

**REPORT ON THE IMPLEMENTATION OF SB11-267  
THE FOREST HEALTH ACT OF 2011**

**SUBMITTED BY THE COLORADO STATE FOREST SERVICE**



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The Work Group actively sought information from external sources and would like to acknowledge their contributions, including the many reviewers, contributors and speakers who donated their time and effort to generating, organizing and strengthening this report.

## **DISCLAIMER**

This report attempts to address all of the points requested of the Colorado Forest Biomass Use Work Group by the Colorado General Assembly through SB11-267: The Forest Health Act of 2011. The intent of the Work Group was to be as inclusive as possible. Subsequently, this report has not been vetted or endorsed by any government agency or external organization, nor does this report indicate unanimous consensus. None of the information in this report should imply the Work Group listed items in order of importance or significance.

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## EXECUTIVE SUMMARY

Colorado's forested landscapes are essential to our well-being. Yet, these same landscapes are threatened by wildfires, insects and disease. Our ability to manage for these changes is limited by shrinking budgets, a declining forest products industry and volatile energy prices.

However, these difficulties also present opportunities. Our current policy efforts should link forest health improvements and forest industry vitality to developing more efficient forest product manufacturing and encouraging renewable energy projects.

To this end, the Colorado General Assembly passed Senate Bill 11-267: The Forest Health Act of 2011. The legislation created the Colorado Forest Biomass Use Work Group (Work Group) convened by the Colorado State Forest Service (CSFS). The Work Group was tasked with two main objectives:

1. Identify barriers pertaining to the creation, development and sustainability of our forest products industry, including efforts to develop forest energy.
2. Develop recommendations to improve the efficacy of the CSFS with regards to managing for a forest energy industry, including but not limited to compiling and disseminating information, participating in the development of policy and executing and improving several forest management tools.

This report compiles the efforts of the Work Group. Specifically, this report addresses issues concerning forest energy by moving through the same process a forest energy project entrepreneur might follow during development. First, this report highlights problems with accessing and moving forest biomass material in Colorado. Next, it focuses on financing and planning issues. Finally, it details problems with current forest energy-related policies and utilization efforts.

At the end of each section, tables are provided that elaborate on the identified barriers and provide recommendations for overcoming the barrier, both at the federal and state levels.

For ease of access, barrier and recommendation summaries are provided in the next few pages. For additional detail, please refer to the full description counterpart for each summary contained in the related section of this report.

NOTE: This report assumes a certain degree of familiarity and experience with forest biomass and forest energy. For those interested in additional background information, please read [Where Wood Works in Colorado](http://csfs.colostate.edu/pdfs/Where-Wood-Works-2011.pdf) (<http://csfs.colostate.edu/pdfs/Where-Wood-Works-2011.pdf>).

## Accessibility and Transportation Barriers and Recommendation Summary: Federal Level

BARRIERS	RECOMMENDATIONS
<b>Federal Level</b>	
1. Consistent access to forest biomass supplies is lacking.	1. Encourage changes in federal land management agency budgeting and policy that would provide for long-term supply contracts.
2. Congress does not fund the full implementation of national forest planned implementation and outputs.	2. Fully implement national forest planned forest management and resulting wood product yields.
3. Authorities for stewardship agreements, stewardship contracting and the Good Neighbor Authority will expire soon.	3. The Colorado congressional delegation should work to make federal stewardship policy authorities permanent, while assuring the provisions in the Good Neighbor Authority remain unchanged.
4. The 10-year limit on stewardship authorities restricts investment opportunities.	4. Increase the time limits for stewardship authorities to at least 20 years.
5. Annual allotments of stewardship contracts may be inappropriately scaled for current budget cycle processes.	5. Encourage federal agencies to plan a diverse portfolio of phased and smaller, “convenient” stewardship contracts.
6. Required cancelation ceilings may discourage large, long-term stewardship contracts.	6. Colorado should request that the US Forest Service evaluate solutions that provide additional funds or waivers to offset the costs of cancelation ceiling funds that are frozen in stewardship contracts.

**Accessibility and Transportation Barriers and Recommendation Summary: State Level**

<b>BARRIERS</b>	<b>RECOMMENDATIONS</b>
<b>State Level</b>	
<p>1. Colorado lacks the forest products infrastructure necessary to address our forest health issues.</p>	<p>1. The state should establish economic development initiatives that foster greater integration between Colorado’s timber industry and the state’s emerging forest energy industry.</p>
<p>2. Concerns persist about the impacts from using forest biomass and beetle-killed wood.</p>	<p>2. Develop and fund an educational campaign touting the benefits of active forest management and resulting forest energy production and consumption.</p>
<p>3. Road weight limits in Colorado place the forest products industry at a disadvantage.</p>	<p>3. Adjust Colorado’s road weight limits to make them more competitive with other states.</p>
<p>4. Communities often are not equipped nor do they have the resources to conduct adequate biomass supply studies.</p>	<p>4. Develop a mechanism to conduct or fund biomass supply assessments when feasibility and project support exist.</p>

## Financial Planning Barriers and Recommendation Summary: Federal Level

BARRIERS	RECOMMENDATIONS
<b>Federal Level</b>	
1. Federal level tax incentives favor other alternative, renewable energy technologies over forest energy projects.	1. Revamp Colorado incentives to provide parity for all renewable energy technologies.
2. Federal level tax incentives discourage non-electrical forest energy projects in Colorado.	2. Work with Western Governors' Association to describe opportunities to develop federal level tax incentives that target forest energy projects.
3. Federal tax credits for wood pellet stoves are eroding.	3. Enhance (or at least restore) the tax credit for wood pellet stoves.
4. Fuel tax credits differ depending on fuel use for forest biomass operations.	4. Equalize fuel tax credits for biomass transportation.

## Financial Planning Barriers and Recommendation Summary: State Level

BARRIERS	RECOMMENDATIONS
<b>State Level</b>	
1. While incentives exist, they often are applied without a collaborative focus.	1. Create a state energy strategic plan that focuses on viable opportunities such as Community Energy Parks.
2. The economics of material extraction discourage forest biomass projects.	2. Modify existing funding sources and encourage state agencies to change approaches to future financial assistance programs that focus on biomass energy and forest product opportunities.
3. See #2 above.	3. Create an integrated state task force to explore potential funding sources.
4. State level tax incentives discourage biomass energy projects.	4. Develop tax credits for appliances and equipment used to produce and consume forest energy, while ensuring that those tax credits are transferrable, as they are for other renewables.

**Policy and Utilization Barriers and Recommendation Summary: Federal Level**

<b>BARRIERS</b>	<b>RECOMMENDATIONS</b>
<b>Federal Level</b>	
1. The definitions for forest biomass are different and some exclude biomass from federal lands.	1. Adopt a standard definition for biomass that includes federal forests.
2. Re-opening Title V permits under the Clean Air Act can deter innovation.	2. Encourage policies that reward rather than penalize fossil fuel operators who attempt to improve air quality emissions, including use of biomass.
3. Biomass facilities may be subject to greenhouse gas regulations in the near future.	3. Encourage the Colorado Department of Public Health and Environment (CDPHE) to work with the US Environmental Protection Agency (EPA) to understand Colorado’s needs and positions on greenhouse gas issues.
4. Incentives for energy production favor fossil fuels and renewable energy alternatives that do not improve forest health.	4. Develop a policy agenda that can inform energy policy with a basis on efficiency and consider cost-effective displacement of fossil fuels through forest energy.
5. National Environmental Policy Act (NEPA) planning is resource intensive.	5. Encourage the federal agencies to conduct NEPA planning at larger scales and incorporate biomass utilization.
6. With the recent decline in the economy, forest product markets also declined.	6. Encourage the US Forest Service to adjust stumpage pricing so it more accurately responds to changing market conditions.
7. Leadership for Region 2 of the US Forest Service is in transition.	7. Encourage US Forest Service leadership to endorse forest biomass as a valuable and viable tool.

<b>BARRIERS</b>	<b>RECOMMENDATIONS</b>
<b>Federal Level</b>	
8. Different approaches exist for federal forest contracting mechanisms.	8. Maintain identical standards for federal forest contracting, including timber and stewardship contracts.
9. For many consumers, the cost of a new high efficiency, clean energy appliance is cost-prohibitive when they still have a usable older appliance.	9. Implement a program for consumers to exchange old stoves with new, clean-burning, high-efficiency wood or pellet appliances, while providing guidance to communities on qualifying technologies.
10. More research and support is needed to develop more efficient and effective forest energy solutions.	10. Increase resources to Colorado for facilitating needed research and for developing collaborative research partnerships.

**Policy and Utilization Barriers and Recommendation Summary: State Level**

<b>BARRIERS</b>	<b>RECOMMENDATIONS</b>
<b>State Level</b>	
1. The state renewable portfolio standard (renewable energy standard) promotes electricity only.	1. Adjust the renewable portfolio standard to include parity for biomass, including a renewable thermal and combined heat and power standard.
2. Incentives for considering biomass in early-stage planning of public facilities are nonexistent.	2. Require planners to consider using Colorado forest products in all public buildings in Colorado whenever they are available.
3. Colorado’s conservation easement program does not provide for sustainably removing forest material from protected parcels.	3. Alter Colorado’s current conservation easement program to permit sustainable working forest conservation easements.
4. Credit multipliers in Colorado’s Renewable Energy (Portfolio) Standard favor solar.	4. Make strategic use of credit multipliers and carve-outs.
5. The Colorado State Forest Service (CSFS) does not have enough resources to effectively analyze, inform and promote forest biomass utilization and forest energy development.	5. Expand the role of the Colorado State Forest Service in forest biomass information.
6. See #5 above.	6. Improve the visibility of the Colorado Forest Products (CFP) program.
7. See #5 above.	7. Grant the CSFS participating agency status in all federal planning.
8. See #5 above.	8. Enable the CSFS to assist in landscape-scale NEPA planning.

<b>BARRIERS</b>	<b>RECOMMENDATIONS</b>
<b>State Level</b>	
9. See #5 above.	9. Allow the CSFS to take on a stewardship contract if no other entity is available.
10. See #5 above.	10. Allow the CSFS to take on a stewardship agreement if no other entity is available.

## **INTRODUCTION**

Colorado's forested landscapes are essential to our well-being. They help us retain groundwater and regulate snowmelt, which feeds our rivers and streams. They filter our air. They form critical habitat for our native species. They sustain our economy by providing recreational opportunities and the raw materials necessary for daily living.

Currently, these benefits are threatened. Catastrophic wildfire events, such as the 2002 Hayman Fire, are detrimental to our state, not only for ecological impacts but also economic, as suppression and remediation costs continue to climb. For example, in 2003, Colorado spent at least \$22 million to remediate the impacts of the Hayman Fire, with additional expenditures in the years following (Lynch 2004: 48). Insect and disease epidemics continue unabated. The level of activity across Colorado over the last 15 years exceeds levels recorded in our state's history.

Our ability to protect, manage and restore forest health also has declined. The US Forest Service's budget for wildfire activity increased from 13 percent in 1991 to nearly half of the agency's budget in 2010. This shift means that other priorities, such as managing for recreation, timber, watersheds and wildlife, receive less funding. The simultaneous pressure to reduce harvests on national forests combined with a recession in the construction industry resulted in a 63-percent decline in our forest products industry since 1986 and an 80-percent decline since the late 1960s (USFS 2011: 6; Colgan 2011). Partially due to this decline,

Colorado must now import between 90 percent and 100 percent of the wood products it consumes, depending on the product line (Lynch and Mackes 2001).

Volatile energy prices exacerbate the problem. In Colorado over the past decade, prices for regular gasoline have ranged between \$1.03 (2001) to more than \$4 (2008) per gallon, with current prices hovering around \$3.50. Prices for natural gas delivered to residential customers have ranged between \$4.45 (2003) to more than \$16 (2008) per thousand cubic feet. These price spikes mean Coloradans must spend more of their household income on basic necessities, such as food and heat. It also means that managing forests is becoming increasingly difficult, as the energy needed to power saws, fuel trucks and operate machinery becomes prohibitively expensive.

However, rather than viewing these challenges as crises, Colorado should view them as opportunities. Forest management, conducted under the principles of economic and ecological sustainability, could restore forest health, while revitalizing our forest products industry, including efforts to develop forest energy, (i.e., energy produced using wood). Our current policy efforts should link forest health improvements and forest industry vitality to developing more efficient forest product manufacturing, including integrating our forest products businesses, and encouraging renewable energy projects to foster solutions that address these multiple challenges.

For example, Colorado should use more forest biomass to reduce the fuels available to catastrophic wildfires. Biomass could be used in wood-to-energy efforts, which work more effectively where the full-value product chain, (i.e., the full range of possible wood products is produced), is generated through forest management activities. Higher-value uses of wood, such as lumber and wood paneling, provide the financial support to remove and utilize lower-value woody material, such as biomass for energy, allowing this material to be used efficiently, rather than being left behind to fuel a wildfire. To achieve this effect, Colorado should encourage integration by co-locating higher-value with lower-value facilities. Fully utilizing wood in this manner can offset the cost of forest management activities, while achieving benefits such as reduced wildfire risk to life, property and watersheds, and water supply protection. Producing forest energy can partially offset our fossil fuel consumption. When these activities are aligned, our desired forest conditions can be achieved.

To this end, the Colorado General Assembly passed Senate Bill 11-267: The Forest Health Act of 2011. The legislation created the Colorado Forest Biomass Use Work Group (Work Group) convened by the Colorado State Forest Service (CSFS). The Work Group consists of subject-matter experts selected from the public, private and non-profit sectors; the CSFS provided staff assistance.

To create a market-based model for sustainable forest management, the Work

Group was tasked with two primary objectives:

1. Identify barriers pertaining to the creation, development and sustainability of our forest products industry, including efforts to develop forest energy. Working towards this objective while integrating higher-value forest products businesses can reduce the high costs of forest management actions, especially those actions needed in the wildland-urban interface.
2. Develop recommendations to improve the efficacy of the CSFS with regards to managing for a forest energy industry, including but not limited to compiling and disseminating information, participating in the development of policy, and executing and improving several forest management tools.

This report compiles the efforts of the Work Group. Specifically, this report addresses issues concerning forest energy by moving through the same process a forest energy project entrepreneur might follow during development. First, this report highlights problems with accessing and moving forest biomass material in Colorado. Next, it focuses on financing and planning issues. Finally, it details challenges related to current forest energy-related policies and utilization efforts. At the end of each section, tables are provided that elaborate on the identified barriers and provide recommendations for overcoming the barrier.

## ACCESSIBILITY AND TRANSPORTATION

### **Accessing Colorado's Forests**

Difficulties accessing Colorado's forest resources is one of the first barriers the Work Group identified. As most (68 percent) of these acres are federally managed, the agencies themselves are limited by their own planning, budgeting and contracting procedures. Agency budgets are authorized annually (and in recent years, only after the late season issuance of a continuing resolution). In contrast, forest energy project investors require long-term supply guarantees, often as long as 20 years, which is identical to other forest products businesses for financing (Pinchot Institute for Conservation and The Heinz Center 2010: 3). Often, two or three times more than the projected need is required for sustaining year-round operations.

A number of tools exist to work around this limitation. For example, Colorado uses flexible contracting authorities, such as stewardship contracts and agreements and the Good Neighbor Authorities to manage forests. First, stewardship contracts allow the US Forest Service (USFS) and Bureau of Land Management (BLM) to exchange goods for services in order to achieve land management objectives. Second, stewardship agreements are similar to contracts in that the USFS or BLM may partner with a cooperating entity that contributes resources (funding, personnel, equipment and expertise) to achieve restoration goals (Government Accountability Office [GAO] 2008: 2, 5; Western Forestry Leadership Coalition [WFLC] 2011a). Finally, the Good

Neighbor Authority allows the CSFS to serve as "agents" of the USFS "to perform forest, rangeland, and watershed restoration services, such as fuel reduction or treatment of insect-infected trees, on national forest lands" that are located "immediately adjacent to state, local, or private lands where similar work was under way" (GAO 2009: 8-9).

Yet, these tools also are limited. First, stewardship contracts and agreements can only be authorized for a maximum of 10 years. This amount of time is half what investors expect to see, at a minimum, before financing a project. Second, without congressional intervention, the agencies' authority to use these forest management tools expires on Sept. 30, 2013.

Subsequently, forest energy projects will be much harder to finance, complete and sustain without some type of comparable multi-year assurance from federal land management agencies or state-level counterparts for consistent, reliable supplies of material. With such limitations, the incentive is to award a small number of large, long-term annual volumes to address the forest management backlog, typically with less-than-optimal results, such as higher management and extraction costs, fewer acres treated and removal of forest materials that are then wasted, rather than utilized productively.

Even if the authorities are extended, Colorado might have difficulties encouraging their use due to limited budgets and a scarcity of outlets for the removed

goods that could pay for the forest management.

For example, approximately half of the US Forest Service budget is used for firefighting, an increase of nearly 40 percent since the early 1990s. With more funding allocated to suppression, other program areas, including timber management, are funded at a much lower level. Thus, national forest system timber outputs are substantially less than what could technically be produced sustainably. Forest industry sustainability is severely hampered by the lack of a consistent, sustainable supply of timber. Without the ability to produce the higher-value chain of products, low-value uses such as wood for energy are more difficult to develop. Subsequently, it will be difficult for existing businesses to survive or expand and new businesses to develop.

Another issue is that a significant percentage of the national forest lands in Colorado are “off limits” to harvest of forest biomass, due to inaccessibility (e.g. steep slopes, etc.) and wilderness and roadless area designations. As an example, of all US Forest Service lands in Colorado, only 20 percent are open to active management. As a result, forest products businesses are heavily reliant on private forests for raw material.

Furthermore, determining precisely where accessible forest biomass exists and gaining access to those forests is problematic. Many studies exist that provide totals of biomass; however, their numbers differ and no comprehensive, definitive study exists.

Solutions do exist. One method of side-stepping budgetary restraints is to increase the value of Colorado’s wood. Value could be increased by increasing demand. The state could encourage the use of Colorado forest products in Colorado. Developing a broad array of forest products that ranges from traditional lumber for municipal buildings and residential housing to landscaping to biomass for energy is the best approach to maintaining forest diversity and meeting our future forest goals. Using a market-based model for sustainable forest management provides the necessary economic incentives to support forest management activities, while ensuring that ecological integrity is maintained.

Also, the CSFS is constructing a map showing the locations of accessible forests capable of producing woody biomass and ranks the counties that are most vulnerable to the risks of catastrophic fire. In the interim, an online database for roughly gauging forest, agricultural and waste biomass can be found online at <https://bioenergykdf.net>. The CSFS, as well as the USFS Rocky Mountain Research Station, can directly assist users in developing information resources to meet their needs and requirements for securing financing.

### **Concern Over Forest Energy Impacts**

The public remains resistant to some forest energy project development. Concerns over forest depletion and high-grading of valuable resources persist. Questions often arise about the state’s ability to sustain a forest biomass / forest energy industry (i.e.

“feeding the beast”). A report issued by the 25x’25 Alliance (2011: 12) suggests this worry may be exaggerated:

The economics and fiscal constraints of a free market will place additional controls on resource demands from the biomass industry. A 2010 analysis conducted by Forisk Consulting, LLC, estimated that only 40% of the 129 announced bioenergy projects in the southeastern United States had a reasonable chance of being built (Mendell and Land 2010). A more recent report from Forisk looked at 441 announced and operating bioenergy projects that consume wood in the continental United States. In total, these projects represent a potential incremental wood use of 122 million dry tons per year by 2020. Based on the most recent Forisk (2010) analysis, 55% of the projects representing only 67 million dry tons per year pass basic viability screening. Likewise, the Manomet Study (Walker et al. 2010) identifies 243 projects announced in the northeastern United States, but only one that has been completed.

Environmental impacts are another primary concern associated with developing a forest energy industry. According to the EPA, 9 percent of the water quality problems in surveyed rivers and streams can be attributed to forestry activities. As much as 90 percent of the total sediment from forestry activities comes from the construction and use of forest roads (EPA 2011). Wildfires can eliminate trees, further increasing sediment deposits and increasing watershed management costs.

Air emissions from biomass combustion are a perennial point of concern. Material not suitable for some forest products businesses often are piled on-site and burned, creating smoke, emitting greenhouse gases and impairing mountain viewsheds. Forest biomass also is considered a dirty fuel, as emissions of particulates and carbon produced through forest energy projects are (mistakenly) equated with emission levels from wildfires.

However, while impacts are inevitable, they can be mitigated. Environmental analyses conducted on all federal lands under the National Environmental Policy Act (NEPA) process and state-level best management practices (BMPs) used by forest managers on all lands can be employed to protect water quality. NEPA documents are available to the public and the most recent edition of BMPs is available online from the CSFS library at <http://csfs.colostate.edu/pages/pub-csfs2.html#forests>. Biennial audits, which also are posted on the CSFS website, show overall BMP compliance rates to be high, with comparable experiences evidenced in other Western states.

Air emissions from forest wildfires such as the Hayman Fire in Colorado or the Wallow Fire in Arizona are substantial. Burning forest biomass in a controlled, efficient heat and/or power application can meet current air quality standards and reduce pollutants as much as 99-percent compared with the same biomass being consumed by wildfire. Additional savings include the averted costs incurred by taxpayers for wildfire suppression and restoration as well as by

property owners for damages (WFLC 2011b: 10). Furthermore, some forest energy processes produce very low emissions without harmful particulates that often have been the leading air pollutant in Colorado's high-altitude communities.

### **Transportation**

Transportation also is a major factor to consider for the forest energy industry. While Colorado's forests dominate the western two-thirds of the state, 80 percent of the state's population lives along the Interstate-25 corridor. As a result, transportation distances from supply to demand are substantial. To make forest energy projects cost-competitive, transport efficiencies must be increased. At a minimum, Colorado could increase the permissible weight limits for logging and forest biomass trucks to those set by other western states (ex. 105,000 lbs. as in Oregon). Greater weight limits not only increase the amount of material removed

from forests, but fewer trips mean less fuel is consumed, thereby decreasing air pollution.

Transportation issues are compounded by the widespread geographic distribution of the Colorado forest products industry. For example, Colorado's larger mills producing higher-value wood products are scattered across the Western Slope. Colorado's pellet mills, producing lower-value wood pellets, are in north-central Colorado. To maximize efficiency, greater integration between solid wood production and forest biomass / wood residue production is needed. For example, co-locating a forest product mill with a forest energy facility allows the mill producing higher-value products to sell its waste material to the facility producing lower-value wood pellet fuel. Transportation distances are minimized, while lowering costs to producers and consumers and achieving full-value chain utilization.

## Federal-Level Barriers and Recommendations for Accessibility and Transportation

BARRIERS	RECOMMENDATIONS
<b>Federal Level</b>	
<p><b>1. Consistent access to forest biomass supplies is lacking.</b></p> <p>Overcoming the lack of access to consistent forest biomass supplies is critical to successful utilization. Uncertain supplies over long periods of time discourage financing options.</p>	<p><b>1. Encourage changes in federal land management agency budgeting and policy that would provide for long-term supply contracts.</b></p> <p>Changing from the year-to-year budget process to a longer cycle for stewardship contracts or developing procedural tools such as a trust or set-aside guaranteed fund would encourage long-term mechanisms from federal agencies for forest management projects. Stable supply assurances will help encourage investment.</p>
<p><b>2. Congress does not fund the full implementation of national forest planned implementation and outputs.</b></p> <p>Congressional funding allows implementation of roughly one-quarter of planned national forest management activities. As a result, production of forest material and biomass from federal lands is only a small fraction of what it could be. This constrains development of a full range of markets for wood.</p>	<p><b>2. Fully implement national forest planned forest management and resulting wood product yields.</b></p> <p>The USFS Timber Management Program should be more consistently funded at a level necessary to fully implement forest plans, thereby providing the resources necessary to sustainably harvest the supply necessary to maintain diverse markets for forest products. This would assist the forest products industry and create additional market opportunities for wood from hazardous fuels reduction and forest management projects in the wildland-urban interface.</p>

BARRIERS	RECOMMENDATIONS
<b>Federal Level</b>	
<p><b>3. Authorities for stewardship agreements, stewardship contracting and the Good Neighbor Authority will expire soon.</b></p> <p>Without congressional intervention, the current federal stewardship contracting and stewardship agreement 10-year authorities and the Good Neighbor Authority will expire on Sept. 30, 2013, severely hampering the ability to establish any type of long-term contracts to treat high-risk lands in the wildland-urban interface.</p>	<p><b>3. The Colorado congressional delegation should work to make federal stewardship policy authorities permanent, while assuring that the provisions in the Good Neighbor Authority remains unchanged.</b></p> <p>The Colorado General Assembly should encourage the Colorado congressional delegation to endorse the use of stewardship agreements, contracting and Good Neighbor Authority. Furthermore, the delegation should be compelled to make these authorities <u>permanent</u>. In the case of the Good Neighbor Authority, it should be extended as it is currently legislated (P.L. 106-291, as amended by P.L. 111-88).</p>
<p><b>4. The 10-year limit on stewardship authorities restricts investment opportunities.</b></p> <p>Given that financial institutions are reluctant to invest in forest energy projects without at least a 20-year guaranteed supply, decade-long authorities are not long enough to meet this requirement, so the shortfall rests disproportionately on private forests.</p>	<p><b>4. Increase the limits of stewardship authorities to at least 20 years.</b></p> <p>Increasing the time limits of stewardship authorities to at least 20 years would more closely align agreements with the 20-year supply guarantees sought by investors.</p>

BARRIERS	RECOMMENDATIONS
<b>Federal Level</b>	
<p><b>5. The annual allotments of stewardship contracts may be inappropriately scaled for current budget cycle processes.</b></p> <p>Stewardship contracting has not conclusively demonstrated the ability to save money and time. In some cases, the opposite has been proven to be true, at least initially. Currently, the incentive is to create a small number of large-scale, long-term contracts, which are subject to economic inefficiencies, while eliminating the ability of small businesses to compete.</p>	<p><b>5. Encourage federal agencies to plan a diverse portfolio of phased and smaller, “convenient” stewardship contracts.</b></p> <p>Scaling or customizing stewardship contracts and other forest management tools so that they provide a diverse portfolio of smaller annual allotments, as well as the larger, long-term, guaranteed supplies may help provide a sustainable and more cost-effective solution to managing forests and generating feedstock without depleting forests faster than they regenerate.</p>
<p><b>6. Required cancelation ceilings may discourage large, long-term stewardship contracts.</b></p> <p>Stewardship contracting uses cancelation ceilings, which are funds held in reserve by a national forest in the event a contract is canceled after a contractor has made investments related to the project in terms of equipment, workforce or other infrastructure. The use of cancelation ceilings locks up potential funding sources for additional projects.</p>	<p><b>6. Colorado should request that the USFS evaluate solutions that provide additional funds or waivers to offset the costs of cancelation ceiling funds that are frozen in stewardship contracts.</b></p> <p>Given that cancelation ceilings force a national forest to hold funds in reserve, and that the dollar amounts often dwarf the budget of an agency field unit, additional funds are necessary to assist in federal contracting requirements. Insurance approaches towards cancelation ceilings could be used where the USFS national office holds a percentage of funds to cover all stewardship contracts nationally, rather than setting aside the entire sum for every stewardship contract. Another relief mechanism may be to develop trusts.</p>

## State-Level Barriers and Recommendations for Accessibility and Transportation

BARRIERS	RECOMMENDATIONS
<b>State Level</b>	
<p><b>1. Colorado lacks the forest products infrastructure necessary to address our forest health issues.</b></p> <p>To produce residues necessary for woody biomass energy, they “will likely be produced as part of an integrated harvesting system producing multiple products” (25x’25 Initiative 2011: 13). However, the steep decline in Colorado’s forest products industry over the past few decades means that the state does not have the ability to manage its forests to address emerging threats.</p>	<p><b>1. The state should establish economic development initiatives that foster greater integration between Colorado’s timber industry and the state’s emerging forest energy industry.</b></p> <p>By encouraging the production of the higher-value forest products, including but not limited to dimensional lumber and plywood, lower-value products like forest biomass are produced at the same time. Without a forest products industry that can efficiently produce the full-value chain of products and provide the economic means to assist in the removal of lower-value woody biomass, forest energy projects will not be as viable.</p> <p>Programs and policies should encourage the greater integration of existing and potential forest product operations with biomass-to-energy facilities.</p>

BARRIERS	RECOMMENDATIONS
<b>State Level</b>	
<p><b>2. Concerns persist about the impacts of using forest biomass and beetle-killed wood.</b></p> <p>Consumers must be made aware of the benefits of using wood and pellet heat and beetle-killed wood, with particular regard to potential improvements to watersheds and water quality, air emissions and local communities.</p>	<p><b>2. Develop and fund an educational campaign touting the benefits of active forest management and resulting forest energy production and consumption.</b></p> <p>Public information campaigns concerning forest energy projects or consuming forest energy products, including those from beetle-killed wood, would be well served through educational materials designed to answer frequently asked questions. The CSFS should be supplied with the resources necessary to execute such a program, which could be hosted in conjunction with its “Colorado Forest Products” marketing program.</p> <p>Colorado could demonstrate leadership by requiring use of forest biomass in all state buildings, where applicable. Examples that should be explored include correctional facilities, schools, state highway facilities and other state buildings where biomass is available on a sustainable basis.</p> <p>The costs of such a program could, in part, be offset by developing a designer license plate or inserting a check-off on state tax return forms.</p>

BARRIERS	RECOMMENDATIONS
<b>State Level</b>	
<p><b>3. Road weight limits in Colorado place the forest products industry at a disadvantage.</b></p> <p>The freight weight limits for trucking forest products in Colorado are comparatively lower than in other states. For example, Oregon has an "extended weight permit," which is an annual \$8 permit that allows 105,500 pounds on the road after meeting certain axle and tire requirements, instead of the normal 80,000 pounds. This is a 32-percent increase in payload and reduction in cost for transportation out of the forest and from wood products facilities to markets, one that places Colorado's forest products industry at a competitive disadvantage.</p>	<p><b>3. Adjust Colorado's road weight limits to make them more competitive with other states.</b></p> <p>By adopting a program similar to Oregon's "extended weight permit" (i.e. 105,000 lbs.), Colorado's forest products industry could transport similar quantities of raw materials at similar rates, essentially leveling the competitive interstate playing field for trucking forest biomass in the Western United States. By increasing the weight limits, drivers would move more material, meaning fewer trips and thus fewer emissions.</p>
<p><b>4. Communities often are not equipped nor do they have the resources to conduct adequate biomass supply studies.</b></p> <p>Local governments have expressed interest in developing forest energy projects. However, the basis for forest energy projects is assessing the available biomass supply, and local governments often lack the expertise and resources necessary to conduct the appropriate supply studies.</p>	<p><b>4. Develop a mechanism to conduct or fund biomass supply assessments when feasibility and project support exist.</b></p> <p>Resource assessments are essential to locating forest energy businesses. Government support, ideally coordinated by the CSFS, would help rural communities develop the necessary information suitable for lenders or public financing review, and allow entrepreneurs to make informed decisions about starting businesses based on availability of the biomass resource.</p>

## **FINANCIAL PLANNING**

Even if a reliable, accessible and consistent forest biomass supply is available, uncertainty surrounding the economics of such operations combined with myriad incentives that favor fossil fuels over renewables, and other renewables over forest biomass, both serve as deterrents to forest energy project development. The ongoing recession combined with a severe depression in the new construction and housing industries, has made planning for a successful forest energy project more difficult, especially with limited access to credit.

Financial incentives and tools for forest energy projects can be organized into three broad categories: tax incentives, cost-share and grant programs, and financing tools, including loans and bonds, and contracting programs (Becker and Lee 2008: 2-3).

### **Tax Incentives**

Tax incentives include sales tax incentives, corporate or production tax incentives, investment tax credits (ITCs), personal tax incentives and property tax incentives. The general idea is to encourage a certain type of behavior (e.g. purchase equipment, install equipment or breaks for encouraging businesses to locate to a specific area, etc.) in exchange for a reduced tax liability.

The Grant in Lieu of the Investment Tax Credit (ITC) and Bonus Depreciation are two cornerstone programs for tax equity investors who are the most likely to finance biomass projects in Colorado. The Grant in Lieu of the ITC Program, or 1603 Program,

(<http://www.treasury.gov/initiatives/recovery/Pages/1603.aspx>) provides a 30-percent federal tax credit available for “building a biomass facility in 2011.” However, this incentive applies to electricity only (i.e., it does not apply to using wood for heat) (e.g., wood pellet fuel, etc.). Wood pellet heat is much more efficient than using wood to produce electricity. Furthermore, the benefit to combined heat and power projects is only one-third of what solar and wind enjoy, subject to size and efficiency requirements. Finally, this program is set to expire on Dec. 31, 2011 (i.e. construction on a project must have started prior to that date to qualify for the program). The program should be extended and broadened.

Another tax program at the federal level is the Bonus Depreciation (BD) Program. Under bonus depreciation, a tax equity investor can fully depreciate a biomass facility in year one for deployments in 2011. The program is scheduled to be reduced to 50 percent in 2012.

Program deficiencies will negatively impact forest energy project development in Colorado for two reasons:

1. Investors will not receive their expected returns for new projects going forward and, thus, new biomass projects will not be funded by private sector investment.
2. The competition for tax equity investment is intense among solar, wind and other renewable energy projects, as well as among real estate development,

storage facilities and natural gas pipelines. The net effect is that fewer dollars are available from tax equity participants because other sectors are older and more proven.

### **Cost-Share, Grant and Rebate Programs**

Unlike tax incentives where monies are not collected, the cost-share, grant and rebate programs allocate and disperse funds either to an entity to encourage action (purchase equipment, fund research, etc.) or to reduce or offset the costs of said action.

### **Financing / Contracting**

These tools take advantage of market forces and instruments to provide funding assistance for forest energy projects. Bonds could allow governments to borrow in order to support forest energy initiatives, and then use the resulting savings to reimburse the incurred costs. Loans, including federal guarantees, could be targeted to encourage

certain types of forest energy equipment purchases or installations (see Appendix A for a proposed Colorado Forest Energy Finance Program, analogous to the Colorado Clean Energy Finance Program). Business recruitment tools, as indicated above, may include tax credits or exemptions, but grants or rebates also could be used to entice local industry development, at least temporarily. Finally, governments can mandate agencies or business partners to purchase forest energy equipment or products, or restrict opportunities to certified forest energy contractors to achieve management objectives.

To the extent policy is unable to compensate for the lack of parity for forest energy projects, federal and state institutions will need to creatively provide financial tools and incentives that can improve the risk-return profile of Colorado forest biomass and forest energy projects.

## Federal-Level Barriers and Recommendations for Financial Planning

BARRIERS	RECOMMENDATIONS
<b>Federal Level</b>	
<p><b>1. Federal-level tax incentives favor other alternative, renewable energy technologies over forest energy projects.</b></p> <p>At the federal level, tax incentives for renewable energy production vary with the technology and feedstock used. For 2011, the production tax credit for wind and solar electricity projects entering service prior to the end of 2013 is 2.2-cent-per-kWh, whereas open-loop biomass (i.e. biomass harvested from sources that were not specifically planted as an energy crop) projects, including those projects that Colorado is likely to develop, only receive a 1.1-cent-per-kWh credit.</p>	<p><b>1. Revamp Colorado incentives to provide parity for all renewable energy technologies.</b></p> <p>Colorado should encourage its congressional delegation to set federal tax incentives to equally benefit any renewable fuel (wind, solar, geothermal, biomass), from any source (private or public lands) and equally benefit transportation fuels, thermal energy and combined heat and power. These incentives could be based on the amount of fossil fuel displaced and efficiency of energy technology used.</p> <p>In lieu of taxes, extend the Investor Tax Credit (ITC) past its current expiration of 2011. The ITC also should be expanded beyond large-scale utilities and combined heat and power to include thermal energy producers.</p>

BARRIERS	RECOMMENDATIONS
<b>Federal Level</b>	
<p><b>2. Federal-level tax incentives discourage non-electrical forest energy projects in Colorado.</b></p> <p>At the federal level, renewable energy policy has been focused almost entirely on electricity generation and more recently on transportation fuels, but not on thermal or efforts to develop combined heat and power (CHP). Further, federal policy overwhelmingly favors large biomass projects over smaller community-based projects that can scale incrementally over time in a manner that supports healthy forest considerations.</p> <p>Non-defense related grant programs for biomass are heavily weighted to large-scale research efforts, with very little grant money to assist in the early stages of innovative commercial scaling of biomass projects. At the USDA level, USFS biomass funding is proportionally very small compared to biomass projects for farm-related programs such as ethanol biofuels. Furthermore, the USDA programs that might appear to be attractive vehicles for working with forest biomass projects have too many complex rules and conflicting programmatic structures to allow them to be applied effectively to forest biomass projects, although forest projects create more jobs at lower cost.</p>	<p><b>2. Work with Western Governors’ Association to describe opportunities to develop federal-level tax incentives that target forest energy projects.</b></p> <p>Colorado should assist the Western Governors’ Association to identify opportunities to improve and simplify federal tax incentives that promote forest energy projects, with an emphasis on applications that are not purely wood-to-electricity.</p> <p>Another approach may be to extend federal authority to issue triple tax exempt clean energy renewable bonds (CREBs) for developing biomass energy projects.</p>

BARRIERS	RECOMMENDATIONS
<b>Federal Level</b>	
<p><b>3. Federal tax credits for wood pellet stoves are eroding.</b></p> <p>Also, prior to Dec. 31, 2010, a homeowner could receive a federal tax credit of 30 percent of the cost of a pellet stove with a maximum value of \$1,500, provided the stove was at least 75 percent efficient. For 2011, this credit has been reduced to 10 percent of the purchase with a tax benefit capped at \$300. Note that any consumer who took advantage of the \$1,500 tax credit is not eligible for the current \$300 tax credit.</p>	<p><b>3. Enhance (or at least restore) the tax credit for wood pellet stoves.</b></p> <p>An entry-level stove can cost as much as \$2,000, and this figure does not include installation or additional costs with fuel storage and handling. To stimulate the demand for wood pellets, wood pellet stoves are needed. Colorado should encourage its congressional delegation to restore the tax credit to its pre-2011 level (or at the very least increase it over its current amount).</p>
<p><b>4. Fuel tax credits are different depending on fuel use for forest biomass operations.</b></p> <p>Tax credits for diesel consumption by off-highway equipment used in forest activities effectively make transportation costs higher for on-highway trucks that transport forest biomass.</p>	<p><b>4. Equalize fuel tax credits for biomass transportation.</b></p> <p>Establish tax credits so that the costs are the same for on-highway fuel for trucks hauling forest biomass as it is for off-highway fuel i.e., fuel used in equipment that is not operated on state and federal highways.</p>

## State-Level Barriers and Recommendations for Financial Planning

BARRIERS	RECOMMENDATIONS
<b>State Level</b>	
<p><b>1. While incentives exist, they often are applied without a collaborative focus.</b></p> <p>The application of biomass incentives in Colorado lacks a strategic approach. Offerings tend to be piecemeal or patchwork, favoring either a particular segment or region of the state without rationale or integration with other efforts. This iterative process does little to mitigate risks to public and private investors.</p> <p>For example, at the federal level, grants are issued by the Department of Agriculture, including the USFS and Forest Products Laboratory, the U.S. Department of Energy and the U.S. Department of Interior. In Colorado, grants are issued by the Governor’s Energy Office and the CSFS. However, these efforts may be made without consulting one another.</p>	<p><b>1. Create a state energy strategic plan that focuses on viable opportunities such as Community Energy Parks.</b></p> <p>Colorado should create a system for targeted incentives developed through interagency and intergovernmental collaboration.</p> <p>One method might be to coordinate planned incentives for pilot forest energy projects such as Community Energy Parks (e.g. the Boulder County Parks and Open Space biomass plant). By using a planned, centralized wood-to-energy plant, utility needs for heating and electricity could be met at a district level with appropriate planning and scaling. Excess power production could be sold back to the grid through net-metering. Community Energy Parks could help agencies coordinate and share expertise and avoid the current iterative or patchwork approach.</p> <p>Successful examples of similar approaches can be found throughout Europe.</p>

BARRIERS	RECOMMENDATIONS
<b>State Level</b>	
<p><b>2. The economics of material extraction discourage forest biomass projects.</b></p> <p>Fuel costs are volatile and energy price spikes, while often encouraging alternative fuel source development, can negatively impact forest management projects because the harvesting, transportation and manufacturing processes depend heavily on fossil fuels. Yet wood is a locally available resource that management can benefit and enhance. Lack of markets for higher-value forest products exacerbates this barrier. Use of forest biomass to produce high-value drop-in hydrocarbon fuels has the potential to be financially viable, but the conversion technology has not yet achieved commercial status. Prices for fuels management projects on federal lands can easily exceed \$1,000 per acre and at times have cost as much as \$4,000 per acre, with no outlet for the thinned material.</p>	<p><b>2. Modify existing funding sources and encourage state agencies to change approaches to future financial assistance programs that focus on biomass energy and forest product opportunities.</b></p> <p>Some adjustments from existing funding sources could be made to increase funding support for forest energy projects. (Note: state agencies may need to modify their grants to comply.)</p> <p>Mandate a percentage of existing state and federal financial assistance program funding (grants and loans) at the state and federal level to be allocated specifically to the forest products business sector.</p> <p>Reduce lending/interest rates of existing lending programs that are charged to forest products business applicants.</p> <p>Allocate a percentage of existing state and federal private landowner assistance programs to address utilization of biomass removals (examples include the wildland-urban interface, CWPPs, restoration grants, FEMA, etc.).</p> <p>Finally, allocate funds from K-12 school improvement construction and energy conservation specifically for biomass heat and/or power in K-12 facilities.</p>

BARRIERS	RECOMMENDATIONS
<b>State Level</b>	
<p><b>3. See #2 above.</b></p>	<p><b>3. Create an integrated state task force to explore potential funding sources.</b></p> <p>A number of alternatives exist for increasing the amount of available funding. First, Colorado could remove eligibility and administrative barriers in existing programs that preclude applicants from the forest product business sectors. The CSFS can and should participate as “reviewers” in state and federal woody biomass grants programs or programs that support biomass utilization projects and businesses. Finally, review and remove any administrative and contractual barriers that prohibit the CSFS from partnering with public / private, non-profit business lenders and economic development organizations. These barriers could include contract term limits, etc.</p>
<p><b>4. State-level tax incentives discourage biomass energy projects.</b></p> <p>At the state level, legislative incentives favor generation of electricity using biomass, but do nothing for thermal incentives (i.e. producing heat) or combined heat and power, whereas biomass would provide significant advantages over other renewables, or for higher-value liquid fuels that could be used to reduce our dependence on imported fossil fuels.</p>	<p><b>4. Develop tax credits for appliances and equipment used to produce and consume forest energy, while ensuring that those tax credits are transferrable, as they are for other renewables.</b></p> <p>The General Assembly should develop tax credits for appliances and equipment that are involved in the production or consumption of forest energy. More importantly, these credits must be transferrable to be effective.</p>

## **POLICY AND UTILIZATION**

Forest biomass can be converted into power (electricity), heat, liquid fuels or some combination of the above. Each approach has its strengths and weaknesses. For example, using wood to generate electricity in large-scale power plants without using the heat byproduct is very inefficient.

Alternatively, Colorado could promote heat, combined heat and power, and technology and creation of forest biomass-derived liquid fuels. Using biomass to produce heat, to produce power and heat and to produce liquid fuels can be more efficient for meeting our energy needs than using fossil fuels to achieve the same objective. In addition, using forest biomass sustainably addresses our forest health crisis by reducing fuel loads, while simultaneously reducing our dependence on imported fossil fuels.

Developing forest energy projects in the current policy environment is difficult. For example, multiple definitions for the term “biomass” exist at the federal level and are just as nuanced at the state level; incentives depend on what kind of material project proponents have available. NEPA planning requires significant amounts of time and resources to complete. As such, forest energy proponents may be discouraged from attempting to complete projects that fall under NEPA jurisdiction (when a federal decision occurs), as the costs may outweigh the benefits. Also, problems emerge when coal-fired power plant operators attempt to reduce the toxicity of their emissions by including forest biomass feedstock in their fuel mix, although the EPA has a temporary

exemption for the next three years. This exemption, however, is currently being litigated, casting doubt on its longevity.

With energy, Colorado was the first state to enact a renewable portfolio standard (RPS) through the citizen initiative process, as opposed to legislation. An RPS requires a utility to produce a certain amount of its retail electric sales or generating capacity using renewable energy (or credits). Amendment 37 created the RPS, which required all utilities serving 40,000 or more customers to produce 10 percent of their electricity from renewable sources by 2015. The RPS has since then been amended several times to include an increased percentage by a later date for investor-owned utilities, requirements for cooperative and municipal utilities, and carve-outs and credit multipliers for investor-owned utilities that encourage distributed generation. However, because the RPS focuses exclusively on producing electricity, rather than heat, liquid fuels or some combination of energy, it neglects the unique advantages of forest energy, including its higher efficiencies with biomass-to-energy conversions, its ability to replace oil and sequester carbon and its ability to create jobs in Colorado, etc.

While the U.S. Energy Information Administration (EIA) estimates that 5 percent of Colorado’s total energy consumption in 2009 was derived from renewable sources (EIA 2011), discrepancies exist.

The RPS, while effectively encouraging the use of renewable energy in Colorado, contains provisions called “multipliers” that favor some forms of renewable energy over others. For example, solar projects enjoy a 300-percent credit multiplier, meaning that for every unit of electricity generated, the unit counts as three units for purposes of meeting the standard. The RPS also uses carve-outs to encourage energy production for investor-owned utilities (IOUs) that, while encouraging domestic production and eliminating the need for transmission lines, favor some renewable technologies over others and do not apply to co-operatives or municipal utilities. As a result, while some renewable sources are used to make energy for Colorado, the EIA points out that most of the state’s renewable energy potential remains largely undeveloped (EIA 2009). One way to further encourage the development of renewable energy sources is to level the playing field, not only between fossil fuels and renewable energy, but also among renewable technologies. By developing incentives for forest-based energy that promote its appropriate use for providing heat, power and liquid fuel substitutes, Colorado can simultaneously create jobs, increase its renewable energy production and improve forest health.

Carefully crafting policy tools and education and training programs may help promote a forest energy industry in Colorado (Becker and Lee 2008: 2-3).

### **Policy Tools**

Properly designed policy tools can encourage forest energy project development, and regulation, combined with

incentives, will be primary drivers for forest biomass utilization (25x’25 2011: 14). As mentioned earlier, renewable portfolio standards such as Colorado’s provide a mandate for utilities to produce a certain amount of energy annually by a specific date. Renewable energy goals differ from the standards in that they are voluntary. Other tools, such as interconnection standards, green power purchase programs and net-metering currently are used Colorado, either at the state or, in the case of green purchasing, the local level (e.g. Aspen, Boulder, etc.).

However, because such policies are not statewide policies, but are functionally dependent on the specific considerations of local communities and local utility companies, the opportunity to apply integrated policy as efficient guidance to biomass energy projects will continue to be flawed without overall state policy that encourages more consistency among Colorado’s forest-based communities.

Colorado communities and their needs vary significantly. It is important that state policy balance these differences, while providing a consistent and efficient operating umbrella for the development of forest biomass energy policies.

Two additional tools that may be worth considering are public benefit funds and equipment certification programs. Public benefit funds are monies that utilities set aside to encourage renewable energy development. An equipment certification standard sets equipment efficiency and

quality standards for machines used to process and/or manufacture forest energy products.

### **Education and Training Programs**

Education and training programs also may encourage forest energy project development. Education programs could include much of what the CSFS already does for forest management, including disseminating technical information and

assisting with business planning and grant writing. Tools such as vendor databases or services such as information and / or program coordination also could help by reducing search times and transaction costs. The training programs could provide the CSFS a means to disseminate forest energy information, whether through online publications or workshops and seminars; the CSFS already performs these tasks on a regular but limited basis.

## Federal-Level Barriers and Recommendations for Policy and Utilization

BARRIERS	RECOMMENDATIONS
<b>Federal Level</b>	
<p><b>1. The definitions for forest biomass are different and some exclude biomass from federal lands.</b></p> <p>Definitions are critical, as they determine exactly which feedstocks are eligible for various incentives. Currently, at least 14 different definitions exist for “biomass” at the federal level, depending on the policy involved. Four definitions are contained in the Internal Revenue Code, six definitions are contained in the Energy Policy Act of 2005, one definition is in the 2008 Farm Bill and three definitions are included in the Energy Independence and Security Act of 2007, including one definition that disqualifies biomass harvested on federal lands from counting towards the Renewable Fuel Standard (e.g., P.L. 110-140, Title II, Sec. 201(I)(II)). With 68 percent of Colorado’s forests in federal ownership, excluding biomass from federal lands puts Colorado at a competitive disadvantage with other states in which a smaller percentage of their total forested acres are managed by the federal government.</p> <p>Furthermore, different definitions exist at the state level. Without a consistent and inclusive approach to identifying what constitutes forest biomass and what qualifies for incentives, entrepreneurs may be discouraged.</p>	<p><b>1. Adopt a standard definition for biomass that includes federal forests.</b></p> <p>Adopting a single, inclusive definition for forest biomass will help reduce uncertainty and confusion across different incentive programs. Such a definition also could be adopted at the state level to further the effort to establish consistency.</p> <p>The definition adopted by the Colorado Public Utilities Commission would be ideal not only for Colorado, but also at the federal level.</p>

BARRIERS	RECOMMENDATIONS
<b>Federal Level</b>	
<p><b>2. Re-opening Title V permits under the Clean Air Act can deter innovation.</b></p> <p>Large coal-fired power plants that require permitting under Title V of the Clean Air Act must modify their permits to alter their fuel mix by including wood. For some plants, the changes needed to co-fire biomass also could trigger a Prevention of Significant Deterioration (PSD) review. Plant operators are essentially penalized for improving their environmental record, as re-opening the permit can be expensive, time consuming and could expose the utility to litigation.</p>	<p><b>2. Encourage policies that reward rather than penalize fossil fuel operators who attempt to improve air quality emissions by including forest biomass in their feedstock.</b></p> <p>If power plant operators run the risk of regulatory penalties, undue financial hardship or potential litigation from re-opening their Title V permits to include wood in the fuel mix, the likelihood of reducing harmful emissions from coal plants decreases dramatically. Policies should be adopted at the federal level that streamlines the process for including wood in a power plant’s feedstock.</p>
<p><b>3. Biomass facilities may be subject to greenhouse gas regulations in the near future.</b></p> <p>The EPA has enacted a three-year deferral from PSD and Title V permitting for CO<sub>2</sub> emissions from biomass, but the legality of the deferral has been challenged in court and no one knows what will happen when it expires. This uncertainty acts as a disincentive for biomass power projects.</p>	<p><b>3. Encourage the Colorado Department of Public Health and Environment (CDPHE) to work with the EPA to understand Colorado’s needs and positions on greenhouse gas issues.</b></p> <p>The General Assembly should provide the resources needed to allow the CDPHE to work with the EPA to develop resources to help the agencies and Colorado understand the advantages and disadvantages of regulating CO<sub>2</sub> emissions from forest energy projects.</p>

BARRIERS	RECOMMENDATIONS
<b>Federal Level</b>	
<p><b>4. Incentives for energy production favor fossil fuels and renewable energy alternatives that do not improve forest health.</b></p> <p>Federal subsidies for fossil fuels still create an unlevel playing field; between fiscal years 2002 and 2008, the federal government spent \$72.5 billion on fossil fuel subsidies and only \$29 billion on renewable energy, with \$17 billion of that amount going to corn ethanol. Note that of the remaining \$12 billion, forest energy is eligible for only a small portion of these subsidies compared to other renewable energy sources (i.e. solar, wind, etc.).</p> <p>As a result, producing electricity cost-competitively using forest biomass is difficult, given how cheaply coal can be produced and consumed. Synthesizing liquid fuels from biomass also is discouraged, given the comparatively cheaper price of most fossil fuel equivalents. Natural gas prices currently are lower than using forest biomass for energy, and are expected to remain low for decades because of recent technology advances for extracting gas from shale deposits.</p>	<p><b>4. Colorado should develop a policy agenda that can inform energy policy with a basis on efficiency and consider cost-effective displacement of fossil fuels through forest energy.</b></p> <p>The state should develop a policy agenda that considers the advantages of using and promoting forest energy.</p> <p>One way to encourage forest energy is to design tax breaks for forest energy that incorporates the benefits provided not only from the reduced consumption of fossil fuels, but also the concomitant improvement in forest health and public safety.</p> <p>Longer-term federal policy should differentiate among forest biomass technologies and favor those technologies that are highly efficient, very clean and incrementally scalable.</p> <p>Where natural gas is unavailable and propane is being used, using forest biomass for heat or combined heat and power may be advantageous, especially when considering the forest management benefits associated with biomass harvesting. Forest biomass is a renewable resource and relatively carbon neutral.</p>

BARRIERS	RECOMMENDATIONS
<b>Federal Level</b>	
<p><b>5. NEPA planning is resource intensive.</b></p> <p>While planning is essential for ensuring environmental quality, NEPA in its current form is time consuming and prohibitively expensive for conducting hazardous fuels and forest management projects on federal lands. Entrepreneurs may find themselves quickly inundated by the analysis requirements and may be discouraged from project development if the federal law applies. NEPA is required for any federal “decision” involving management on federal lands that is “major” and “significant.”</p> <p>Current NEPA analyses typically occur at the “project” scale of 5,000 – 10,000 acres, meaning that several such efforts must be completed in order to facilitate sustained treatment over a landscape of several hundred thousand acres.</p>	<p><b>5. Encourage federal agencies to conduct NEPA planning on larger scales incorporating biomass utilization.</b></p> <p>One way to reduce the cost of implementing forest management on public lands may be to conduct the environmental analyses required by NEPA on a larger scale. By conducting the NEPA analysis on this scale, the time and resources required to complete several smaller analyses are reduced. Also, by having a larger number of acres available for treatment, land managers could implement larger-scale projects (up to 30,000 acres per year) if funding is available, thereby providing an increased level of certainty for forest industry.</p> <p>The State of Colorado should work with the US Forest Service to identify places where large-scale NEPA analysis is appropriate, and where it could decrease administrative costs and increase the certainty of potential large-scale, long-term stewardship contracts.</p> <p>Other states are moving in this direction. In Arizona, for example, the Four Forest Restoration Initiative (4FRI) is attempting to increase the pace and scale of priority restoration, while reducing associated costs by pursuing a “landscape-scale” NEPA analysis that covers 750,000 acres and four national forests. The state expects to clear approximately 300,000 acres for treatment through this initiative.</p>

BARRIERS	RECOMMENDATIONS
<b>Federal Level</b>	
<p><b>6. With the recent decline in the economy, forest product markets also declined.</b></p> <p>Beetle and fire-killed wood decline in value over time. Current timber appraisal methods do not account for these changes as timely, as is necessary to maintain a consistent flow of material that is priced for current markets. Stumpage values do not scale nor accurately reflect the true value of the material being assessed.</p>	<p><b>6. Encourage the USFS to adjust stumpage pricing to more accurately respond to changing market conditions.</b></p> <p>Stumpage values should be adjustable to reflect the actual value of the material being removed. A suggested value would be \$0.10 or less per stump when there is no commercial value.</p>
<p><b>7. Leadership for Region 2 of the USFS in Denver is in transition.</b></p> <p>Recent personnel changes in the Regional Forester and Deputy Regional Forester for Resources have created some discontinuity. Funding changes and program shifts are an ongoing process in the USFS. This void in leadership could cause Colorado to miss opportunities to focus funding as program directions and decisions are made.</p>	<p><b>7. Encourage USFS leadership to endorse forest biomass as a valuable and viable tool.</b></p> <p>Changes in leadership in Region 2 may offer timely opportunities. Colorado should offer state support and outreach to ensure that new USFS leadership understands that support is critical to Colorado’s ability to foster a forest energy industry.</p>
<p><b>8. Different approaches exist for federal forest contracting mechanisms.</b></p> <p>Stewardship contracting management approaches are more flexible than traditional timber sales. If the goal is to generate revenue, treat more acres and develop more strategic landscape partnerships, then the USFS needs more flexibility and broader authorities.</p>	<p><b>8. Maintain identical standards for federal forest contracting, including timber and stewardship contracts.</b></p> <p>Develop standards for timber sale contracts so that they are just as flexible (e.g. road surface requirements, infrastructure costs, etc.) as those established for stewardship contracts. Different standards create hardships among managers and can lead to economic inefficiencies.</p>

BARRIERS	RECOMMENDATIONS
<b>Federal Level</b>	
<p><b>9. For many consumers, the cost of a new, high-efficiency, clean-energy appliance is cost-prohibitive when they still have a usable older appliance.</b></p> <p>A new, basic wood pellet stove could cost a consumer as much as \$2,000 or more. That figure does not include the cost of installation, nor does it cover any additional accommodations needed for fuel storage and handling.</p>	<p><b>9. Implement a program for consumers to exchange old stoves with new, clean-burning, high-efficiency wood or pellet appliances, while providing guidance to communities on qualifying technologies.</b></p> <p>Oregon has a woodstove change-out program that requires the removal of uncertified stoves upon the sale of a home and prohibits the sale and installation of uncertified stoves. Further, uncertified stoves must be destroyed or rendered inoperable. They also have a low-income program where the entire cost is covered for those who qualify and a partial rebate is available for those who don't qualify. The Oregon Department of Energy issues a tax credit of up to \$300 for the purchase of a premium-efficiency heating device. This helps create an end-use for wood in the wildland-urban interface and reduces the emissions that occur when burning the wood in open piles.</p> <p>Note that this program also could apply to low-income families. Due to federal budget reductions, the current Low-income Energy Assistance Program (LEAP) recently reduced its income-based eligibility levels from 185 percent of the federal poverty line to 150 percent. Reductions will reduce the ability of families to heat their homes. A companion program might encourage a change to forest energy in rural, high-elevation counties that have access to forest biomass resources or forest energy products.</p>

BARRIERS	RECOMMENDATIONS
<b>Federal Level</b>	
<p><b>10. More research and support is needed to develop more efficient, effective forest energy solutions.</b></p> <p>While thermal and combined heat and power projects enjoy high efficiencies, liquid fuels from forest biomass have the potential to partially offset our dependence on fossil fuels. Co-firing with wood can reduce emissions from coal-fired power plants. These technologies can continue to be improved however the costs for doing so are expensive. Until the price of fossil fuels increases substantially (to reflect their true costs and without subsidies), efforts to improve and develop forest energy will stall.</p>	<p><b>10. Increase resources to Colorado for facilitating needed research and developing collaborative research partnerships.</b></p> <p>The Colorado congressional delegation should increase resources slated for forest energy research.</p> <p>Facilities and processes already exist in Colorado. The National Renewable Energy Laboratory (NREL) facility in Golden is a prime example. NREL also is part the Colorado Collaboratory, a research consortium that includes Colorado State University, University of Colorado and Colorado School of Mines.</p> <p>Furthermore, efforts exist in Colorado that encourage collaborative sustainable forest management to improve forest health and support forest energy, including the Colorado Wood Utilization and Marketing Program and the Colorado Forest Restoration Institute at Colorado State University.</p> <p>Additional partners with an interest in forest health, such as Denver Water, also could be invited to participate.</p> <p>While the initial investments are steep, the overhead can be recouped over time. Savings will accrue as the change is made from expensive fossil fuels to cheaper, domestic renewable energy.</p>

## State-Level Barriers and Recommendations for Policy and Utilization

BARRIERS	RECOMMENDATIONS
<b>State Level</b>	
<p><b>1. The state renewable portfolio standard (renewable energy standard) promotes electricity only.</b></p> <p>Although biomass is eligible under the state’s RPS, only certain forms qualify, and the targets are for electricity generation. These limited forms of biomass have a difficult time competing against cheaper (subsidized) coal, and the electricity-only focus means that better uses for forest energy are excluded.</p>	<p><b>1. Adjust the renewable portfolio standard to include parity for biomass, including a renewable thermal and combined heat and power standard.</b></p> <p>Both federal and state renewable energy mandates incentivize transportation fuels and electrical production, but not thermal energy or combined heat and power production, although thermal generally is considerably more efficient than the other two. Incentives for forest energy that are equal to or exceed those for solar (300 percent) in the Colorado RPS would encourage the installation of efficient biomass heating systems. Such an incentive would encourage the use of Colorado forest biomass, thereby reducing threats to the state’s forests, while also providing a potential heat energy source for a state known for its colder climate (<a href="#">CSFS 2010</a>: 5).</p> <p>Additionally, a renewable thermal and combined heat standard and power would mandate increased reliance on renewable energy sources for heat or combined heat and power. For example, the state could require 25 percent of all municipal heating to come from renewable sources by 2025. In the northeastern United States, this approach would result in an increase in the use of biomass from 4.16 percent to 18.5 percent in 2025, and a reduction in the use of natural gas and heating oil (Johnson 2011).</p>

BARRIERS	RECOMMENDATIONS
<b>State Level</b>	
<p><b>2. Incentives for considering biomass in early stage planning of public facilities are nonexistent.</b></p> <p>At both the federal and state levels, little to no consideration is given to biomass use as an energy source. Without consideration for biomass energy in the planning stages, the potential for using biomass at a later date may not be possible because of the way buildings are designed.</p>	<p><b>2. Require planners to consider using Colorado forest products in all public buildings in Colorado, whenever they are available.</b></p> <p>In 2010, the Colorado General Assembly passed Senate Joint Resolution 37, which, in part, recommends that builders consider the use of Colorado forest products when constructing government buildings. This recommendation should be changed to a requirement. Not only could beetle-killed material be used in the construction of government buildings, but forest material also could be used as an energy (e.g. heat and/or electricity) source. Such programs such as Building Excellent Schools Today (BEST) / Flex Energy already do this.</p>
<p><b>3. Colorado’s conservation easement program does not specifically encourage sustainable timber harvests.</b></p> <p>Conservation easements are flexible tools that protect land from development and can allow or disallow such land uses as ranching and other agriculture. Colorado promotes conservation easements with a state tax credit that has preserved more than one million acres of working lands. However, the state does not specifically encourage sustainable timber harvesting.</p>	<p><b>3. Amend Colorado’s conservation easement program to specifically encourage sustainable working forest conservation easements.</b></p> <p>Colorado could specifically encourage landowners who are considering conservation easements to include sustainable timber harvests in their plans, if appropriate. In Humboldt County, Calif., such an effort already is underway. Board-foot density has more than doubled and spotted owl habitat is conserved, while protecting loggers through a safe harbor agreement; revenues last year exceeded \$3 million (Petersen 2011).</p>

BARRIERS	RECOMMENDATIONS
<b>State Level</b>	
<p><b>4. Credit multipliers in Colorado’s Renewable Energy (Portfolio) Standard favor solar.</b></p> <p>According to the standard, solar electricity located in the territory of a cooperative or municipal utility and generated by a facility that begins operation before July 1, 2015, can receive 300-percent credit for complying with the standard. In other words, under this incentive, for every kilowatt-hour produced using solar, a cooperative or municipal utility can count it as three kilowatt-hours.</p>	<p><b>4. Make strategic use of credit multipliers and carve-outs.</b></p> <p>Whether in the state’s renewable energy portfolio standard or in a renewable thermal standard, or combined heat and power standard, creating credit multipliers gives producers added incentives to install and use forest energy. Credit multipliers would be most effective for those uses of biomass (i.e. thermal or combined heat and power) that take advantage of the more efficient technologies. For example, a credit of 300-percent for thermal would put biomass on equal footing with solar. Extending carve-outs, which include forest energy, to co-operatives and municipal utilities would also help.</p>
<p><b>5. The CSFS does not have enough resources to effectively analyze, inform and promote forest biomass utilization and forest energy development.</b></p> <p>The CSFS conducts seminars, workshops and conferences on forest biomass utilization and forest energy and its website contains numerous documents that can help inform, but the agency lacks sufficient resources to more effectively educate Coloradans.</p>	<p><b>5. Expand the role of the CSFS in forest biomass information.</b></p> <p>The CSFS could be provided with additional resources to enhance the delivery of scientific expertise, as well as current technical guidance and scientific information related to forest biomass and forest energy.</p>

BARRIERS	RECOMMENDATIONS
<b>State Level</b>	
<p><b>6. See #5 above.</b></p>	<p><b>6. Improve the visibility of the Colorado Forest Products (CFP) Program.</b></p> <p>The CFP brand and marketing strategy is part of the “Colorado Proud” Program. To qualify for the program, at least 50 percent of the raw materials used in a business’s forest products must be obtained from Colorado’s forests. Further encouragement from the state for developing and promoting this program would improve its capacity to market and utilize forest biomass. For example, Gov. John Hickenlooper currently appears in advertisements for the Colorado Proud Program, and such advertising would help the CFP Program.</p>
<p><b>7. See #5 above.</b></p>	<p><b>7. Grant CSFS participating agency status in all federal planning.</b></p> <p>With “participating agency” status, the CSFS could participate early and more fully in, and comment on the development of forest stewardship projects that potentially affect Colorado’s best interests. The CSFS will use the Forest Action Plan (statewide forest resource assessment and strategy) to ensure priority landscapes receive appropriate consideration.</p>

BARRIERS	RECOMMENDATIONS
<b>State Level</b>	
<p><b>8. See #5 above.</b></p>	<p><b>8. Allow the CSFS to assist in landscape-scale NEPA planning.</b></p> <p>The CSFS could develop a process to work with the USFS to identify places where landscape-scale NEPA analysis was appropriate, and where such a process could decrease administrative costs and increase the potential for larger, long-term stewardship contracts. Land managers should consider information contained in the Colorado Forest Action Plan to ensure priority landscapes are effectively managed to meet desired outcomes.</p>

BARRIERS	RECOMMENDATIONS
<b>State Level</b>	
<p><b>9. See #5 above.</b></p>	<p><b>9. The CSFS could take on a stewardship contract if no other entity is available.</b></p> <p>Stewardship contracts require the USFS to set aside a fixed sum of funds that is a cancellation ceiling. These funds are used to compensate the entity that takes on the contract in the event the federal agency is unable to perform its obligations under the contract. This contract form generally identifies a specific number of acres to be treated over a 10-year timeframe. Some of the treatment areas will yield forest products, and the intent is to create markets for this material. The CSFS should research its ability and the resources necessary to enter into contracts, if private entities are unavailable. The CSFS would need funding to cover certain financial requirements, including contract administration and personnel, contracting expenses for all sub-agreements the CSFS enters into and potential legal expenses. The CSFS could market products to several entities that may not have the ability to take on this large contract form.</p> <p>This may require that the CSFS engage in a stewardship contract with the USFS to ensure a broader supply. In the near-term, it is imperative that the State of Colorado reduce the burdens of securing feedstock supply guarantees from competing agencies and authorities, and provide a single point of contact that will be acceptable for financing biomass energy projects in forest communities.</p>

BARRIERS	RECOMMENDATIONS
<b>State Level</b>	
<p><b>10. See #5 above.</b></p>	<p><b>10. The CSFS could take on a stewardship agreement if no other entity is available.</b></p> <p>Stewardship agreements do not require the USFS to set aside funds for a cancelation ceiling. Stewardship agreements also can be canceled by either party at any time, provided all outstanding work requirements are current. The state is better able to receive funds from willing parties interested in achieving on-the-ground results through stewardship agreements. The CSFS would have the flexibility to determine what size of sub-contracts to award. Larger areas could be divided into smaller contract areas. Stewardship agreements do not provide a guaranteed supply, nor do they provide any large long-term supply.</p> <p>Stewardship agreements require up to a 20-percent match. If the CSFS does not locate other willing participants to contribute, then the CSFS would have to assume this financial burden. The CSFS would need additional state funds to cover the cost of contract administration and liability insurance. Currently, the CSFS does not have the funds or personnel to administer either stewardship contracts or stewardship agreements. The CSFS could be liable in the event a hired contractor performs poorly and fails to meet contract requirements, or for such events as fire or injury.</p>

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## **APPENDIX A: COLORADO FOREST ENERGY FINANCE PROGRAM (PROPOSED)**

### **COLORADO FOREST ENERGY FINANCE PROGRAM PROPOSED ADDITION TO THE C.R.S.**

#### **FULL TEXT**

#### **PART 1: GENERAL PROVISIONS**

##### **I. Short Title**

##### **II. Legislative Declaration**

##### **III. Definitions**

##### **IV. Governor's Energy Office – Powers and Duties – Program – Fund Created**

##### **V. Program Administrator – Training and Certification of Contractors – Reporting**

##### **VI. Administration – “Colorado Clean & Green” Designation – Cash Funding**

#### **PART 1: GENERAL PROVISIONS**

##### **I. Short Title**

This article shall be known and may be cited as the "Colorado Forest Energy Finance Program Act."

##### **II. Legislative Declaration**

The general assembly finds, determines and declares that improvements are needed to address serious and imminent threats to the health of Colorado's forests and the welfare of communities, watersheds and infrastructure at risk from wildfires, including the bark beetle infestation and the decline of Colorado's forest products industry. Therefore, the general assembly encourages the development of technology and markets for woody biomass that also recognizes the opportunities presented by the energy potential of biomass.

### III. Definitions

As used in this part 1, unless the context otherwise requires:

- (1) “Area median income” means the median income of the county in which the primary residence of a qualified borrower is located in relation to family size, as published annually by the United States Department of Housing and Urban Development.
- (2) “Certified contractor” means:
  - (a) A contractor, including but not limited to a general, heating, air conditioning, or lighting contractor, certified by the program administrator to market the program to potential qualified borrowers and make residential forest energy improvements that may be financed by residential forest energy loans; and
  - (b) A manufacturer or dealer of manufactured homes, as defined in section [24-32-3302](#), who is certified by the program administrator to market the program to potential qualified residential borrowers and make residential forest energy improvements that may be financed by residential forest energy loans.
- (3) “Certified project developer” means:
  - (a) A biomass project developer, including but not limited to an independent, affiliated or investment developer, experienced in biomass technology and project development, certified by the program administrator to market the program to potential non-residential qualified borrowers and make non-residential forest energy improvements that may be financed by non-residential forest energy loans; and
  - (b) A manufacturer, manufacturers representative or a developer with a documented strategic affiliation with a manufacture who is a certified by the program administrator to market the program to potential non-residential qualified borrowers and make non-residential forest energy improvements that may be financed by non-residential forest energy loans.
- (4) “First tier residential qualified borrower” means a qualified borrower whose income is less than eighty percent of area median income.
- (5) “Non-residential forest energy improvement” means any repair of or addition or improvement to commercial, industrial, non-profit or public real property completed by or under the supervision of a certified project developer that enables the property owner or the project developer, through a documented agreement with the owner, to use forest biomass to produce energy (e.g. heat, co-generation, etc).
- (6) “Non-residential forest energy loan” means a loan in a maximum amount of two million dollars originated by a participating public lender or a participating private lender, including but not limited to a bank or mortgage lender, to a qualified commercial borrower for the purpose of financing one or more commercial forest energy improvements to the borrower's primary facility.

- (7) “Office” means the governor's energy office.
- (8) “Program” means the Colorado forest energy finance program.
- (9) “Program administrator” or “administrator” means one or more entities selected by the office to:
- (a) Market the program;
  - (b) Recruit, train, and certify contractors/project developers;
  - (c) Measure and verify, in accordance with standards established by the office, energy, emissions, and gross and net cost savings resulting from residential and non-residential forest energy improvements financed by residential and non-residential forest energy loans originated and serviced by participating public lenders and private lenders;
  - (d) Encourage residential and non-residential borrowers to participate in utility demand-side management programs where applicable; and
  - (e) Perform such other duties as may be authorized in this article or required by the office.
- (10) “Program fund” means the forest energy program fund created in section [24-38.7-103](#) (2)
- (a).
- (11) “Public lender” means a county, municipality, district, authority, electric cooperative, or other political/cooperative subdivision of the state authorized to make economic development, energy development, affordable housing, or housing rehabilitation loans.
- (12) “Qualified non-residential borrower” means any commercial or industrial business, Colorado charitable nonprofit corporation exempt from taxation under section 501 (c) (3) of the federal "Internal Revenue Code of 1986", as amended, or public agency that owns a facility capable of implementing a non-residential forest energy improvement.
- (13) “Qualified residential borrower” means an individual or family who owns his, her, or their primary residence and satisfies lending guidelines established by the program administrator or a Colorado charitable nonprofit corporation exempt from taxation under section 501 (c) (3) of the federal "Internal Revenue Code of 1986", as amended, or county or municipal housing authority that provides homes for ownership or rental to homeowners or renters who meet the income qualifications of first tier or second tier qualified borrowers.
- (14) “Residential forest energy improvement” means any repair of or addition or improvement to residential real property completed by or under the supervision of a certified contractor that enables the owner to use forest biomass to produce energy (e.g. heat, co-generation, etc.).
- (15) “Residential forest energy loan” means a loan in a maximum amount of twelve thousand five hundred dollars originated by a participating public lender or a participating private lender, including but not limited to a bank or mortgage lender, to a qualified borrower for the purpose of financing one or more forest energy improvements to the borrower's primary residence, rental property, or place of business; except that, if the qualified borrower is a nonprofit corporation or local government housing authority that provides units in a multi-unit housing project as homes

to individuals or families who meet the income qualifications of first-tier or second-tier residential qualified borrowers, the maximum amount of a loan shall be twelve thousand five hundred dollars multiplied by the number of units in the multi-unit housing project provided to the individuals or families.

(16) "Second-tier qualified residential borrower" means a qualified borrower whose income is eighty percent or more, but less than one hundred twenty percent, of area median income.

(17) "Third-tier qualified residential borrower" means a qualified borrower whose income is one hundred twenty percent or more of area median income.

#### **IV. Governor's Energy Office – Powers and Duties – Program – Fund Created**

(1) The Colorado forest energy finance program is hereby created. The office shall oversee the program and the program administrator and shall, in addition to exercising any other powers and performing any other duties specified in this article:

(a) Select the program administrator in accordance with the provisions of the "Procurement Code", articles 101 to 112 of this title. In selecting the program administrator, the office shall consider the extent to which a potential program administrator has demonstrated experience in recruiting, training, and certifying contractors or can otherwise establish that it will be able to perform such functions.

(b) Directly market the program to the general public or contract with the program administrator for the marketing of the program to the general public;

(c) Develop and operate or contract with the program administrator for the development and operation of a quality assurance, measurement, and verification program to:

(I) Monitor the quality of residential and non-residential forest energy improvement installations;

(II) Measure and report on energy, emissions, and gross and net cost savings resulting from residential and non-residential forest energy improvements financed by forest energy loans; and

(III) Authorize participating lenders, certified contractors, certified project developers and qualified borrowers on whose property residential and non-residential forest energy improvements are made to use the "Colorado Clean & Green" logo or other logo and marketing materials prepared in accordance with section [24-38.7-105](#).

(d) Determine, in consultation with the state treasurer, when the administrative and procedural framework for the program and the available administrative and financial resources for the program are sufficiently developed to allow the office to effectively oversee the program. No residential or non-residential forest energy loan shall be marketed to a potential qualified residential and non-residential borrower, applied for by a potential qualified residential and non-residential borrower, or made to a qualified residential and non-residential borrower until the office has determined that it is ready to effectively oversee the program and instructed certified contractors and certified project developers to begin marketing residential and non-residential forest energy loans.

(e) Exercise such other powers and perform such other duties necessary or incidental to or implied from the specific powers and duties specified in this article.

(2) (a) The forest energy program fund is hereby created in the state treasury, and the following accounts are hereby created in the fund:

(I) The loan buy-down account; and

(II) The loan loss reserve account.

(b) The program fund and the accounts of the program fund shall consist of such moneys as the general assembly may appropriate thereto from the forest energy fund created in section [24-75-1201](#) (1), C.R.S., and any gifts, grants, or donations that may be made to the program fund. In accordance with section [24-36-113](#) (1) (a), which requires the state treasurer, in making investments, to use prudence and care to preserve the principal and to secure the maximum rate of interest consistent with safety and liquidity, if the general assembly chooses not to appropriate moneys to the program fund or to the accounts of the program fund, nothing in this article shall be deemed to require the state treasurer to credit any moneys to the program fund or the accounts of the program fund. All interest and income earned on the deposit and investment of moneys in the program fund and the accounts of the program fund shall be used for the loan buy-down account and the loan loss reserve account. Moneys in the loan buy-down account and loan loss reserve account of the program fund shall remain in the accounts and shall not be transferred to the general fund or any other fund at the end of any fiscal year.

(3) (a) All moneys in the program fund are continuously appropriated to the office, and the office shall make payments from the loan buy-down account of the program fund to participating public lenders and private lenders to compensate the lenders for the reduction in the amount of future interest payments resulting from the provision of non-residential forest energy loans and residential forest energy loans to first tier and second tier qualified borrowers at below-market interest rates determined pursuant to section [24-38.7-104](#) (2). The office shall pay the compensation for each residential and non-residential forest energy loan by paying to the lender a lump sum equal to the present value of the reduction in future interest payments on the date the loan closes.

(b) The office shall make payments from the loan loss reserve account of the program fund to compensate participating public lenders and private lenders for the uncollectible amount of residential and non-residential forest energy loans any such lenders have written off. The office shall pay the compensation for each uncollectible forest energy loan by paying to the lender a lump sum equal to the present value of the uncollectible portion of the loan on the date the lender wrote it off.

(c) The state treasurer shall periodically transfer moneys from the loan buy-down account of the program fund to the loan loss reserve account of the program fund to ensure that the balance of the loan loss reserve account is at least five percent of the total principal amount of outstanding residential and non-residential forest energy loans made by participating public lenders and private lenders. The administrator shall update the state treasurer regarding outstanding residential and non-residential forest energy loans originated by such lenders as required by the state treasurer so that the state treasurer can accurately determine the appropriate amount and

timing of transfers.

(d) The state treasurer may invest up to a total amount of forty million dollars of state moneys in bonds or notes issued by participating public or private lenders for the purpose of funding forest energy loans under part 1 and part 2 of this article during the 2013-14, 2014-15, and 2015-16 fiscal years subject to the following conditions:

(I) The state treasurer may invest no more than fifteen million dollars during the 2013-14 fiscal year and no more than a total amount of twenty-five million dollars during the 2014-15 and 2015-16 fiscal years; and

(II) Such investments shall be subject to the state treasurer's discretion and shall comply with the qualifications for state investments listed in section [24-36-113](#).

## **V. Program Administrator – Training and Certification of Contractors – Reporting**

(1) In accordance with terms contractually agreed to by the program administrator and the office, acting on behalf of the state, the program administrator shall implement and administer the program by:

(a) Recruiting, selecting, screening, training, and certifying contractors, including but not limited to general, heating, air conditioning, and electrical contractors, to be certified contractors or certified project developers capable of marketing the program and completing residential and/or non-residential forest energy improvements. The program administrator may charge contractors a reasonable fee for training and certification, and the recruiting, selection, screening, training, and certification process shall include, at a minimum:

(I) Direct marketing of the program to contractors;

(II) Financial and business practices background checks of contractors seeking to become certified contractors and/or certified project developers; and

(III) Initial training that includes:

(A) Education regarding the elements of the program, the financial and environmental benefits of residential and non-residential forest energy improvements, including but not limited to specific education regarding products qualified to bear the federal energy star label, and recommended means of marketing the program to potential program customers; and

(B) The provision of information regarding additional required training and other requirements for contractors who may wish to become preferred contractors under the federal home performance with energy star program.

(b) Issuing annual reports regarding the administration of the program as specified in subsection (3) of this section.

(2) A potential qualified residential or non-residential borrower shall apply for a residential or non-residential forest energy loan by completing an initial loan application. The office or, at the discretion of the office, the program administrator or participating public lenders and private lenders shall prescribe the form of the loan application and shall determine, based on the

application and such other information as the administrator may reasonably require from the applicant, whether the applicant is a qualified residential or non-residential borrower and, if so, whether the qualified residential borrower is a first tier, second tier, or third tier qualified borrower. However, a participating public lender may only originate residential forest energy loans for first tier and second tier qualified residential borrowers. A qualified residential or non-residential borrower may choose a loan term of up to ten years. The state treasurer shall, using a formula tied to a regularly published interest rate index selected by the state treasurer, determine a base annual rate of interest to be charged on loans made to third tier qualified residential borrowers and qualified non-residential borrowers. The state treasurer shall set an annual rate of interest for loans to second tier qualified residential borrowers by subtracting a number of basis points selected by the state treasurer from the base annual rate and shall set an annual rate of interest for loans to first tier qualified residential borrowers by subtracting a number of basis points selected by the state treasurer from the annual rate of interest for loans to second tier qualified residential borrowers. The interest rate charged to a qualified residential borrower that is a nonprofit corporation or a housing authority shall be the interest rate charged to second tier qualified residential borrowers; except that the interest rate charged to a nonprofit corporation or housing authority shall be the interest rate charged to first tier qualified residential borrowers if the nonprofit corporation or housing authority only provides the housing for which the loan will finance residential forest energy improvements to individuals or families who are first tier qualified residential borrowers.

(3) (a) No later than one year from the date of issuance of the first residential or non-residential forest energy loan by a participating public lender or private lender pursuant to this article, and no later than the same date each subsequent year, the program administrator shall provide to the office a report detailing its administration of the program since its inception and for the prior fiscal year. The report shall include, at a minimum:

(I) A detailed accounting of the financial status of the program, including statements regarding:

(A) The total number and principal amount of residential and non-residential forest energy loans originated and the number and principal amount of residential forest energy loans originated to first tier, second tier, and third tier qualified residential borrowers and non-residential borrowers;

(B) The total amount of outstanding principal and interest on residential and non-residential forest energy loans owed by qualified borrowers and the amount of such principal and interest owed by first tier, second tier, and third tier qualified residential borrowers and non-residential borrowers;

(C) The total number and principal and interest amounts of any uncollectible residential and non-residential forest energy loans written off by participating public lenders and private lenders and the number and principal amounts of such loans issued to first tier, second tier, and third tier qualified residential borrowers and non-residential borrowers;

(D) The total amount of bonds or other notes in which the state treasurer has invested as authorized by section [24-38.7-103](#) (3) (d), the payments made on such bonds or other notes, and the payments to be made in the future on such bonds or other notes; and

(E) The amounts paid to participating public lenders and private lenders by the office pursuant to

section [24-38.7-103](#) (3) (a) and (3) (b) and any contracts entered into by the state and the administrator as authorized by this article;

(II) Estimates of the total energy, emissions, and gross and net cost savings resulting from residential and non-residential forest energy improvements financed by residential and non-residential forest energy loans; and

(III) Any recommended program improvements.

(b) Subject to the limitation set forth in section [24-1-136](#) (11), no later than January 30, 2014, and no later than each January 30 thereafter, the office shall report to the transportation and energy committee of the house of representatives and the agriculture, natural resources, and energy committee of the senate, or any successor committees, regarding the program. The report shall include the information provided to the office in the program administrator's annual report and whatever additional information the office deems relevant to fully apprise the committees regarding the status of the program.

## **VI. Administration – “Colorado Clean & Green” Logo Use**

(1) A lender, certified contractor, certified project developer, or qualified residential borrower or qualified non-residential borrower that complies with this article and the office's qualifications for use of the logo shall be permitted to use the logo described in section [24-38.7-105](#) in advertising, labeling, or marketing of products and services.

**APPENDIX B: SB11-267: THE FOREST HEALTH ACT OF 2011**



SENATE BILL 11-267

BY SENATOR(S) Schwartz, Shaffer B., Bacon, Foster, Giron, Guzman, Heath, Hodge, Jahn, Johnston, King S., Nicholson, Roberts, Tochtrop, White, Williams S., Aguilar, Boyd, Morse, Newell;  
also REPRESENTATIVE(S) Coram and Hamner, Court, Baumgardner, Fischer, Gerou, Hullinghorst, Jones, Kefalas, Labuda, Lee, McCann, Nikkel, Pace, Schafer S., Todd, Wilson.

CONCERNING MEASURES TO PROMOTE FOREST HEALTH, AND, IN CONNECTION THEREWITH, CREATING THE COLORADO FOREST BIOMASS USE WORK GROUP AND PROMOTING THE CREATION OF SUSTAINABLE MARKET-BASED MODELS FOR ACTIVE FOREST MANAGEMENT AND WOODY BIOMASS ENERGY DEVELOPMENT.

*Be it enacted by the General Assembly of the State of Colorado:*

**SECTION 1. Short title - legislative declaration.** (1) This act shall be known and may be cited as the "Forest Health Act of 2011".

(2) The general assembly hereby:

(a) Finds that:

(I) The Colorado state forest service is well-positioned, due to

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*Capital letters indicate new material added to existing statutes; dashes through words indicate deletions from existing statutes and such material not part of act.*

experience in managing Colorado's forests and its understanding of science-based, active forest management, to facilitate state government participation in forest management on federal lands located within Colorado;

(II) The department of natural resources has expertise with fish and wildlife habitat and the department of public health and environment has expertise with water quality, and both departments have an important role to play in the management of federal forests located within Colorado;

(III) A collaborative relationship between the Colorado state forest service, the federal government, other agencies of the executive department, interested persons, and nongovernmental organizations may restore the health, diversity, and resilience of federal forests by increasing the information shared and by providing a variety of perspectives on site-specific and landscape-level determinations;

(IV) In cooperation with the Colorado state forest service and the federal government, many communities in wildfire-prone areas have completed a community wildfire protection plan that identifies priority areas for hazardous fuel removal from private, state, and federal lands; and

(V) The federal government has provided opportunities for agencies of the executive department to become involved, to a greater extent, in the management of federal lands;

(b) Determines that the executive branch and the general assembly must act to address serious and imminent threats to the health of Colorado's forests and the welfare of communities, watersheds, and infrastructure at risk from wildfires, including the bark beetle infestation and the decline of Colorado's forest products industry; and

(c) Declares that this act is necessary to avert these threats, in part, by developing technology and markets for woody biomass that also recognize the opportunities presented by the energy potential of biomass.

**SECTION 2.** Part 3 of article 31 of title 23, Colorado Revised Statutes, is amended BY THE ADDITION OF A NEW SECTION to read:

**23-31-314. Colorado forest biomass use work group - repeal.**

(1) THERE IS HEREBY CREATED THE COLORADO FOREST BIOMASS USE WORK GROUP. THE WORK GROUP SHALL INVITE AN EMPLOYEE OF THE UNITED STATES FOREST SERVICE TO PARTICIPATE IN THE WORK GROUP'S PROCEEDINGS. THE WORK GROUP CONSISTS OF:

(a) THE COLORADO STATE FORESTER OR THE STATE FORESTER'S DESIGNEE, WHO SHALL CONVENE THE WORK GROUP;

(b) AN EMPLOYEE OF THE DEPARTMENT OF NATURAL RESOURCES APPOINTED BY ITS EXECUTIVE DIRECTOR;

(c) NO MORE THAN SEVEN MEMBERS APPOINTED JOINTLY BY THE MEMBERS SPECIFIED IN PARAGRAPHS (a) AND (b) OF THIS SUBSECTION (1) WHO HAVE DEMONSTRATED EXPERTISE IN NO LESS THAN ONE OF THE FOLLOWING AREAS:

(I) COLORADO'S FOREST PRODUCTS INDUSTRY;

(II) THE BIOMASS TECHNOLOGY INDUSTRY;

(III) ENERGY OR NATURAL RESOURCES;

(IV) UTILITY INFRASTRUCTURE OR RIGHTS-OF-WAY IN FORESTED LANDS; AND

(V) FOREST ECOLOGY;

(d) A MEMBER OF THE COLORADO FOREST HEALTH ADVISORY COUNCIL CREATED BY EXECUTIVE ORDER;

(e) THE DIRECTOR OF THE GOVERNOR'S ENERGY OFFICE CREATED IN SECTION 24-38.5-101, C.R.S., OR THE DIRECTOR'S DESIGNEE, WHOSE PARTICIPATION IS LIMITED TO IDENTIFYING MECHANISMS THAT ARE COST-NEUTRAL TO CONSUMERS;

(f) THE DIRECTOR OF THE OFFICE OF ECONOMIC DEVELOPMENT, CREATED IN SECTION 24-48.5-101, C.R.S., OR THE DIRECTOR'S DESIGNEE; AND

(g) THE DIRECTOR OF COMPACT NEGOTIATIONS APPOINTED

PURSUANT TO SECTION 37-75-103, C.R.S., OR THE DIRECTOR'S DESIGNEE.

(2) THE WORK GROUP SHALL PRIORITIZE ITS EFFORTS TO PROTECT CRITICAL FORESTED AREAS OF THE STATE, INCLUDING THE WILDLAND-URBAN INTERFACE, ELECTRIC UTILITY INFRASTRUCTURE, TRANSPORTATION CORRIDORS, WATER SUPPLY AND QUALITY, AND WATERSHEDS. THE PURPOSE OF THE WORK GROUP IS TO:

(a) IDENTIFY:

(I) BARRIERS TO THE CREATION OF A SUSTAINABLE, MARKET-BASED MODEL FOR ACTIVE FOREST MANAGEMENT AND ECOSYSTEM HEALTH FOR COLORADO'S FORESTS, INCLUDING RESPONSIBLE TIMBER HARVEST AND BIOMASS UTILIZATION;

(II) WAYS TO SUPPORT COLORADO'S FOREST PRODUCTS INDUSTRY THROUGH EFFECTIVE FOREST MANAGEMENT;

(III) WAYS TO PROMOTE THE USE OF BIOMASS TO REDUCE THE RISK OF SEVERE INSECT AND DISEASE OUTBREAKS AND CATASTROPHIC WILDFIRES;

(IV) IN CONJUNCTION WITH THE STAFF OF THE AIR QUALITY CONTROL COMMISSION, THE AIR QUALITY BENEFITS OF USING THE COGENERATION OF HEAT AND ELECTRICITY FROM BIOMASS AS A FUEL MITIGATION STRATEGY WITHOUT INTENDING THEREBY TO IMPAIR THE USE OF OPEN BURNING OF SLASH OR BRUSH TO ADDRESS CRITICAL FIRE MITIGATION EFFORTS;

(V) CURRENTLY AVAILABLE AND POTENTIAL PUBLIC AND PRIVATE SOURCES OF FUNDING FOR THE DEVELOPMENT OF BIOMASS MARKETS, INCLUDING ENERGY MARKETS, THAT HARVEST OR USE FOREST BIOMASS UNSUITABLE FOR LUMBER, PULP, OR PAPER PRODUCTS AS A PRIMARY SOURCE OF RAW MATERIAL, INCLUDING:

(A) A PROGRAM ANALOGOUS TO THE COLORADO CLEAN ENERGY FINANCE PROGRAM ESTABLISHED PURSUANT TO ARTICLE 38.7 OF TITLE 24, C.R.S., TO FACILITATE ADEQUATE CAPITALIZATION OF THE FOREST PRODUCTS INDUSTRY; AND

(B) TARGETED BUSINESS INCENTIVES, INCLUDING TAX CREDITS OR EXEMPTIONS, FOR ECONOMICALLY VIABLE BIOMASS HARVESTING,

TRANSPORTATION, AND USE; AND

(VI) BEST FOREST MANAGEMENT PRACTICES REGARDING WATERSHED MANAGEMENT, WATER SUPPLY, AND WATER QUALITY;

(b) RECOMMEND WAYS TO MAXIMIZE THE COLORADO STATE FOREST SERVICE'S EFFECTIVENESS WITH REGARD TO THE FOLLOWING ISSUES:

(I) THE SERVICE ACTING AS AN INFORMATION RESOURCE, IN COORDINATION WITH THE DEPARTMENT OF NATURAL RESOURCES AND THE GOVERNOR'S ENERGY OFFICE, FOR PERSONS SEEKING TO UTILIZE WOODY BIOMASS FOR ENERGY DEVELOPMENT, INCLUDING BY MAINTAINING AND UPDATING EXISTING DATA REGARDING:

(A) A MAP THAT RANKS THE RELATIVE AVAILABILITY OF LANDS CAPABLE OF PRODUCING WOODY BIOMASS AND RANKS THE COUNTIES THAT ARE MOST VULNERABLE TO THE RISKS OF CATASTROPHIC FIRE; AND

(B) AN INTEGRATED BIOMASS INVENTORY, INCLUDING PRIVATE, PUBLIC, AND AGRICULTURAL LANDS AND WASTE FEEDSTOCK, TO FACILITATE THE LOCATION AND SIZING OF BIOMASS PROJECTS SPECIFICALLY FOR COMMUNITY THERMAL AND ELECTRICITY PRODUCTION;

(II) THE SERVICE'S PARTICIPATION, TO THE EXTENT ALLOWED BY STATE AND FEDERAL LAW, IN THE DEVELOPMENT OF FEDERAL FOREST POLICIES AND THE FOREST MANAGEMENT PLANNING PROCESSES OF FEDERAL AGENCIES TO INFLUENCE THOSE POLICIES AND PROCESSES TO ADVANCE COLORADO'S BEST INTERESTS, INCLUDING THE PROTECTION OF WATERSHEDS AND UTILITY INFRASTRUCTURE LOCATED IN NATIONAL FORESTS, SPECIFICALLY INCLUDING NATURAL GAS, ELECTRIC, AND WATER INFRASTRUCTURE;

(III) THE USE OF:

(A) STEWARDSHIP CONTRACTS WITH THE UNITED STATES FOREST SERVICE, THE FEDERAL BUREAU OF LAND MANAGEMENT, OR BOTH, PURSUANT TO SECTION 323 OF PUBLIC LAW 108-7, TO SUPPORT COLORADO'S FOREST PRODUCTS INDUSTRY BY PERFORMING SERVICES TO ACHIEVE LAND MANAGEMENT GOALS FOR THE NATIONAL FORESTS AND THE PUBLIC LANDS THAT MEET LOCAL AND RURAL COMMUNITY NEEDS WITHOUT COMPETING

WITH THE PRIVATE FOREST MANAGEMENT INDUSTRY; AND

(B) COLORADO'S GOOD NEIGHBOR AUTHORITY, AS DEFINED IN SECTION 23-31-313 (3), TO THE GREATEST EXTENT POSSIBLE IN FOREST PROJECTS, INCLUDING PURSUANT TO STEWARDSHIP CONTRACTS; AND

(IV) PROMOTING COST COMPETITIVE PROJECTS TO FACILITATE THE COGENERATION OF HEAT AND ELECTRICITY AT A PRISON, JAIL, SCHOOL, HOSPITAL, OR OTHER PUBLICLY OWNED FACILITY FROM THE COMBUSTION OF BIOMASS HARVESTED FROM A FOREST IN COLORADO THAT IS LOCATED WITHIN A REASONABLE RADIUS OF SUCH FACILITY; AND

(c) SUBMIT A REPORT PURSUANT TO SUBSECTION (3) OF THIS SECTION.

(3) THE WORK GROUP SHALL CREATE AN INITIAL REPORT BY NOVEMBER 1, 2011, AND SUBMIT A FINAL REPORT TO THE HOUSE OF REPRESENTATIVES COMMITTEE ON AGRICULTURE, LIVESTOCK, AND NATURAL RESOURCES AND THE SENATE COMMITTEE ON AGRICULTURE, NATURAL RESOURCES, AND ENERGY, OR THEIR SUCCESSOR COMMITTEES, BY JANUARY 1, 2012. THE REPORT MUST SUMMARIZE THE WORK AND FINDINGS OF THE WORK GROUP AND INCLUDE SPECIFIC LEGISLATIVE RECOMMENDATIONS REGARDING THE ISSUES IDENTIFIED IN SUBSECTION (2) OF THIS SECTION FOR THE PRIVATE SECTOR, REGULATORS, THE COLORADO STATE FOREST SERVICE, BASIN ROUNDTABLES CREATED PURSUANT TO SECTION 37-75-104 (1) (a), C.R.S., AND THE GENERAL ASSEMBLY.

(4) (a) THE COLORADO STATE FOREST SERVICE, THE DEPARTMENT OF NATURAL RESOURCES, AND THE GOVERNOR'S ENERGY OFFICE MAY ACCEPT PRIVATE GIFTS, GRANTS, AND DONATIONS FOR THE PURPOSE OF PROVIDING SUPPORT TO THE WORK GROUP TO PERFORM ITS RESPONSIBILITIES SPECIFIED IN THIS SECTION AND SHALL TRANSMIT SUCH REVENUES TO THE STATE TREASURER, WHO SHALL DEPOSIT THEM IN A SEPARATE ACCOUNT WITHIN THE HEALTHY FORESTS AND VIBRANT COMMUNITIES FUND CREATED IN SECTION 23-31-313 (10), WHICH ACCOUNT IS HEREBY CREATED. REVENUES IN THE ACCOUNT ARE AVAILABLE TO THE COLORADO STATE FOREST SERVICE AND THE WORK GROUP ONLY FOR THE PURPOSE OF CARRYING OUT THE WORK GROUP'S DUTIES UNDER THIS SECTION. THE ACCOUNT ALSO CONSISTS OF MONEYS APPROPRIATED AND TRANSFERRED TO THE ACCOUNT. ANY UNENCUMBERED MONEYS REMAINING IN THE ACCOUNT AS OF JULY 1, 2012,

REVERT TO THE HEALTHY FORESTS AND VIBRANT COMMUNITIES FUND TO BE USED PURSUANT TO SECTION 23-31-313 (10).

(b) IT IS THE INTENT OF THE GENERAL ASSEMBLY THAT THE COLORADO STATE FOREST SERVICE NOT BE REQUIRED TO SOLICIT GIFTS, GRANTS, OR DONATIONS FROM ANY SOURCE FOR THE PURPOSES OF THIS SECTION AND THAT NO GENERAL FUND MONEYS BE USED TO PAY FOR GRANTS AWARDED PURSUANT TO THIS SECTION OR FOR ANY EXPENSES OF THE WORK GROUP. THE WORK GROUP MAY ALSO ACCESS EXISTING RESOURCES OF THE COLORADO STATE FOREST SERVICE, THE DEPARTMENT OF NATURAL RESOURCES, AND THE GOVERNOR'S ENERGY OFFICE, TO THE EXTENT THAT SUCH RESOURCES ARE LEGALLY AVAILABLE AND OTHERWISE UNENCUMBERED.

(5) THIS SECTION IS REPEALED, EFFECTIVE JULY 1, 2012.

**SECTION 3.** 36-7-103, Colorado Revised Statutes, is amended to read:

**36-7-103. Disposition of timber on state lands.** (1) The state board of land commissioners, referred to in this article as the "board", is authorized to sell and otherwise dispose of timber on state lands; to secure the maximum possible amount therefrom, based upon cruised and appraised quantities thereon, location, accessibility, and market conditions; to issue permits of authority for timber cuttings; and to require cash deposits in advance to apply on such timber-cutting permits. In cases in which the appraised value of timber involved in any proposed sale exceeds five thousand dollars, competitive bids shall be received by the board, after call for such bids has been advertised over a thirty-day period in three issues of a newspaper of general circulation in each county in which the timber is located.

(2) THE BOARD, WHEN CONTRACTING WITH THE COLORADO STATE FOREST SERVICE, SHALL DIRECT THE SERVICE TO USE THE APPROPRIATE METHODS NECESSARY TO ENSURE PROPER MANAGEMENT OF STATE TRUST LANDS WHENEVER THE BOARD CONTRACTS FOR THE DISPOSITION FROM STATE LANDS OF TIMBER THAT:

(a) HAS BEEN INFESTED WITH BARK BEETLES; OR

(b) IS HARVESTED FROM A FOREST WHOSE HEALTH IS OTHERWISE IN DECLINE OR FROM WHICH THE BOARD ANTICIPATES DECLINING REVENUES DUE TO FOREST HEALTH FACTORS.

**SECTION 4. Biomass investigation by public utilities commission.** The general assembly hereby requests the public utilities commission to explore all aspects of biomass heat, electric, and gas energy production. The commission is encouraged to assist the Colorado forest biomass use work group created in section 23-31-314, Colorado Revised Statutes, and the general assembly on options for mitigating fire hazards and fully utilizing Colorado's biomass resources in the production of energy within the regulated markets.

**SECTION 5. Safety clause.** The general assembly hereby finds, determines, and declares that this act is necessary for the immediate preservation of the public peace, health, and safety.