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NATURAL RESOURCES

Federal Agencies Are Engaged in Numerous Woody Biomass Utilization Activities, but Significant Obstacles May Impede Their Efforts

Statement of Robin M. Nazzaro, Director
Natural Resources and Environment

May 24, 2005

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Highlights

Highlights of GAO-05-741T, a testimony before the Subcommittee on Forests and Forest Health, Committee on Resources, House of Representatives

Why GAO Did This Study

In an effort to reduce the risk of wildland fires, many federal land managers—including the Forest Service and the Bureau of Land Management—are placing greater emphasis on thinning forests and rangelands to help reduce the buildup of potentially hazardous fuels. These thinning efforts generate considerable quantities of woody material, including many smaller trees, limbs, and brush—referred to as woody biomass—that currently have little or no commercial value.

GAO was asked to determine (1) which federal agencies are involved in efforts to promote the use of woody biomass, and the actions they are undertaking; (2) how these agencies coordinate their activities; and (3) what the agencies see as obstacles to increasing the use of woody biomass, and the extent to which they are addressing the obstacles. This testimony is based on GAO's report *Natural Resources: Federal Agencies Are Engaged in Various Efforts to Promote the Utilization of Woody Biomass, but Significant Obstacles to Its Use Remain* (GAO-05-373), being released today.

What GAO Recommends

In its report, GAO recommended that the Secretary of Agriculture direct the Chief of the Forest Service to appoint an official or organization responsible for overseeing and coordinating the agency's woody biomass activities. The Forest Service has done so.

www.gao.gov/cgi-bin/getrpt?GAO-05-741T.

To view the full product, including the scope and methodology, click on the link above. For more information, contact Robin M. Nazzaro at (202) 512-3841 or nazzaror@gao.gov.

What GAO Found

Most woody biomass utilization activities are implemented by the Departments of Agriculture (USDA), Energy (DOE), and the Interior and include awarding grants to businesses, schools, Indian tribes, and others; conducting research; and providing education. Most of USDA's woody biomass utilization activities are undertaken by the Forest Service and include grants for woody biomass utilization, research into the use of woody biomass in wood products, and education on potential uses for woody biomass. DOE's woody biomass activities focus on research into using the material for renewable energy, while Interior's efforts consist primarily of education and outreach. Other agencies also provide technical assistance or fund research activities.

Federal agencies coordinate their woody biomass activities through formal and informal mechanisms. Although the agencies have established two interagency groups to coordinate their activities, most officials we spoke with emphasized informal communication—through e-mails, participation in conferences, and other means—as the primary vehicle for interagency coordination. Internally, DOE coordinates its woody biomass activities through its Office of Energy Efficiency and Renewable Energy, while Interior and the Forest Service—the USDA agency with the most woody biomass activities—have appointed officials to oversee, and have issued guidance on, their woody biomass activities.

The obstacles to using woody biomass cited most often by agency officials were the difficulty of using woody biomass cost-effectively and the lack of a reliable supply of the material; agency activities generally are targeted toward addressing these obstacles. Some officials told us their agencies are limited in their ability to address these obstacles and that incentives—such as subsidies and tax credits—beyond the agencies' authority are needed. However, others disagreed with this approach for a variety of reasons, including the concern that expanding the market for woody biomass could lead to adverse ecological consequences if the demand for woody biomass leads to excessive thinning.

Kiosk Constructed from Small-Diameter Wood

Source: Forest Service.

Mr. Chairman and Members of the Subcommittee:

I am pleased to be here today to discuss federal agency efforts to increase the utilization of woody biomass. As you know, federal land management agencies—including the Forest Service in the Department of Agriculture (USDA) and the Bureau of Land Management (BLM) in the Department of the Interior—continue to focus on the threat that wildland fire poses to our nation's communities and ecosystems. In addressing this threat, agencies are placing greater emphasis on thinning forests and rangelands to help reduce the buildup of potentially hazardous fuels. These thinning efforts will generate considerable quantities of woody material, including some larger trees that are commercially valuable timber and many smaller trees, limbs, and brush that generally have little or no commercial value today. This low commercial value material is often referred to as woody biomass.[1]

Unlike commercial timber, this material typically has been piled and burned, left in the forest, or deposited in landfills because there is often little or no demand for it. Some industries make use of this woody biomass, however—for example, by burning it to generate electricity or turning it into products such as road signs or animal bedding. Using woody biomass in these and other ways can have several beneficial side effects, including stimulating local economies and potentially facilitating fuel reduction efforts by creating a demand for thinned material. However, the cost of harvesting and transporting the material, combined with the relatively low value of the products produced, has meant that woody biomass has not been widely utilized.

My testimony today summarizes the findings of our report being released today that discusses federal agency activities to promote woody biomass utilization, agency efforts to coordinate their activities, and the primary obstacles that agencies believe are standing in the way of increased woody biomass utilization.[2] This report is based on our interviews of officials

[1]Although biomass can be considered any sort of organic material—including trees, grasses, agricultural crops, and animal wastes—the term "woody biomass" in this testimony refers to small-diameter trees and other traditionally noncommercial material cut as part of thinning, harvesting, or other activities on forests or rangelands. The term "woody" is used to distinguish this material from agricultural biomass, such as corn stalks or sugar cane residue.

[2]GAO, *Natural Resources: Federal Agencies Are Engaged in Various Efforts to Promote the Utilization of Woody Biomass, but Significant Obstacles to Its Use Remain*, GAO-05-373 (Washington, D.C.: May 13, 2005).

from a wide range of federal and nonfederal organizations, including the Departments of Agriculture, Commerce, Energy, the Interior, and Transportation, as well as various agencies within these departments; state governments; Indian tribes; environmental organizations; academia; and others. We also reviewed agency documents, federal and nonfederal studies of woody biomass utilization issues, and pertinent laws and other documents.

Summary

Most woody biomass utilization activities within the federal government are being undertaken by USDA, the Department of Energy (DOE), and the Department of the Interior and include awarding grants to businesses, schools, Indian tribes, and others; conducting research; and providing education and outreach. Some of these activities involve multiagency efforts—for example, the three departments signed an agreement in 2003 to support the utilization of woody biomass, and USDA and DOE jointly award grants for biomass research and development. Each department also carries out its own activities.

Federal agency efforts to coordinate their woody biomass utilization activities, both among and within agencies, occur through both formal and informal mechanisms. Although the departments have established an interagency group to coordinate their activities, most agency officials we spoke with emphasized informal communication—such as telephone discussions, e-mails, participation in conferences, and other means—rather than this group as the primary vehicle for interagency coordination. Regarding internal woody biomass activities, DOE coordinates its activities through its Office of Energy Efficiency and Renewable Energy, while both Interior and the Forest Service—the USDA agency with the most woody biomass activities—have appointed officials to oversee their woody biomass activities and have issued guidance on these activities.

Agency officials cited two principal obstacles to increasing the use of woody biomass: the inherent difficulty in using woody biomass cost-effectively, in large part because of the relatively high costs of harvesting and transporting it, and the lack of a reliable supply of the material. And although agency activities are generally targeted toward these obstacles and others identified by agency officials, some officials told us that additional steps that are beyond the agencies' authority to implement—such as subsidies or tax credits to offset the costs involved in using woody biomass—are needed. Other officials disagreed with this view, however, stating that neither subsidies nor tax credits were appropriate mechanisms for promoting the use of woody biomass and that such incentives could

have adverse, unintended consequences on the ecological health of the national forests.

Background

The Forest Service and Interior collectively manage about 700 million acres of federal land, much of which is considered to be at high risk of fire. Federal researchers estimate that from 90 million to 200 million acres of federal lands in the contiguous United States are at an elevated risk of fire because of abnormally dense accumulations of vegetation, and that these conditions also exist on many nonfederal lands. Addressing this fire risk has become a priority for the federal government, which in recent years has significantly increased funding for fuels reduction. Fuels reduction is generally done through prescribed burning, in which fires are deliberately lit in order to burn excess vegetation, and mechanical treatments, in which mechanical equipment is used to cut vegetation.

Although prescribed burning is generally less expensive on a per-acre basis than mechanical treatment, prescribed fire may not always be the most appropriate method for accomplishing land management objectives—and in many locations it is not an option, because of concerns about smoke pollution, for example, or because vegetation is so dense that agency officials fear a prescribed fire could escape and burn out of control. In such situations, mechanical treatments are required, generating large amounts of wood—particularly small-diameter trees, limbs, brush, and other material that serve as fuel for wildland fires.[3]

Woody biomass can be used in many ways. Small logs can be peeled and used as fence posts, or can be joined together with specialized hardware to construct pole-frame buildings. Trees also can be milled into structural lumber or made into other wood products, such as furniture, flooring, and paneling. Woody biomass also can be chipped for use in paper pulp production and for other uses—for example, a New Mexico company combines juniper chips with plastic to create a composite material used to make road signs—and can be converted into other products such as

[3]Fuel reduction efforts are not the only source of this material. Woody biomass can result from a variety of activities related to improving or maintaining forest and rangeland health, as well as forest management activities such as timber harvests. Further, according to Forest Service officials and others, millions of acres of pine trees in the southeastern United States face a depressed market because of the closure of pulp mills. These trees thus constitute another potential source of woody biomass.

ethanol and adhesives. Finally, woody biomass can be chipped or ground for energy production in power plants and other applications.

Citing biomass's potential to serve as a source of electricity, fuel, chemicals, and other materials, the President and the Congress have encouraged federal activities regarding biomass utilization—but until recently, woody biomass received relatively little emphasis. Major congressional direction includes the Biomass Research and Development Act of 2000, the Farm Security and Rural Investment Act of 2002, the Healthy Forests Restoration Act of 2003, and the American Jobs Creation Act of 2004. Utilization of woody biomass also is emphasized in the federal government's National Fire Plan, a strategy for planning and implementing agency activities related to wildland fire management. For example, a National Fire Plan strategy document cites biomass utilization as one of its guiding principles, recommending that the agencies "employ all appropriate means to stimulate industries that will utilize small-diameter woody material resulting from hazardous fuel reduction activities."[4] Federal agencies also are carrying out research concerning the utilization of small-diameter wood products as part of the Healthy Forests Initiative, the administration's initiative for wildland fire prevention.

Most Woody Biomass Utilization Activities Are Implemented by the Departments of Agriculture, Energy, and the Interior and Include Grants, Research, and Education

Most of the federal government's woody biomass utilization efforts are being undertaken by USDA, DOE, and Interior. While some activities are performed jointly, each department also conducts its own activities, which generally involve grants for small-scale woody biomass projects; research on woody biomass uses; and education, outreach, and technical assistance aimed at woody biomass users.

[4]Departments of Agriculture and the Interior and the Western Governors' Association, *A Collaborative Approach for Reducing Wildland Fire Risks to Communities and the Environment: A 10-Year Comprehensive Strategy* (Washington, D.C.; August 2001).

Some Woody Biomass Activities Are Performed Jointly by Multiple Agencies

USDA, DOE, and Interior have undertaken a number of joint efforts related to woody biomass. In June 2003, the three departments signed a memorandum of understanding on woody biomass utilization, and the departments sponsored a 3-day conference on woody biomass in January 2004. The departments also have established an interagency Woody Biomass Utilization Group, which meets quarterly to discuss relevant developments and to coordinate departmental efforts.

Another interdepartmental collaboration effort is the Joint Biomass Research and Development Initiative, a grant program conducted by USDA and DOE and authorized under the Biomass Research and Development Act of 2000. The program provides funds for research on biobased products. DOE also has collaborated with both USDA and BLM on assessment of biomass availability, while USDA and Interior have entered into a cooperative agreement with the National Association of Conservation Districts to promote woody biomass utilization.[5]

USDA, DOE, and Interior also participate in joint activities at the field level. For example, DOE's National Renewable Energy Laboratory (NREL) and the Forest Service have collaborated in developing and demonstrating small power generators that use woody biomass for fuel. The Forest Service also collaborates with Interior in funding and awarding grants under the Fuels Utilization and Marketing program, which targets woody biomass utilization efforts in the Pacific Northwest. The agencies also collaborate with state and local governments to promote the use of woody biomass—for example, the Forest Service, NREL, and BLM entered into a memorandum of understanding with Jefferson County, Colorado, to study the feasibility of developing an electricity-generating facility that would use woody biomass.

[5]The National Association of Conservation Districts is a nonprofit organization that represents the nation's 3,000 conservation districts—local units of government established under state law to carry out natural resource management programs at the local level.

USDA's Efforts Related to Woody Biomass Utilization Are Concentrated in the Forest Service, with Some Efforts Under Way in Other USDA Agencies

Most of USDA's woody biomass utilization activities are undertaken by the Forest Service and involve grants, research and development, and education, outreach, and technical assistance. The Forest Service provides grants through its Economic Action Programs, created to help rural communities and businesses dependent on natural resources become sustainable and self-sufficient. The Forest Service also has created a grant program in response to a provision in the Consolidated Appropriations Act for Fiscal Year 2005, which authorized up to $5 million for grants to create incentives for increased use of biomass from national forest lands. Two other USDA agencies—the Cooperative State Research, Education and Extension Service (CSREES) and USDA Rural Development—maintain programs that could include woody biomass utilization activities. CSREES oversees the Biobased Products and Bioenergy Production Research grant program and the McIntyre-Stennis grant program, which provides grants to states for research into forestry issues under the McIntyre-Stennis Act of 1962. Within USDA Rural Development, the Rural Business-Cooperative Service oversees a grant program emphasizing renewable energy systems and energy efficiency among rural small businesses, farmers, and ranchers, and the Rural Utilities Service maintains a loan program for renewable energy projects.

Forest Service researchers are conducting research into a variety of woody biomass issues. Researchers have conducted assessments of the woody biomass potentially available through land management projects and have developed models of the costs and revenues associated with thinning projects. Researchers also are studying the economics of woody biomass use in other ways; one researcher, for example, is beginning an assessment of the economic, environmental, and energy-related impacts of using woody biomass for power generation. The Forest Service also conducts extensive research, primarily at its Forest Products Laboratory, into uses for woody biomass, including wood-plastic composites and water filtration systems that use woody biomass fibers, as well as less expensive ways of converting woody biomass to liquid fuels.

In addition, the Forest Service conducts extensive education, outreach, and technical assistance activities. Much of this activity is conducted by the Technology Marketing Unit (TMU) at the Forest Products Laboratory, which provides woody biomass users with technical assistance and expertise in wood products utilization and marketing. Forest Service field office staff also provide education, outreach, and technical assistance, and each Forest Service region has an Economic Action Program coordinator who has involvement in woody biomass issues. For example, one such coordinator organized a "Sawmill Improvement Short Course" designed to

provide information to small-sawmill owners regarding how to better handle and use small-diameter material. The Forest Service also has partnerships with state and regional entities that provide a link between scientific and institutional knowledge and local users.

DOE Is Engaged Primarily in Biomass Research and Development Activities

Most of DOE's woody biomass activities are overseen by its Office of the Biomass Program and focus primarily on research and development, although the department does have some grant and technical assistance activities. DOE's research and development activities generally address the conversion of biomass, including woody biomass, to liquid fuels, power, chemicals, or heat. Much of this work is carried out by NREL, where DOE recently opened the Biomass Surface Characterization Laboratory. DOE also supports research into woody biomass through partnerships with industry and academia. Program management activities for these partnerships are conducted by DOE headquarters, with project management provided by DOE field offices.

In addition to its research activities, DOE provides information and guidance to industry, stakeholder groups, and users through presentations, lectures, and DOE's Web site, according to DOE officials. DOE also provides outreach and technical assistance through its State and Regional Partnership, Federal Energy Management Program (FEMP), and Tribal Energy Program. FEMP provides assistance to federal agencies seeking to implement renewable energy and energy efficiency projects, while the Tribal Energy Program provides technical assistance to tribes, including strategic planning and energy options analysis.

DOE's grant programs include (1) the National Biomass State and Regional Partnership, which provides grants to states for biomass-related activities through five regional partners; and (2) the State Energy Program, which provides grants to states to design and carry out their own renewable energy and energy efficiency programs. In addition, DOE's Tribal Energy Program provides funds to promote energy sufficiency, economic development, and employment on tribal lands through renewable energy and energy efficiency technologies.

Interior's Woody Biomass Activities Include Education, Outreach, and Some Grant Programs

Interior's activities include providing education and outreach and conducting grant programs, but they do not include research into woody biomass utilization issues. Four Interior agencies—BLM, the Bureau of Indian Affairs (BIA), Fish and Wildlife Service (FWS), and National Park Service (NPS)—conduct activities related to woody biomass. These

agencies conduct education, outreach, and technical assistance, but not to the same degree as the Forest Service. For example, BIA provides technical assistance to tribes seeking to implement renewable energy projects, and while FWS and NPS conduct relatively few woody biomass utilization activities, in some cases the agencies will work to find a woody biomass user nearby if a market exists for the material. Interior plans to expand its outreach efforts by using the National Association of Conservation Districts, with which it signed a cooperative agreement, to conduct outreach activities related to woody biomass. And while Interior's grant programs generally do not target woody biomass, BIA has provided some grants to Indian tribes, including a 2004 grant to the Confederated Tribes of the Warm Springs Reservation in Oregon to conduct a feasibility study for updating and expanding a woody biomass-fueled power plant.

Several Other Federal Agencies Participate in Woody Biomass Activities

Several other federal agencies are engaged in limited woody biomass activities through their advisory or research activities. The Environmental Protection Agency provides technical assistance, through its Combined Heat and Power Partnership, to power plants that generate combined heat and power from various sources, including woody biomass. Three other agencies—the National Science Foundation, Office of Science and Technology Development, and Office of the Federal Environmental Executive—also are involved in woody biomass activities through their membership on the Biomass Research and Development Board, which is responsible for coordinating federal activities for the purpose of promoting the use of biobased industrial products.

Woody Biomass Coordination Efforts among and within Federal Agencies Include Both Formal and Informal Mechanisms, and the Forest Service, DOE, and Interior Have Assigned Responsibility for Overseeing Woody Biomass Activities

Two groups serve as formal vehicles for coordinating federal agency activities related to woody biomass utilization. One, the Woody Biomass Utilization Group, is a multiagency group that meets quarterly on woody biomass utilization issues and is open to all national, regional, and field-level staff across numerous agencies. The other, the Biomass Research and Development Board, is responsible for coordinating federal activities to promote the use of biobased industrial products. The board consists of representatives from USDA, DOE, and Interior, as well as EPA, the National Science Foundation, Office of the Federal Environmental Executive, and Office of Science and Technology Policy. When discussing coordination among agencies, however, agency officials more frequently cited using informal mechanisms for coordination—through telephone discussions, e-mails, participation in conferences, and other means—rather than the formal groups described above. Several officials told us that informal communication among networks of individuals was essential to coordination among agencies. Officials also described other forms of coordination, including joint review teams for interagency grant programs and multiagency working groups examining woody biomass at the regional or state level.

The Forest Service—the USDA agency with the most woody biomass activities—developed a woody biomass policy in January 2005, and, in March 2005, in response to a recommendation in our draft report, the agency assigned responsibility for overseeing and coordinating its woody biomass activities to an official within the Forest Service's Forest Management branch. In addition, the agency has created the Biomass Utilization Steering Committee, consisting of the staff directors of various Forest Service branches, to provide direction and support for agency biomass utilization.

DOE coordinates its woody biomass utilization activities through its Office of Energy Efficiency and Renewable Energy. Within this office, the Office of the Biomass Program directs biomass research at DOE national laboratories and contract research organizations, while the Federal Energy Management Program and the Tribal Energy Program conduct a small number of other woody biomass activities.

Interior has appointed a single official to oversee its woody biomass activities and is operating under a woody biomass policy adopting the principles of the June 2003 memorandum of understanding among USDA, DOE, and Interior. Interior also has appointed a Renewable Energy Ombudsman to coordinate all of the department's renewable energy activities, including those related to woody biomass, and has worked with

its land management agencies to develop woody biomass policies allowing service and timber contractors to remove woody biomass where ecologically appropriate. Similarly, BLM has appointed a single official to oversee woody biomass efforts and has developed a woody biomass utilization strategy to guide its activities that contains overall goals related to increasing the utilization of biomass from treatments on BLM lands.

Most Officials Cited Economic Obstacles to Woody Biomass Utilization, and While Agencies Generally Targeted These Obstacles, Some Officials Believe Additional Steps beyond the Agencies' Authority Are Needed

Agency officials cited two principal obstacles to increasing the use of woody biomass: the difficulty in using woody biomass cost-effectively and the lack of a reliable supply of the material. Agency activities are generally targeted toward the obstacles identified by agency officials, but some officials told us that their agencies are limited in their ability to fully address these obstacles and that additional steps beyond the agencies' authority to implement are needed. However, not all agree that such steps are appropriate.

Most Officials Noted the Difficulty Involved in Using Woody Biomass Cost-Effectively, and Many Also Cited the Lack of a Reliable Woody Biomass Supply

The obstacle most commonly cited by officials we spoke with is the difficulty of using woody biomass cost-effectively. Officials told us the products that can be created from woody biomass—whether wood products, liquid fuels, or energy—often do not generate sufficient income to overcome the costs of acquiring and processing the raw material. One factor contributing to the difficulty in using woody biomass cost-effectively is the cost incurred in harvesting and transporting woody biomass.

Numerous officials told us that even if cost-effective means of using woody biomass were found, the lack of a reliable supply of woody biomass from federal lands presents an obstacle because business owners or investors will not establish businesses without assurances of a dependable supply of material. Officials identified several factors contributing to the lack of a reliable supply, including the lack of widely available long-term contracts for forest products, environmental groups' opposition to federal projects, and the shortage of agency staff to conduct

activities. A few officials cited internal barriers that hamper agency effectiveness in promoting woody biomass utilization, including limited agency expertise related to woody biomass and limited agency commitment to the issue. A variety of other obstacles were noted as well, including the lack of a local infrastructure for handling woody biomass, consisting of loggers, mills, and equipment capable of treating small-diameter material.

Agency Efforts Are Generally Targeted toward the Obstacles Identified, but Officials Cited the Need for Additional Actions Such as Subsidies and Tax Credits

Agency activities related to woody biomass were generally aimed at overcoming the obstacles agency officials identified, including many aimed at overcoming economic obstacles. For example, Forest Service staff have worked with potential users of woody biomass to develop products whose value is sufficient to overcome the costs of harvesting and transporting the material; Economic Action Program coordinators have worked with potential woody biomass users to overcome economic obstacles; and Forest Products Laboratory researchers are working with NREL to make wood-to-ethanol conversion more cost-effective.

Despite ongoing agency activities, however, numerous officials believe that additional steps beyond the agencies' authority are need to fully address obstacles to woody biomass utilization. Among these steps are subsidies and tax credits, which officials told us are necessary to develop a market for woody biomass but which are beyond the agencies' authority. According to several officials, the obstacles to using woody biomass cost-effectively are simply too great to overcome by using the tools—grants, outreach and education, and so forth—currently at the agencies' disposal. One official stated that "in many areas, the economic return from smaller-diameter trees is less than production costs. Without some form of market intervention, such as tax incentives or other forms of subsidy, there is little short-term opportunity to increase utilization of such material." Some officials stated that subsidies have the potential to create an important benefit—reduced fire risk through hazardous fuels reduction—if they promote additional thinning activities by stimulating the woody biomass market. Rather than incentives or subsidies, some officials noted the potential for increased use of woody biomass through state requirements—known as renewable portfolio standards—that utilities

procure or generate a portion of their electricity by using renewable resources, which could include woody biomass.[6]

But not all officials believe these additional steps are efficient or appropriate. One official told us that, although he supports these activities, tax incentives and subsidies would create enormous administrative and monitoring requirements. Another official stated that although increased subsidies could address obstacles to woody biomass utilization, he does not believe they should be implemented, preferring instead to allow research and development efforts and market forces to establish the extent of woody biomass utilization. Further, not all agree that the market for woody biomass should be expanded. One agency official told us he is concerned that developing a market for woody biomass could result in overuse of mechanical treatment (rather than prescribed burning) as the market begins to drive the preferred treatment, and representatives of one national environmental group told us that relying on woody biomass as a renewable energy source will lead to overthinning, as demand exceeds the supply that is generated through responsible thinning.

Conclusions

The amount of woody biomass resulting from increased thinning activities could be substantial, adding importance to the search for ways to use the material cost-effectively rather than simply disposing of it. However, the use of woody biomass will become commonplace only when doing so becomes economically advantageous for users—whether small forest businesses or large utilities. Federal agencies are targeting their activities toward overcoming economic and other obstacles, but some agency officials believe that these efforts alone will not be sufficient to stimulate a market that can accommodate the vast quantities of material expected—and that additional action may be necessary at the federal and state levels. Nevertheless, we believe the agencies will continue to play an important role in stimulating woody biomass use. The Forest Service took a significant step recently by designating an agency lead for woody biomass activities, responding to a need we had identified in our draft report and enhancing the agency's ability to ensure that its multiple activities contribute to its overall objectives. Given the magnitude of the woody biomass issue and the finite nature of agency budgets, it is essential that

[6]According to the Database of State Incentives for Renewable Energy, a DOE-funded project, 19 states and the District of Columbia had renewable portfolio standards as of February 2005.

federal agencies appropriately coordinate their woody biomass activities—both within and across agencies—to maximize their potential for addressing the issue.

Mr. Chairman, this concludes my prepared statement. I would be pleased to answer any questions that you or other Members of the Subcommittee may have at this time.

GAO Contacts and Staff Acknowledgments

For further information about this testimony, please contact me at (202) 512-3841 or at nazzaror@gao.gov. David P. Bixler, James Espinoza, Steve Gaty, Richard Johnson, and Judy Pagano made key contributions to this statement.

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