability to support larger facilities strictly for electricity generation or liquid biofuels production. Existing wood using facilities should be incentivized to begin or expand their on-site use of wood for energy in order to leverage existing resources, accelerate wood energy production and efficiently utilize capital resources. In addition, incentives should ensure opportunities for small-scale production, sometimes down to the individual homeowner, are not overlooked, as these may be the most efficient use of the wood resource. Incentives should be structured in a way that is neutral with respect to the energy technology pathway and reward efficiency in the utilization of the wood resource. The incentives should be placed at levels that bring substantial quantities of new wood fuels into the marketplace and thus result in the increase of supply for all users.

Incentives for the thermal use of wood on a combined heat and power (CHP) basis should be supported. With major new demands for wood for energy anticipated, helping wood supplies go further in offsetting fossil fuel use through enhanced efficiency is an important national objective. If one of the pathways selected to increased wood use is a national Renewable Electricity Standard (RES), then a logical addition to that program is the awarding of Renewable Energy Certificates (REC's) for the electrical equivalent amount of thermal energy used in CHP applications. This approach would likely do more to incentivize developers to pursue CHP opportunities than other options available. Where efficiency enhancements are reasonably available through CHP, the Work Group recommends the nation attempt to capture them. The Work Group believes it would be counterproductive to require minimum efficiency standards for participation, however, as that could lead to no development in areas with excess fuel, but with no realistic CHP opportunities. Rather, project developers can be encouraged to look for CHP applications, where appropriate, in order to increase wood use efficiency. Incentive programs put in place for use of woody biomass in each energy pathway should also encourage energy

efficiency in the use of capital. The principle of the most fossil fuel displacement with the least capital assets should be encouraged.

■ **Bioenergy Facilities Treated the Same Regardless of Age**

Existing and new bioenergy facilities provide the same services in terms of converting wood into useful energy as an offset to fossil fuels, as has been done for decades in the forest products industry. Wood currently comprises nearly one-half of all renewable energy in the U.S, with approximately three-quarters of that coming from forest products manufacturers. With bioenergy development at all scales on the horizon, existing bioenergy facilities should not be placed at a disadvantage versus new entrants in terms of tax incentives or REC's based upon renewable energy production. Conversely, capital incentives should be reserved for new or expanded entrants. Likewise, the incentives for bioenergy production using wood should be at least on par with other renewable technologies (wind, geothermal and solar) in the context of an RES or tax policy, as woody biomass is the only renewable technology that has an ongoing fuel expense.

■ **Demonstrate Carbon Superiority**

A reliable accounting system for all energy sources, including wood, is required. That accounting system must utilize scientifically sound and credible life cycle analyses (LCA) for energy sources done on a categorical basis and by a qualified third party (e.g. NREL, USDA). This full system accounting should not be the responsibility of the individual landowner or developer, but done at a national scale for the entire category and pathway of wood use for energy. Such a scientifically sound and credible LCA will demonstrate the superiority of using wood for energy versus many other energy pathways, particularly when combined with opportunities to sequester and store carbon in both long-lived wood products and in the standing wood inventory. Given the number of narrowly focused studies performed recently, the need for immediate broad categorical studies is critical to carbon policy decisions.

■ **Need For Accurate Data Increasingly Important**

As the use of wood for renewable energy evolves the need for information and feedback regarding the sustainability and carbon balance of biomass feedstocks is crucial. The incentives and programs to emerge from policy decisions will maintain credibility and appropriate level and direction only by using current and verified wood inventory data. Continued adequate investment in developing such databases is critical. For instance, as forest landowners respond to market signals and increase investments in forest productivity, it is imperative to know the effectiveness over time of these investments.

The only functional tool in this regard is the Forest Inventory & Analysis (FIA) system, which is administered by the USDA Forest Service in collaboration with numerous national, state, and private organizations. The FIA program, when maintained and further enhanced to focus on carbon management, provides the necessary data and feedback to make informed national energy and carbon policy decisions regarding the pace and outcome of using wood for bioenergy. As such, Congress should make the continued operation and enhancement of the FIA system a funding priority.

About 25x'25

25x'25 is a diverse alliance of agricultural, forestry, environmental, conservation and other organizations and businesses that are working collaboratively to advance the goal of securing 25 percent of the nation's energy needs from renewable sources by the year 2025. 25x'25 is led by a national steering committee composed of volunteer leaders. The 25x'25 goal has been endorsed by over 900 partners, 33 governors, 15 state legislatures and the U.S. Congress through The Energy Independence and Security Act of 2007.

25x'25 is a special project of the Energy Future Coalition, a broad-based non-partisan public policy initiative that seeks to bring about change in U.S. energy policy to address overarching challenges related to the production and use of energy. The Energy Future Coalition is organized as a project of the Better World Fund, which acts as its fiscal agent. The Better World Fund is a tax-exempt organization under section 501(c) (3) of the Internal Revenue Code and shares a common board of directors with the United Nations Foundation.

The 25x'25 alliance is deeply appreciative of the ongoing support of the Energy Future Coalition, the Turner Foundation, the United Nations Foundation, the Rockefeller Brothers Fund and the Energy Foundation.

For more information, please go to the 25x'25 website at www.25x25.org.

