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WOOD RESIDUE UTILIZATION ACT

GOVERNMENT

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HEARINGS

BEFORE THE

SUBCOMMITTEE ON FORESTS

OF THE

COMMITTEE ON AGRICULTURE

HOUSE OF REPRESENTATIVES

NINETY-SIXTH CONGRESS

FIRST AND SECOND SESSIONS

ON

H.R. 4313, H.R. 5220, H.R. 5397,
H.R. 5428, and 6755

SEPT. 12 AND NOV. 15, 1979, AND MAR. 11, 1980

Serial No. 96-YY

DOCUMENTS

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WOOD RESIDUE UTILIZATION ACT

WEDNESDAY, SEPTEMBER 12, 1979

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON FORESTS OF THE
COMMITTEE ON AGRICULTURE,
Washington, D.C.

The subcommittee met, pursuant to notice, at 9:30 a.m., in room 1302, Longworth House Office Building, Hon. Jim Weaver (chairman of the subcommittee) presiding.

Present: Representatives Anthony, Huckaby, and Johnson.

Staff present: Christine Abram, clerk; Peggy Thomson, Rita DiSimone, and Gary Norton.

OPENING REMARKS OF HON. JIM WEAVER, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF OREGON

Mr. WEAVER. The subcommittee will be in order.

The Forests Subcommittee is holding hearings on the Wood Utilization Act of 1979. Our time is short, so my opening statement will be brief.

The Wood Utilization Act will provide the authority and the direction to accelerate existing efforts to improve wood utilization, develop alternative sources of energy, and increase timber supply.

This proposal is similar to a bill I introduced last year which provided a pilot program for wood utilization. The bill before us today, H.R. 5220, is broader in scope; it includes the wood utilization program and, in addition, provisions to increase the supply of wood through slash removal and disposal and to make, insure, and guarantee loans for wood energy and wood utilization.

This bill is needed because the energy crisis is creating new markets for forest resources. Increasing competition for these resources requires an increased supply as well as making better use of the timber we harvest.

The gasohol bill before the full committee is one solution to the energy crisis. There are other methods to produce energy from wood which have equal promise. They include direct combustion, thermochemical gasification, pyrolysis, and pelletization. The Secretary of Agriculture should be given the authority to explore all of these new technologies and develop those that are both commercially viable and economically feasible.

But in meeting our energy needs, we must guard against subsidizing wood energy at the expense of the forest products industry and the

consumer. An equal incentive to improve wood utilization and to become energy independent should be provided to the forest product manufacturer to develop and apply new technologies in wood utilization. These new technologies make better use of slash, underutilized, and dead and dying timber. New methods of harvesting must also be developed as well as ways to reduce transportation costs between harvest and production sites.

This three-pronged program will insure the long-term viability of our national forests as a renewable energy resource. We need a loan program for alcohol fuel; but in addition we need to develop other methods of producing wood energy, make better use of our timber supply, and improve wood utilization. It is my intention to offer the Wood Utilization Act as an amendment to H.R. 3905.

Without objection, a copy of the bill, H.R. 5220, will be inserted in the record at this point.

[H.R. 5220 and the report from U.S. Department of Agriculture follow:]

96TH CONGRESS
1ST SESSION

H. R. 5220

To authorize the Secretary of Agriculture to establish a wood utilization program to improve the use of renewable resources in timber harvesting, forest protection and management, and the manufacture of wood products including energy through guaranteed loans, timber sales, and other activities.

IN THE HOUSE OF REPRESENTATIVES

SEPTEMBER 10, 1979

Mr. WEAVER introduced the following bill; which was referred to the Committee on Agriculture

A BILL

To authorize the Secretary of Agriculture to establish a wood utilization program to improve the use of renewable resources in timber harvesting, forest protection and management, and the manufacture of wood products including energy through guaranteed loans, timber sales, and other activities.

- 1 *Be it enacted by the Senate and House of Representa-*
- 2 *tives of the United States of America in Congress assembled,*
- 3 That this Act may be cited as the "Wood Utilization Act of
- 4 1979".

1 SEC. 2. The purposes of this Act are to (1) develop,
2 demonstrate, improve, and promote for rapid and widespread
3 use methods to increase and improve utilization of trees,
4 parts of trees, and forest products resulting from timber har-
5 vesting, forest protection and management, and the manufac-
6 ture of forest products including wood pulp, wood waste resi-
7 dues, and energy; (2) reduce the hazard of forest wildfires; (4)
8 reduce the adverse effects on air quality of burning wood
9 waste residues; (5) enhance the long-term productivity of
10 forest resources in each region and for the Nation as a whole;
11 and (6) assist in meeting growing demands for wood products
12 by encouraging the development of markets for underutilized
13 forest resources. To implement the purposes of this Act, the
14 Secretary of Agriculture, hereinafter referred to as the "Sec-
15 retary", shall establish a wood utilization program. This pro-
16 gram shall be coordinated with activities pursuant to any au-
17 thority the Secretary may possess. The Secretary shall—

18 (a) make, insure, and guarantee loans under the
19 authority of section 310B of the Consolidated Farm
20 and Rural Development Act, to eligible recipients for
21 the purpose of carrying out demonstrations and pilot
22 projects in the utilization of trees, parts of trees, and
23 forest products resulting from timber harvesting, forest
24 protection and management, and the manufacture of

1 forest products including wood pulp, wood waste resi-
2 dues, and energy;

3 (b) require the removal by the timber purchaser or
4 contractor of all trees, parts of trees, and forest prod-
5 ucts resulting from timber harvesting which will en-
6 hance the long-term productivity of forest resources:
7 *Provided, however,* That nothing shall abrogate or
8 modify the slash disposal provisions of existing con-
9 tracts for the sale of public timber except to the extent
10 such changes are mutually agreed to by the parties to
11 such contracts;

12 (c) may sell, consolidate for sale or otherwise dis-
13 pose of slash and other underutilized material, dead
14 and dying timber for energy production; and acquire by
15 purchase or otherwise, slash and other underutilized
16 material, dead and dying timber from other Federal,
17 State, and other governmental agencies, public or pri-
18 vate institutions, universities, and organizations, busi-
19 ness entities, and individuals in the United States, for
20 consolidation, for sale or other disposal for energy pro-
21 duction: *Provided,* That priority to purchase or other-
22 wise obtain slash, and other underutilized material,
23 dead and dying timber for energy production shall be
24 given first to public bodies or cooperatives.

1 SEC. 3. (a) To implement the purposes of this Act, the
2 Secretary is authorized, without regard to section 3709 of
3 the Revised Statutes, as amended (41 U.S.C. 5); to (1) enter
4 into contracts, cooperative agreements, and other arrange-
5 ments; and (2) provide technical, financial, and related assist-
6 ance to Federal, State, and other governmental agencies,
7 public or private institutions, universities, organizations, busi-
8 ness entities, and individuals in the United States; and (3)
9 sell, consolidate for sale, or otherwise dispose of slash and
10 other underutilized material, dead and dying timber: *Pro-*
11 *vided*, That projects established under this Act shall provide
12 that non-Federal cooperators must contribute at least 50 per
13 centum of all of the cost for a pilot project: *Provided, further*,
14 That the Secretary is authorized to and may transfer and
15 vest title to facilities and equipment furnished or acquired in
16 connection with the pilot project in the recipient without fur-
17 ther obligation to the Government, or on such other terms
18 and conditions as deemed appropriate.

19 (b) The Secretary shall issue such regulations as he
20 deems necessary to implement the provisions of this Act.

21 SEC. 4. (a) There is hereby authorized to be appropri-
22 ated annually for the five fiscal years beginning with fiscal
23 year 1981 the sum of \$7,500,000. Such sums shall be in
24 addition to those provided under other provisions of law and
25 shall remain available until expended.

1 (b) Appropriations provided under this Act may be used
2 to supplement the deposits made pursuant to the Act of
3 August 11, 1916, as amended (39 Stat. 462, as amended; 16
4 U.S.C. 490).

5 (c) To carry out the provisions of section 2(c) of this
6 Act, there is authorized to be appropriated into the Rural
7 Development Insurance Fund \$10,000,000 to remain availa-
8 ble until expended.

9 SEC. 5. The Secretary shall make brief annual reports
10 to the Congress on the wood utilization program. The report
11 shall be submitted with the reports required in section 8(c) of
12 the Forest and Rangeland Renewable Resources Planning
13 Act of 1974 (90 Stat. 2949, as amended; 16 U.S.C. 1600).

14 SEC. 6. The Secretary shall survey and analyze the
15 present status of whole tree, wood and wood residue utiliza-
16 tion and project the volume of wood waste residue for public
17 and private timbers. Surveys conducted pursuant to this sec-
18 tion shall be coordinated with the comprehensive surveys au-
19 thorized by section 3(b) of the Forest and Rangeland Renew-
20 able Resource Research Act of 1978 (92 Stat. 353; 16
21 U.S.C. 1641) and shall be conducted on a regional basis.

22 SEC. 7. The Secretary shall ensure that reports and sur-
23 veys required by this Act are coordinated with the land man-
24 agement plans prepared pursuant to section 6 of the National
25 Forest Management Act and the State forest resource pro-

1 gram prepared pursuant to section 9 of the Cooperative For-
2 estry Assistance Act.

3 SEC. 8. Nothing in this Act shall be construed to repeal
4 or amend the provisions of the National Forest Management
5 Act or the Multiple-Use Sustained Yield Act as amended.
6 The administration of this Act shall be consistent with the
7 administration of the National Forest Management Act and
8 the Multiple-Use Sustained Yield Act.



DEPARTMENT OF AGRICULTURE
OFFICE OF THE SECRETARY
WASHINGTON, D.C. 20250

14 NOV 1979

Honorable Thomas S. Foley
Chairman, Committee on Agriculture
House of Representatives
Washington, D. C. 20515

Dear Mr. Chairman:

As you requested, here is our report on H.R. 5220, as amended by the Subcommittee on Forests, a bill "To authorize the Secretary of Agriculture to establish a Wood Utilization Program to improve the use of renewable resources in timber harvesting, forest protection and management, and the manufacture of wood products including energy through guaranteed loans, timber sales, and other activities."

The Department of Agriculture recommends that H.R. 5220, as amended by the Subcommittee on Forests, be enacted only if it is further amended as recommended herein.

H.R. 5220 would establish a Wood Utilization Program in the Department of Agriculture. The purpose of the program would be to seek economically feasible methods of increasing utilization of wood products. Additional purposes include the reduction of forest wildfire hazard, the enhancement of long term forest productivity, and encouragement of the development of markets for underutilized forest resources. The bill would authorize direct and guaranteed loans for the purchase and construction of wood utilization and energy production facilities, and grants for pilot projects and demonstrations. National Forest timber sale purchasers would be required to remove, in addition to the primary products of the sale, additional wood volumes that would otherwise remain in the sale area. The Secretary would be required to sell, consolidate for sale, or otherwise dispose of wood products in order to further the purposes of the bill. A related provision would authorize the Secretary to acquire wood products from other organizations or individuals for resale.

A survey of the present status of wood utilization on public and private timberlands would be required. An annual report to Congress on the program would be submitted with the annual reports required by the Forest and Rangeland Renewable Resources Planning Act. These reports and surveys would be used in National Forest land management plans and State Forest Resource Programs. The bill provides an annual appropriation authorization of \$7,500,000 to administer the Wood Utilization Program. In addition, the bill provides that the principal amount of guaranteed loans made in a 2-year period beginning October 1, 1980, shall not exceed \$500,000,000. For direct loans this amount is \$200,000,000.

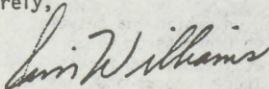
There is need and opportunity to initiate efforts to better utilize the forest resource. The bill has potential for increasing wood supplies, including wood for use in producing energy, for reducing hazards from fire, insects and diseases, to help regenerate harvested areas, to encourage thinning of overcrowded stands, and to lessen the need to dispose of wood residues by burning. The Wood Utilization Program would fit closely with Department research in this area. The program would provide the means to implement the technology developed through research. The bill complements the wood utilization provisions of the National Forest Management Act and the Cooperative Forestry Assistance Act.

We appreciate the Forests Subcommittee's consideration and incorporation of several of our suggestions offered during the development of this legislation. However, we do have several concerns with the bill. These deal mainly with the size and scope of the program to be established. We offer several amendments to clarify the program and make it consistent with other activities. These are described in detail in the enclosed supplemental statement. We recommend the bill clearly indicate that the program is a pilot effort designed to examine economic efficiency and commercial viability through projects and demonstrations. We do not believe a loan program as described in section 3 is necessary. The amounts authorized for direct and guaranteed loans are, we believe, excessive. We believe authority to make loans for the purposes of this program is already available to the Secretary. We also recommend that the program provide clear, discretionary authority to the Secretary and the mandatory provisions be deleted.

We estimate the cost of implementing the program described in the bill, if amended as we recommended, would be \$7,500,000 per year. Loans would be provided through the Rural Development Insurance Fund and would not require additional appropriation.

The Office of Management and Budget advises that there is no objection to the presentation of this report from the standpoint of the Administration's program.

Sincerely,



JIM WILLIAMS
Acting Secretary

Enclosure

USDA SUPPLEMENTAL STATEMENT
H.R. 5220Recommended Amendments

1. Insert the word "Pilot" after the word "Utilization" in the title and in the last line of section 2.

We believe this amendment is needed to clearly indicate the pilot nature of the program. We would closely monitor the program to determine whether it should be continued.

2. Revise item (1) of section 2 to read as follows:

"(1) developing, improving and promoting for rapid and widespread use commercially viable and economically feasible methods of increasing utilization of wood and wood residues resulting from timber harvesting, forest protection and management and the manufacture of wood products for wood products and energy produced from wood;"

We suggest this revision to clarify the basic purpose of the program.

3. Delete section 3 in its entirety and insert section 3(a) of the original H.R. 5220, modified as follows:

(a) Delete the word "financial" in item (2).

(b) Revise item (3) to read--

"(3) sell, consolidate for sale, or otherwise dispose of wood products when, in the judgment of the Secretary these actions will further the purposes of this Act:"

(c) Delete both provisos to the subsection.

The amended bill does not contain these authorities. We recommend the Wood Utilization Program contain all authorities necessary for a complete effort. The two provisos in the original section 3(a) are now included in the grant section of the bill.

4. Renumber section 4 as section 5 and change the word "shall" to "is authorized to" in the first sentence.
5. Renumber section 6 as section 4.
6. Delete section 5.

The provisions requiring the Secretary to acquire wood products for resale and to give priority for sale of wood products to public bodies and cooperatives appear to bias the determinations of economic feasibility and commercial viability.

7. Delete section 8.

This section duplicates authorities in sections 3 and 8 of the Forest and Rangeland Renewable Resources Planning Act of 1974, as amended (16 U.S.C. 1601) and section 3(b) of the Forest and Rangeland Renewable Resources Research Act of 1978 (16 U.S.C. 1641). Reports and surveys prepared pursuant to those authorities would be adequate for purposes of this bill.

8. Insert new section 7 as follows:

"SEC. 7. Pilot projects and demonstrations established pursuant to this act may be carried out in conjunction with projects, contracts, or agreements entered into under any other authority which the Secretary may possess, including those programs of cooperation with State forestry agencies."

9. Delete section 9.

The pilot program authorized by this bill requires careful monitoring and supervision by the Secretary. This would include coordination with the forest land planning provisions of the two acts cited. Mandatory incorporation of information into land management plans is not appropriate.

10. Renumber section 10 as section 8.
11. Renumber section 11 as section 9 and revise to read as follows:

"SEC. 9. The Secretary shall issue such regulations as the Secretary deems necessary to implement the provisions of this Act. These regulations shall be consistent with the regulations implementing the Forest and Rangeland Renewable Resources Planning Act of 1974, as amended by the National Forest Management Act of 1976."

The specific guidelines included are not all inclusive. The two authorities cited in the recommended amendment would give better guidance to regulations.

12. Renumber sections 12 and 13 as sections 10 and 11.

For the convenience of the Committee, all of our suggested amendments are incorporated in the form of a substitute bill, which is attached.

A B I L L

To authorize the Secretary of Agriculture to establish a Wood Utilization Pilot Program to improve the use of renewable resources in timber harvesting, forest protection and management, and the manufacture of wood products including energy through guaranteed loans, timber sales, and other activities.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That this Act may be cited as the "Pilot Wood Utilization Act of 1979".

FINDINGS AND PURPOSES

SEC. 2. For purposes of (1) developing, improving and promoting for rapid and widespread use commercially viable and economically feasible methods of increasing utilization of wood and wood residues resulting from timber harvesting, forest protection and management, and the manufacture of wood products for wood products and energy produced from wood; (2) reducing the hazard of forest wildfires, and the adverse effects on air quality of burning wood waste residues, and enhancing the long-term productivity of forest resources in each region and for the Nation as a whole; and (3) assisting in meeting growing demands for wood products by encouraging the development of markets for underutilized forest resources, there is hereby established a Wood Utilization Pilot Program.

SEC. 3. To implement the purposes of this act, the Secretary is authorized, without regard to section 3709 of the Revised Statutes, as amended (41 U.S.C. 5), to (1) enter into contracts, cooperative agreements, and other arrangements; and (2) provide technical and related assistance to Federal, State, and other governmental agencies, public or private institutions, universities, organizations, business entities, and individuals in the United States; and (3) sell, consolidate for sale, or otherwise dispose of wood products when, in the judgment of the Secretary, these actions will further the purpose of this act.

SEC. 4. The Secretary may make grants for the establishment and operation of pilot projects and demonstration programs which will further the purposes of this act to State and other governmental agencies, public and private institutions, universities, business entities, and individuals: Provided, That pilot projects funded under this subsection shall provide that non-Federal cooperators must contribute at least 50 per centum of the costs of wood energy and wood utilization equipment and facilities used in the pilot project.

SEC. 5. The Secretary is authorized to require, at levels appropriate to opportunities to remove for utilization, the removal of wood products by the purchaser of National Forest timber sales or other persons to the extent such removal will enhance and will not harm the long-term productivity of forest resources, when in the judgment of

the Secretary these actions will further the purposes of this act:

Provided, however, That nothing contained in this section shall abrogate or modify the slash disposal provisions of existing contracts for the sale of National Forest timber except to the extent such changes are mutually agreed to by the parties to such contracts.

SEC. 6. The Secretary shall make brief annual reports to the Congress on the Wood Utilization Program. The report shall be submitted with the reports required in section 8(c) of the Forest and Rangeland Renewable Resources Planning Act of 1974 (88 Stat. 2478, as amended; (16 U.S.C. 1606)(c).

SEC. 7. Pilot projects and demonstrations established pursuant to this act may be carried out in conjunction with projects, contracts, or agreements entered into under any other authority which the Secretary may possess, including those programs of cooperation with State forestry agencies.

SEC. 8. Nothing in this act shall be construed to repeal or amend the provisions of the National Forest Management Act of 1976, or the Multiple Use Sustained Yield Act of 1960. The administration of this act shall be consistent with the administration of the National Forest Management Act of 1976, and the Multiple Use Sustained Yield Act of 1960.

SEC. 9. The Secretary shall issue such regulations as the Secretary deems necessary to implement the provisions of this act. These regulations shall be consistent with the regulations implementing the Forest and Rangeland Renewable Resources Planning Act of 1974, as amended by the National Forest Management Act of 1976.

SEC. 10. For purposes of this act--

(1) "wood energy facility" means any facility which produces forest products used for the production of energy or produces energy from forest products;

(2) "wood utilization equipment" means any equipment or vehicle used in timber harvesting, forest protection and management, or the manufacture of wood products;

(3) "wood energy equipment" means any equipment or vehicle used in timber harvesting, forest protection and management, or the manufacture of wood products for the production of energy.;

(4) "wood products" means wood, trees, part of trees, wood waste residue, slash, and other underutilized material or dead and dying timber; and

(5) "construction" shall include costs of construction and may include initial operation, start-up, necessary equipping and purchase of a completed facility.

SEC. 11. There is hereby authorized to be annually appropriated for each of the five fiscal years beginning with fiscal year 1981 the sum of \$7,500,000 for purposes of administering this act. Such sums shall be in addition to those provided under other provisions of law and shall remain available until expended.

Mr. WEAVER. We are privileged to have the Associate Chief of the U.S. Forest Service, Mr. Douglas Leisz, as our first witness this morning.

STATEMENT OF DOUGLAS R. LEISZ, ASSOCIATE CHIEF, FOREST SERVICE, U.S. DEPARTMENT OF AGRICULTURE, ACCOMPANIED BY WELDON BARTON, DIRECTOR, DEPARTMENT OF ENERGY, U.S. DEPARTMENT OF AGRICULTURE

Mr. LEISZ. Mr. Chairman, may I ask Dr. Weldon Barton, the Director of Energy for the Department of Agriculture to join me?

Mr. WEAVER. We are very pleased to have Dr. Barton with us.

Mr. LEISZ. Mr. Chairman and members of the subcommittee, we are pleased to appear before the subcommittee and present our views on H.R. 5220, a bill to authorize the Secretary of Agriculture to establish a wood utilization program which would improve the use of renewable resources in timber harvesting, forest protection and management, and the manufacture of wood products, including energy.

We appreciate your interest in improving the utilization of the Nation's forest resources. We recognize that many physical possibilities do exist to utilize the large volumes of wood remaining in the forest after harvesting, the material which could be utilized in an accelerated program of forest protection and management, and unused material now available at wood processing facilities. For these reasons, we support the pilot program to determine the best ways to take advantage of these possibilities in an economically viable manner which the bill would authorize.

Deputy Secretary Jim Williams, in recent testimony before the Committee on Agriculture on H.R. 4245, recognized the role wood and wood residue could play in supplying energy. The Department of Agriculture is actively pursuing opportunities in this area as a means to achieve rural energy self-sufficiency by 1990. Clearly, the potential for better wood utilization is great since fuels developed from biomass, including wood residues, promise a strong opportunity toward achieving rural net energy self-sufficiency. The authorities provided in H.R. 5220 would help us do a better job of wood utilization.

Attention to the underutilized forest resource is important to the Nation for reasons in addition to increasing energy supplies. The bill has potential for increasing wood supplies, for reducing the hazard to remaining or new forests from destructive fires and insect and disease infestations, to help regenerate harvested areas, to encourage thinning of overcrowded stands, and, finally, to lessen the need to dispose of wood residues by burning, thus improving air quality.

The program which would be established would fit closely with our ongoing research program in this area which includes expenditures of about \$7 million in various aspects of wood utilization. It would permit the implementation of technology developed through research by timber purchasers, wood processors, and others.

The bill complements other USDA authorities, such as the National Forest Management Act, the Cooperative Forestry Assistance Act, and the Brush Disposal Act of 1916, thus providing a complete program of financial and technical assistance.

The bill includes provisions that would permit pilot projects utilizing timber or residues on active timber sales or other areas of the national forests. Application to active national forest timber sales is appropriate as this would allow the development of alternate means of disposing of slash resulting from the sale. The common means of treating this material is burning. We are faced with increasing restrictions on burning while recognizing the requirements for accelerated management of the national forests. Offsite disposal and utilization is the major alternative.

We do have several concerns with the bill. I regret that we have not had the time to develop a detailed legislative report on the bill, including a more complete documentation of our concerns. We would, however, like to provide the subcommittee with amendments which we recommend to be made to the bill in order to clarify or improve its provisions.

We offer these amendments on the basis that there are several guiding concepts which should be included in the bill and incorporated into a wood utilization program. We believe the bill should clearly state it authorizes a pilot program—meaning, as we view it, a program of a number of pilot efforts. It would be our intent to closely monitor the program to determine the appropriateness of continued operation.

The bill should clearly convey direction that the pilot testing and demonstration should be of economically viable opportunities that exist or can be developed for improved wood utilization. We believe the bill should provide adequate flexibility for the Secretary to develop the wood utilization program within the broad guidance of section 2 of the bill. Mandatory provisions now in the bill should be made discretionary.

Last, the array of authorities provided by the bill should clearly set forth a grant or cost-share program to parallel the loan, timber sale, and technical assistance provisions. We are advised that the bill, as drafted, does not clearly indicate that we could have a grant program. We would very much like these provisions to be incorporated.

In summary, Mr. Chairman, we are enthusiastic about the bill and the important values it can bring to the Forest Service in our efforts to improve the utilization of the timber resources and thus gain substantial benefits for the Nation.

We recommend enactment of the bill, if amended as we have suggested.

Mr. Chairman, that concludes my prepared testimony. I would be glad to respond to any questions you may have.

Mr. WEAVER. Thank you very much, Doug. I appreciate your fine testimony.

Without objection, your proposed amendments will be included in the record at this point.

[The material referred to above follows:]

USDA RECOMMENDED AMENDMENTS
H.R. 5220

1. Insert the word "Pilot" after the word "Utilization" in the title of bill.
2. Revise the first part of section 2 to read as follows:

"SEC. 2. The purpose of this act is to conduct pilot programs to examine the economic efficiency and commercial viability of methods to (1) increase and improve the utilization of trees, parts of trees, and forest products"
3. Direction to the Secretary contained in section 2 should be changed from "The Secretary shall . . ." to "The Secretary is authorized to . . ."
4. Revise subsection 2(b) to read as follows:

"(b) require the removal by the purchaser of National Forest timber sales of trees, parts of trees, and forest products resulting from timber harvesting; Provided, That, nothing shall abrogate or modify the slash disposal provisions of existing contracts for the sale of National Forest timber except to the extent such changes are mutually agreed to by the parties to such contracts;"
5. Revise subsection 2(c) to read as follows:

"(c) sell, consolidate for sale or otherwise dispose of slash and other underutilized material, dead and dying timber for energy production and other purposes;"

The provision giving priority to public bodies and cooperatives appears to bias the pilot program, limiting the examination of economic viability. We believe the Secretary should have the responsibility to choose wisely how this wood material is to be disposed of.
6. Add a subsection 2(d) as follows:

"(d) make grants to State and other governmental agencies, public and private institutions, universities, business entities, and individuals in the United States that will share the costs of pilot projects and demonstrations; Provided, That pilot

projects funded under this subsection shall provide that non-Federal cooperators must contribute at least 50 per centum of the costs for plant facilities or equipment used in a pilot project; Provided, further, that, the Secretary is authorized to and may transfer and vest title to facilities and equipment furnished or acquired in connection with the pilot project to the recipient without further obligation to the Government, or on such other terms and conditions as deemed appropriate."

7. In section 3(a), delete the word "financial" in item (2), and delete all of item (3). Both provisos in the subsection were included in recommendation 6.
8. Delete subsection 4(c). The Rural Development Insurance Fund has its own appropriation authorization which is adequate for the purposes of this program.
9. Delete section 6. This provision duplicates authorities in section 3 of the National Forest Management Act of 1976 (16 U.S.C. 1601) and section 3(b) of the Forest and Rangeland Renewable Resources Research Act of 1978 (16 U.S.C. 1641). Reports and surveys prepared pursuant to those authorities would be adequate for the purposes of this bill.
10. Delete section 7. The pilot program authorized by this bill requires careful monitoring and supervision by the Secretary. This would include coordination with the forest land planning provisions of the two acts cited.

Mr. WEAVER. Your amendments, as I have gone over them, look, in general, very good and very helpful.

I am concerned with No. 4. You say, "Provided, That, nothing shall abrogate or modify the slash disposal provisions of existing contracts for the sale of national forest timber except to the extent such changes are mutually agreed to by the parties to such contracts;". That is reasonable; I understand that.

But we have 3 years of contracts out there. In other words, we will not do anything really for 3 years. One of the things about this is to start utilizing this wood immediately. What do you suggest we do?

Mr. LEISZ. We would like to have the wording as we have suggested in that amendment because we feel, in many situations, that it will be clearly to the advantage of the purchaser to reach agreement on the use of the slash with the authorities that this bill would give to us.

Mr. WEAVER. Could you explain that?

Mr. LEISZ. I think that this would give us the opportunity to join with a timber purchaser who now holds a contract, to identify the values that could be obtained by making the material available, say, for energy production. We would have the financial ability to join with him in reaching a reasonable agreement on the equities for getting that to a marketplace for energy use.

Mr. WEAVER. What you are saying is that you could go to the purchaser and say, "Look, we can help you make a little more money; we can help you do this, and then you take the stuff out, and everybody profits." Is that what you are saying?

Mr. LEISZ. Yes; the concern with the language that requires us to do it, is that it would bring us into a real question of rupturing the contract that is existing.

Mr. WEAVER. I see.

Mr. LEISZ. We find that where there are reasonable opportunities most of our purchasers will be quite willing to work with us, given the authorities that you indicate would be in the bill.

Mr. WEAVER. I agree that it is only right and proper for someone who is already in a contract not to change it midstream. I just wish we could have a little stronger language—real pressure to do this right away.

Mr. LEISZ. I guess what I would like to do is to assure you that we would be very aggressive in our pursuing this.

Mr. WEAVER. I think you will. As far as I am concerned, I think this is really the only way we can go. That is fine. Do we have problems with any other amendments here?

Mr. ANTHONY. Mr. Chairman?

Mr. WEAVER. The gentleman from Arkansas, Mr. Anthony.

Mr. ANTHONY. Thank you. I have not had an opportunity to read your amendments prior to coming here today. Would you just briefly go through them, one at a time, and tell me what you are trying to accomplish?

Mr. LEISZ. Yes, I would be happy to.

In the first amendment we suggest inserting the word "Pilot" after the word "Utilization" in the title of the bill, making it clear that the intent here is for us to get on with a number of pilot program applications. It helps us in clarifying that.

The second amendment is along the same line as the first amendment for the first part of section 2. We suggest revising that language so that the purpose of the act is to conduct pilot programs to examine the economic efficiency and commercial viability of those.

Mr. ANTHONY. And the third is to change it over to discretionary?

Mr. LEISZ. Yes; this is probably a very important aspect to us, to allow us to search out, with discretionary authority, those situations where it seems to fit best, rather than to provide the direction that we shall do it in all cases.

Mr. ANTHONY. You have just gone through the fourth with the chairman.

Mr. LEISZ. Yes; five is as follows: In revising subsection 2(c), it would read as follows: "sell, consolidate for sale or otherwise dispose of slash and other underutilized material, dead and dying timber for energy production and other purposes;". That material, as it was written, gave priority to public bodies and cooperatives. We would like to have the ability to do that without the precise direction to give priorities there. To give priorities without allowing discretion seems to prejudge the situations for the Secretary, and we think we really need the opportunity to work on all sides of the opportunities that may be out there.

In item 6, we suggest a section to make it clear that we would have authority here to make grants to States, and other governmental agencies, and public and private institutions so that there can be cost sharing of the pilot projects and demonstrations. This provides that the non-Federal cooperators would contribute at least 50 percent of the costs for plant facilities.

In point 7, we would delete the word "financial" in item (2) and delete all of item (3). Both provisions in the subsection were included in our recommendation 6. We simply picked those up and moved them to the grant provisions.

We are suggesting, as recommendation 8, deletion of subsection 4(c). The Rural Development Insurance Fund has its own appropriation authorization, and it is adequate now for the purposes of this program. We did check that out with the Office of Management and Budget and the Department.

We suggested, as point 9, deleting section 6. That duplicates authorities in section 3 of the National Forest Management Act, and we think it is adequately covered there. We would be doing everything that is requested under that provision—under section 3 of the National Forest Management Act.

We have also suggested deleting section 7. The pilot program authorized by the bill requires careful monitoring and supervision by the Secretary. This certainly would include coordination with the forest land management provisions. We do not think that provision needs to be included in the bill.

Mr. ANTHONY. May I continue further, Mr. Chairman?

Mr. WEAVER. Certainly.

Mr. ANTHONY. Going back to your recommendation No. 6, could you just briefly tell me how you envision that particular section operating?

Mr. LEISZ. I think that with the express provision of making grants there, we could work directly with States. Let me use an example that I am aware of currently.

The State of Vermont has been very aggressive about going into a program of operating a wood consolidation yard. They are actually bringing material in for further use by local people, and they are recovering their operating costs. In this case, fuel wood is brought into a consolidation yard and then very effectively made available for local use. The cost to the homeowner is essentially the cost of bringing the material to the yard.

The opportunity we see there would be to actually provide for joint ventures, working with States, or private parties, or other public institutions in joining together on the basis that we could provide some grant funds for those appropriate projects and to encourage better utilization.

Mr. ANTHONY. I yield back the balance of my time, Mr. Chairman.

Mr. WEAVER. I understand that OMB acted on this bill. Could you tell us the results of that?

Mr. LEISZ. We did have a chance to very quickly go over the bill, prior to appearing here, with OMB, and they have given concurrence and approval with the testimony and with the amendments I have suggested. I think we are in very good shape from that standpoint, Mr. Chairman.

Mr. WEAVER. I would like to give you my reading of the amendments so that members of the subcommittee know what recommendations the Forest Service has made most of which, I believe, are good contributions.

Let us just say that I think "4" makes sense in that we require that slash be taken out of the forests. But amendment No. 4 of the Forest Service says, "Look, we have existing contracts; we cannot force the purchasers to do this without their mutual consent and negotiation." I think that is very fine.

However, I will say that we must have the mandate to the Secretary to enter into a program of requiring that slash be removed. Therefore, with regard to No. 3, as much as the Department of Agriculture likes to have that kind of language in a bill giving the authority but not giving Congress the chance to say, "We want you to do this, period," there is already plenty of discretion and flexibility in there for the Forest Service to set their own programs. I want the general concept of requiring removal of slash left in, giving the Forest Service all kinds of flexibility in how to do this, including mutual consent with the purchasers in existing sales.

Mr. JOHNSON. Would the gentleman yield on that point?

Mr. WEAVER. I would be delighted to yield.

Mr. JOHNSON. Mr. Leisz, you have recommended that the "Secretary be authorized to". If we left the language in as proposed by the chairman that the Secretary "shall," that does not leave any discretion, does it?

Mr. LEISZ. That was precisely our concern.

We felt that, under section 2, where the direction in the act is that the Secretary shall establish a wood utilization program—just preceding subsection (a)—this gave very strong direction to us to set up a program. This was the reason that we asked for the discretionary aspects to govern the following paragraphs.

Mr. JOHNSON. Thank you.

Mr. WEAVER. I just wanted to comment that the discretion lies within their approach.

It says, "which will enhance the long-term productivity of forest resources." Therefore, they are going to make the judgment on how to get the slash out, and whether all the slash comes out. They could say that in an existing sale taking the slash out would not enhance the long-term productivity of the forest resources. That is what I mean when I say they have all kinds of flexibility. They could rule a sale saying that the slopes and removing the material there would not enhance the long-term productivity of forest resources, and then they would not even have to have a removal program. That is what I am saying when I say they have all kinds of discretion.

But I want the mandate, "shall," so that they must look into the possibility in every single sale and how best to do it. That is the reason behind it.

As you know, the administration, in any bill, always wants the authority without the mandate, and I believe the mandate to look into it should be there.

No. 5 has the public preference provision—that public bodies be given first crack at the purchase.

Mr. JOHNSON. Mr. Chairman, there is a legislative writing technique. We have some discrepancies. For example, you say, "The Secretary shall" (a), (b), and (c). Under (c), you say he "may."

Mr. WEAVER. You are absolutely right.

Mr. JOHNSON. I think the mandate of (b), on which I understand your reasoning and do not find it faulty, or the discretion which the Forest Service is asking for makes sense. If you want to be consistent, I think you ought to put "may" in front of "require" in (b).

This is one of the problems with writing a bill this quickly, of course. I have not had a chance to see it. I did not get to the office until late yesterday afternoon, and I had a meeting this morning with my governor. I would suggest that the Forest Service proposals, as I read through them quickly, seem to make sense.

Mr. WEAVER. Would the gentleman yield?

Mr. JOHNSON. Certainly.

Mr. WEAVER. It is the chairman's desire, if the members agree, of course, to take a substitute bill to H.R. 5220 which has been designed to fit into Berkley Bedell's gasohol bill. That substitute bill has been drafted by staff with the amendments of the Forest Service already incorporated.

Mr. JOHNSON. All of them?

Mr. WEAVER. No, not all of them. I would like to ask that we substitute this, and then, if the gentleman wants to make amendments to it, he may.

The problem that the gentleman has pointed out, with regard to "may" and "shall," has been rectified in this draft.

Mr. JOHNSON. May we have copies of that draft?

Mr. WEAVER. Yes; without objection, it will be included in the record.

[The material referred to above appears on p. 46.]

Mr. WEAVER. The rest of the amendments, Doug, are perfectly satisfactory with me, with the exception of "9" and "10."

May I point out to the members that the rest of the amendments that the Forest Service offers are satisfactory except these. They are simply reporting amendments. The Forest Service does not want to make certain reports. They want to delete the provision that requires these reports on progress. In the opinion of counsel, the bill and the reporting requirement amendments are about the same.

Mr. ANTHONY. Would the gentleman yield?

Mr. WEAVER. I yield to the gentleman from Arkansas.

Mr. ANTHONY. Mr. Chairman, knowing, number one, that your aim is to have more impact with the Secretary, and therefore you are personally opposed to No. 3, but looking at the substituted version, I note that it does have the language of that amendment in there. I just wondered if you were aware of that?

Mr. WEAVER. Which language?

Mr. ANTHONY. Suggested amendment No. 3 in the substitute. I am assuming that was the last one that was handed to me.

The language says, "The Secretary is authorized". I, personally, do not have any objections to that language. Knowing your preference, and knowing that the Secretary is going to know what the legislative history is, I think it may give them the flexibility they need, but I just wondered if we had the correct copy in front of us.

I would like to inquire of staff, as follows. Taking the recommended amendments that the USDA in their testimony today recommend for H.R. 5220, are all of those amendments contained in the substituted version that you have made available to us?

Mr. NORTON. Mr. Anthony, most but not all.

Mr. ANTHONY. Could you tell me which ones have not?

Mr. NORTON. The first amendment—to insert "Pilot" in the title—was not incorporated because the substitute involves considerably more than just pilot projects.

There are two provisions in the USDA recommendations dealing with pilot projects—No. 2 and No. 6. No. 2 has not been included in the substitute. It would amend the "purpose" section to provide that the purpose of the bill is to "examine the economic efficiency and commercial viability of methods (1) to increase and improve the utilization of trees . . ." This language is more restrictive than presently in the substitute, and would not be consistent with the larger program proposed in the substitute.

Mr. ANTHONY. In No. 6 of the USDA recommended amendments, they use the words, "*Provided*, That pilot projects funded". Is that language in the substitute?

Mr. NORTON. That is on page 7 of the substitute, section 6.

Mr. ANTHONY. No. 3 is not in?

Mr. NORTON. The amendment would make the loan program, slash removal provision, and requirement for slash acquisition and disposal, discretionary rather than mandatory. In the substitute, the loan program is discretionary and therefore consistent with the USDA proposal. However, the other two provisions in sections 4 and 5, appearing on page 6, are mandatory.

Mr. ANTHONY. No. 4 is in?

Mr. NORTON. That is right. But again, it is mandatory rather than discretionary. However the language is somewhat different. The pro-

posal refers to "the timber purchaser or contractor" while the USDA language would reference "the purchaser of National Forest timber sales."

Mr. ANTHONY. Proposed amendment No. 4 talking about not abrogating or modifying the existing contracts unless by mutual consent?

Mr. NORTON. That is in the original bill, and it is in the substitute.

Mr. ANTHONY. What about No. 5?

Mr. NORTON. That was in the original bill, and it is in the substitute. Again, however, it is mandatory rather than discretionary.

There is also a substantial difference between the USDA proposal and the substitute in that the substitute has a preference for certain public bodies and cooperatives, and the administration would prefer not to have that preference in the bill. It appears on page 6 of the substitute.

Mr. ANTHONY. I would like to make this inquiry of the witness. What was the theory or the reason for giving priority to public bodies and cooperatives?

Mr. WEAVER. That was my provision. We just have a strong situation out in my country where we tend to give first crack to public bodies, and I put that in.

Mr. ANTHONY. Am I correct in saying that that provision is in the substitute amendment?

Mr. NORTON. It is.

Mr. ANTHONY. What about 7, 8, 9, and 10?

Mr. NORTON. The changes suggested by No. 7 were incorporated.

Mr. ANTHONY. What about the suggestion to delete subsection 4(c)? Was that deleted or left in?

Mr. NORTON. That has been deleted. Funding for the loan program in the substitute would come from the Commodity Credit Corporation.

Mr. ANTHONY. What about the suggestion to delete section 6 because it duplicates other authority?

Mr. NORTON. Those sections are still in the substitute.

Mr. ANTHONY. Do you see any difficulty with the duplication being in this substitute?

Mr. NORTON. I think they are duplicative; they can be taken out.

Mr. ANTHONY. Do you see any problem, from an operative standpoint, with their remaining?

Mr. LEISZ. I think that, if they need to remain, if we had reference to the National Forest Management Act provisions that provide for those same reports, we could be sure and develop the reports along the lines that would serve both purposes. We believe that would occur presently.

Mr. WEAVER. If the gentleman would yield, I believe that could be covered in the committee report because that is perfectly acceptable. That is exactly what we want anyway.

Mr. ANTHONY. I was thinking that there is no need for us to be overly burdensome or duplicative, and it would make good sense, even if it has to be by reference or by language in the report itself.

Mr. LEISZ. These certainly were not major items from our standpoint.

Mr. WEAVER. That is exactly my intention here.

By the way, I would like to say that amendment 7 is in the substitute. The word "financial" has been deleted from section 3.

Mr. ANTHONY. Does staff agree with that?

Mr. WEAVER. Is that correct? The note on my page says it has been done, and that is what I am going by. I cannot find the word "financial" in section 3(a).

Mr. NORTON. Excuse me, Mr. Weaver, you are correct.

Mr. WEAVER. Thank you. Are there any further questions for Mr. Leisz?

Mr. JOHNSON. Yes.

Mr. WEAVER. Mr. Johnson?

Mr. JOHNSON. Mr. Chairman, we are having difficulty trying to reconcile different versions; but in the original version, it referred to the 1967 Forest Land and Management Act, and it should actually make reference to the RPA of 1974 because that was an amendment to the RPA. Is that right?

Mr. LEISZ. Yes, that is correct.

Mr. JOHNSON. So, instead of referring to the 1976 act, there should be a technical amendment which the staff should be alerted to.

Mr. WEAVER. Without objection, that will be changed.

Mr. JOHNSON. I notice that you have it in section 7 here, but in the other act you had the 1976 act.

Mr. WEAVER. Fine.

Mr. JOHNSON. I would like to ask the associate chief about the new section 4, on page 6.

It says, "Sec. 4. The Secretary shall require the removal by the timber purchaser or contractor of wood products resulting from timber harvesting which will enhance and will not harm the long-term productivity of forest resources when in the judgment of the Secretary these actions will further purposes of this act:" and then it has the proviso that it does not interfere with any existing contracts.

What is going to be the Forest Service's interpretation of that? Is that a mandate that you have to clear up all the slash in the forest? Is that going to mandate that you do something different than you are presently doing? If so, what?

Mr. LEISZ. As we read it and understand it right now, that comes to us as a very heavy mandate. Frankly, our concern is that it could substantially, in most cases, increase costs. We feel we need some flexibility in the bill to find those opportunities where that material can be utilized productively but not go too heavily to the mandatory aspects of it. We are not sure, the way the wording is here, whether that allows that discretion.

Mr. WEAVER. Would the gentleman yield?

Mr. JOHNSON. Certainly.

Mr. WEAVER. What if we say, "The Secretary shall require" and then put in, "at levels appropriate to opportunities to utilize wood waste"? I like that language very much.

Mr. LEISZ. That would give us an opportunity to try to find solutions, sir.

Mr. WEAVER. "At levels appropriate to opportunities to utilize wood waste." That would be perfectly acceptable to me.

Mr. LEISZ. I think we could work within that.

Mr. JOHNSON. Evidently, they have a different problem in the chairman's part of the country than we have. I spent the month of August riding through the proposed wilderness areas out in Colorado,

in my district. We have those areas that were logged in the fifties adjacent to the wilderness. That is a disgrace, and the Forest Service has been properly criticized over these things, I think.

But present timber harvesting practices do not do that, and we do not have the problem of the enormous slash that creates a scar on the countryside for 40 or 50 years. I do not know that we need to require that kind of language at all, from my point of view. Evidently, from the chairman's point of view, there are still a lot of slash problems out in that part of the country, and he would like to deal with that.

But, in taking care of his situation, I do not want to wind up with an additional expense and burden on the timber harvesters in our part of the country because, as you know, we are closing down mill after mill. Pretty soon, we will not have any mills in Colorado, and then we are going to have, not foresters' slash, but nothing but bark beetle slash—the kind of debris and residue you get all over the forest if you do not have proper harvesting techniques.

So, we have to be careful that this gives you the discretion, within the Forest Service, to utilize the practices that you have been using in the Rocky Mountain West where we can still get in and harvest at levels that will provide proper management of the forests.

As a matter of fact, we had a 19 million board foot sale the other day that was not bid on because it was so expensive as it is. It included a lot of dead timber. We cannot allow that to go on much longer or we will not have any mills, and we will just have to harvest by fire.

We have to be sure that you have the discretion, in this language, and yet still seek the objective that the chairman wants so that you do not have these old slash piles that have been so unsightly.

Are you satisfied that this language will take care of that?

Mr. LEISZ. I believe it would, and I think the discussion has been helpful to us as well.

We see quite a range of opportunity across the various conditions in the Nation for utilization. While it is true that some of them look very encouraging right now, there are other locations where utilization improvements are not quite ready to come. We do not want to force something that is not economically sound to pursue, that might use up more energy than it might save. We know the chairman does not want us to enter into that sort of thing, either.

Mr. JOHNSON. One of the things you are doing out in my area—just for the record—is very good and is resulting in cleaning up the forest. That is, opening up the forest to private persons to go up there and haul the downed timber out and burn it in their fireplaces. We are having a lot of that area cleaned up; it makes it look much better. That would be the kind of thing I would think you could establish under this language. Is that your understanding, too?

Mr. LEISZ. Yes. I think the provisions of this bill, or the reasons we are so enthusiastic about it are that they seem to give us a full range of opportunities to explore anything we can find to increase utilization and serve the public well in the process. Certainly, the fuel wood one has come to our attention with great force. There has been an explosion in the number of people searching out fuel wood to augment their home fuel.

Mr. JOHNSON. So, the language we all seem to agree on in section 4 is that, "The Secretary shall require the removal at levels appropriate to opportunities to utilize waste wood by the timber purchaser or contractor of wood products, or other persons"? Shall we add that?

Mr. WEAVER. No.

Mr. JOHNSON. I was thinking that one of the procedures that should be available or them should be to allow the general public to come in and remove the slash for firewood. Instead of making that a part of the original contract and an additional cost, they could make it part of the total land management program—instead of having it as a requirement under the contract with the purchaser.

When you say, "shall require" this removal of the timber product, a part of your land management plan could be that, after the area had been harvested, the residue slash could be made available to the public for firewood purposes. That ought to be part of your discretionary authority, it seems to me.

Mr. LEISZ. Mr. Johnson, we already have that authority, and we are using it in firewood disposal.

Mr. JOHNSON. Yes, but are you not precluded from that by this section 4?

Mr. LEISZ. I do not think so. I think our authorities under other provisions would continue for the free firewood use.

Mr. WEAVER. What Mr. Johnson is saying is that, under section 4, you would have to have the purchaser do it. That might be a valid objection. It says, "The Secretary shall require" the timber purchaser to remove it.

Mr. LEISZ. I guess I was already reading in some of the flexibility you would give us under the levels of opportunity.

Mr. WEAVER. Yes. I have no objection.

Let us do it the way Mr. Johnson has suggested: "The Secretary shall require, at levels appropriate to opportunities to utilize waste wood, the removal by the timber purchaser or contractor or other persons of wood products resulting from timber harvesting" and so on.

Mr. JOHNSON. All right. Is that all right with you?

Mr. LEISZ. I think so.

Mr. JOHNSON. I move that as an amendment.

Mr. WEAVER. We do not have the bill on the floor, but I will ask unanimous consent that when the bill is taken up that that be the language incorporated in it. Without objection, it is so ordered.

Are there any more questions?

[No response.]

Mr. WEAVER. Doug, thank you very much. You have been very helpful, and we appreciate your efforts here.

Mr. LEISZ. Thank you, Mr. Chairman.

Mr. WEAVER. Our next witness is Kenneth Hampton of the National Wildlife Federation.

Mr. Hampton, I just want to say that I know of your great work with the National Wildlife Federation, and I commend and compliment you on all your efforts. I am sorry to hear you are retiring, and we wish you the best. I know you have had a long and useful career with your federation.

**STATEMENT OF KENNETH R. HAMPTON, NATIONAL WILDLIFE
FEDERATION, WASHINGTON, D.C.**

Mr. HAMPTON. Thank you, Mr. Chairman, for those kind words. I might say that I am not retiring from the federation entirely. I am going to be moving to a completely different field of endeavor. I am going to be one of those who go around with a tin cup—or maybe I should say a silver cup—by doing some fundraising for the federation.

I have a very short statement, Mr. Chairman, and, with your consent, I will just read it.

Mr. WEAVER. Please go ahead.

Mr. HAMPTON. Mr. Chairman, I am Col. Kenneth R. Hampton, U.S. Army (Ret.), conservation liaison for the National Wildlife Federation which has its national headquarters at 1412 16th Street NW., Washington, D.C. I am a professional conservationist with degrees in forest management and meteorology.

Ours is a private organization which seeks to attain conservation goals through educational means. Affiliates of the National Wildlife Federation are located in all 50 States, Puerto Rico, Guam, and the Virgin Islands. These affiliates, in turn, are made up of local groups and individuals who, when combined with associate members and other supporters of the National Wildlife Federation, number an estimated 4.1 million persons.

Mr. Chairman, the National Wildlife Federation appreciates the opportunity to testify on H.R. 5220, the proposed Wood Utilization Act. In March 1978, NWF adopted a resolution which, among other things, endorsed greater use of biomass as an alternative energy source. And in another resolution adopted in 1975, the federation urged that "the Nation's dependence be shifted . . . from nonrenewable to renewable . . . energy sources." Copies of both resolutions are attached to this statement for your information and use.

Therefore, Mr. Chairman, NWF shares your concerns about making better use of wood residues, and we endorse, in principal, the main thrust of the proposed act. Having said that, I must state that the federation cannot support the bill as it is presently worded. In our judgment, the bill needs to include more specific language designed to safeguard environmental values associated with wood residues such as enhancing wildlife habitat and restoring nutrients to the soil. These are the same concerns that the federation, and others, expressed in August 1978 at a hearing on a similar bill—H.R. 13324.

Passage of a wood utilization bill lacking adequate environmental constraints could, on balance, act to the serious detriment of forest resources. Accordingly, we are attaching some recommended revisions and additions to the wording of H.R. 5220. If the bill is amended to include this language, the federation can support the proposed act. That language is attached as the last page of this statement.

Let me say that we are not wedded to these precise words, but we would like to see something more definitive put into the language of the act concerning these environmental safeguards because we all know that, while there can be much greater use made with the wood residues, by the same token, the residues do serve a very useful purpose in helping restore the nutrients, and helping to control erosion, and providing

some very needed habitat especially for cavity nesters in the form of the snags.

So, this is our main concern, Mr. Chairman. We would be happy to work with your staff on this.

Mr. WEAVER. I could not agree with you more on your recommendations. I have always said, in every hearing, that these very things you are suggesting are essential. I cannot imagine them going in and taking out snags. They sometimes cannot even go in and get green timber.

Mr. HAMPTON. I am sure it was not your intention.

Mr. WEAVER. Mr. Johnson said that they had 19 million board feet for sale in his area, and they did not even buy it. As far as I can see, the snag is always going to stay there.

Without objection, the attachments to your statement will be included in the record.

But what are we replacing? You recommend a substitute. I have to know what we are replacing.

Mr. HAMPTON. It would just really be expanding on what you have in section 3. We would take section 3(b) and expand that. It is on the last page.

Mr. WEAVER. Then, would this be an addition under the new act?

Mr. JOHNSON. We are dealing with two different copies. You are dealing with the old one, Mr. Hampton, and we are dealing with the new one; and we are trying to sort it out.

Mr. HAMPTON. Yes; I realize that. And, even more confusing to me, I apologize for coming in late, but I missed most of the dialog with the Forest Service. I am sure they addressed some of this also.

Mr. WEAVER. Oh, I see. Your substitute is to, "The Secretary shall issue such regulation," so, it is a new section, in effect. That is perfectly fine with me.

I would like to ask Mr. Leisz if he has seen the recommendations of the National Wildlife Federation.

Mr. LEISZ. I have not seen them, Mr. Chairman.

Mr. WEAVER. Would you mind reading them in the next few minutes, please, and then later giving us your opinion?

Mr. LEISZ. Certainly.

Mr. WEAVER. Thank you very much, Mr. Hampton, for your very valuable contribution.

[The attachments referred to follow:]

Resolution No. 1

MAJOR CONSERVATION ISSUES, 1978

As an association of independent state organizations and their affiliated local groups, the National Wildlife Federation believes that an alert and fully-informed public will demand sound management of natural resources. Public education, therefore, is the solid foundation upon which conservation practices must be based. More conservation must be taught in the schools, emphasizing the science of ecology and the wise use and management of natural resources.

The National Wildlife Federation is firm in its conviction that contamination of the environment, which is related to a degree to the production of energy, is among the paramount problems facing the Nation in this year and in this age. Consequently, believing that pollution abatement creates jobs rather than costing them, this organization is dedicated to fighting environmental pollution by cleaning up public waters, by curbing chemical pollution, by enforcing clean air standards, and reducing waste of finite resources.

The National Wildlife Federation also stresses that conservation of energy and resources is essential to the national well-being. Thus, this organization calls upon policymakers at all levels to develop energy programs which emphasize conservation while guaranteeing continued energy supplies to support reasonable economic growth and an adequate standard of living while protecting the environment. We do not believe these goals are incompatible.

The National Wildlife Federation continues to view protective management of farmlands through sound land use practices and planning; the preservation of natural areas such as parks, wildlife refuges, and wildernesses; the conservation of wildlife, especially endangered species; the encouragement of world population control; and the stimulation of simpler life styles as primary objectives of the age.

It is in light of this background that the National Wildlife Federation invites the attention of all Americans to what it considers the major conservation issues of the year 1978:

Water Pollution. This organization continues to be convinced that the Nation must press for the achievement of fishable-swimmable water quality goals by July 1, 1983, with the federal government providing adequate funding to help municipalities meet these objectives. Particular emphasis should be directed to developing and implementing methods to curb nonpoint sources of water pollution. Protection must continue to be given to ecologically-rich and biologically-productive wetlands. Protection should be given to our waterways by encouraging the use of holding tanks by boat owners and construction of the necessary containment facilities in marinas.

ATTACHMENT 1

Water Resources Reform. The National Wildlife Federation believes that the President should approve of water policy reforms, opposing construction of projects which fail to meet minimum economic, environmental, and safety criteria, emphasizing water conservation and nonstructural development. These criteria should reflect realistic methods for determining future public benefits and costs, neither exaggerating claims for direct or indirect economic benefits nor minimizing costly adverse effects upon the environment, and be applied to all authorized but unfinished projects. Projects undertaken in the guise of benefits for flood control and navigation have eliminated millions of acres of productive agricultural and forest lands and destroyed important sport and commercial fisheries along hundreds of river miles, usually without mitigation of wildlife habitat losses or environmental damage. The National Wildlife Federation urges that the President and the Congress revamp or eliminate all such projects which reviews already have found to be without sufficient merit.

* Energy. The National Wildlife Federation continues to recommend in the strongest possible manner that the Congress and the Executive Branch of Government develop and implement a national energy policy that encourages conservation through tax incentives and/or the elimination of costly procedures which stimulate waste. The new Department of Energy should serve a focal role to stress the development and implementation of better energy conservation techniques and sources of clean and safe non-fossil fuels such as solar (including wind), geothermal, and development of low-head hydro-electric on existing dams, and biomass, and delay the development of nuclear power until it can be properly installed and monitored and the problems of radioactive waste storage and disposal and proliferation problems can be adequately addressed.

Resolution No. 2

ESTABLISHING A NATIONAL ENERGY POLICY

WHEREAS, the use of energy in the United States has outstripped the Nation's capability to produce it under current conditions of use, resulting in unfavorable international trade imbalances; and

WHEREAS, these circumstances have provoked efforts to meet demands with supplies of energy from all sources, many of which can be exploited only with great hazard to the natural environment; and

WHEREAS, high demands result in considerable part from wasteful uses of energy; and

WHEREAS, sufficient energy is vital to the continued vitality and well-being of our society; and

WHEREAS, recent events have illustrated the lack of and critical need for a national energy policy; and

WHEREAS, the type of energy policy adopted by the Nation will have a profound effect on the public interest in general and the natural environment in particular for centuries to come;

NOW, THEREFORE, BE IT RESOLVED that the National Wildlife Federation, in annual convention assembled March 14-16, 1975, in Pittsburgh, Pennsylvania, hereby expresses its conviction that the United States must adopt a coordinated and comprehensive national energy policy along these basic lines if the public interest is to be served and the natural environment protected, insofar as possible, from unnecessary harm:

--That industries, businesses, institutions, agencies of government, and individual citizens must adopt and carry out strict practices of energy conservation designed not only to reduce waste but encourage the maximum in efficiency in uses of energy;

--That the policy provide specific goals and direction for the next two decades, at a minimum, and be sufficiently specific to provide goals and direction yet be

ATTACHMENT 2

accompanied by a mechanism to ensure periodic public re-examination and flexibility to allow adjustment to technological advances and changing conditions;

--That short-term, mid-term, and long-term goals be identified within the overall objective of reducing the nation's annual energy growth rate to the lowest practicable level, hopefully in the range of two percent (2%) annually, coordinating the policy in such a way that all segments work together to meet that goal;

--That high priority be given to providing the funding and other support necessary to mounting a massive research and development effort toward securing economical sources of safe, clean, and environmentally acceptable sources of power as quickly as possible, thereby conserving valuable non-renewable fossil resources for other beneficial purposes;

--That the Nation's dependence be shifted as quickly as possible from non-renewable to renewable (excluding hydro) energy sources;

--That priority attention be given to identifying and implementing changes which might be necessary to ensure that energy conservation practices be encouraged and the use of energy in inefficient or socially less important uses be discouraged;

--That costs of energy production be internalized to prevent energy producers from shifting part of the cost of energy production onto society as social, economic or environmental costs, thereby artificially influencing energy production and use.

--That attention is given to considerations of the total social, economic, and environmental costs and impacts of energy production, including transportation and use, and that environmental quality is not being degraded except in circumstances of absolute necessity;

--That this organization express its deep concern about the potential hazards involved with nuclear power generation and disposal of atomic wastes; and

--That the process of formulating the national energy policy be conducted in full public view and with public participation.

c. Policy Issue 3: Wood Fiber As An Energy Source.

(1) Discussion

It can be expected that as the demand for energy increases more interest will be shown to using wood fiber as an energy source. In anticipation of this demand research into the effects of such wood fiber use on other resource values should be determined.

Recent interest has been shown in use of salvageable material remaining after logging and thinning operations. However, extreme caution must be exercised in using this material as an energy source. A certain amount of residue and salvage timber, especially snags, need to be retained for wildlife use; some residue needs to be returned to the soil for its nutrient and watershed values; and some prescribed burning of wood residues or other vegetation can be useful, especially in the South, in expediting the regeneration of valuable wildlife habitat. Increased knowledge is needed on the effects of residue removal on soil fertility and stability, wildlife habitat, and other resources values.

Increased utilization of wood residues remaining after manufacturing and processing operations should be encouraged. Urban wood and paper product waste which is now often buried in landfills should be recovered as an energy source.

As stated in the overview of this issue, any large-scale use of wood fiber as an energy source for power generation would require assured long-term wood supplies. We see a potential problem in committing forest resources to such long-term use that other environmental and multiple-use considerations may not always be fully considered in the demand for a constant supply of wood fiber.

Several questions also need to be raised about using wood fiber as an energy source. Should fuelwood be reserved for private home use in areas with little national forest acreage such as the Northeast? Are educational programs needed to inform the public of wildlife and other resource values of snags and other salvageable forest material? Should payment for private use fuelwood from national forests be required? Or is some type of permit system needed to obtain fuelwood from national forests for private use?

(2.) Recommended Option

NWF recommended option is a combination and modification of Options Two and Three. Research programs should be developed on all aspects of wood as a potential energy source including the environmental effects on other forest values such as soil fertility, erosion control and wildlife habitat with complete or partial wood fiber removal. Research objectives should include formulation of standards and guidelines for environmentally-sound and cost-effective approaches to using wood for energy. Technology transfer and research and development activities should be formulated with respect to collection, transport, processing and utilization of unused mill and manufacturing residues, urban wood waste, and some portions of the unused forest biomass.

ATTACHMENT 3

ATTACHMENT 4--NWF Recommended Revisions to H.R.5220

Substitute for 3(b) of proposed Wood Utilization Act of 1979.

3(b) The Secretary shall study and monitor operations pursuant to this Act and undertake such other studies as he deems necessary to determine the environmental consequences of increased utilization in timber harvests upon the forest resources, including the effects on nutrient flow and soil productivity, fish and wildlife and watershed protection. Based upon these studies, and in accordance with the National Environmental Policy Act of 1969, the Secretary shall in accordance with the procedures set forth in section 553 of title 5, United States Code, promulgate guidelines and standards which shall insure that:

(1) stump removal on slopes does not accelerate erosion or adversely affect water conditions or fish habitat,

(2) residues critical to nutrient flow are conserved and maintained,

(3) adequate woody debris, including snags and down logs, is retained as protective cores, feeding and lookout sites, food sources and storage, and nests and dens for ~~small mammals~~ **WOLF** habitat,

(4) increased wood utilization is otherwise consistent with the multiple-use management objectives of the land management plan.

The Secretary shall also issue such other regulations as he deems necessary to implement the provisions of this Act.

Add (7) to Section 2

(7) provide for the monitoring and study of the environmental effects of increased wood utilization in harvest operations and for the development of guidelines to avoid adverse impacts in fish and wildlife, watershed and soil productivity.

Mr. WEAVER. We are now going to ask Gene Bergoffen of the National Forest Products Association to come forward.

STATEMENT OF GENE BERGOFFEN, ASSISTANT VICE PRESIDENT FOR RESOURCE PROGRAMS, NATIONAL FOREST PRODUCTS ASSOCIATION, WASHINGTON, D.C., ACCOMPANIED BY DOUGLAS W. MacLEERY

Mr. BERGOFFEN. Mr. Chairman, with me is Doug MacLeery, manager of Federal forest management programs. Because of the press of time, we do not have a prepared statement.

I want to add, however, that we do support the concept for the use of wood residues for energy and other uses. For Forest Service has initiated a program to evaluate various economic, technical, and institutional barriers to improving utilization. We are working with the Forest Service on this; it is a good project. We have done work within our own industry, and we plan to do a lot more. The subject deserves in-depth treatment before we are clearer on the more appropriate ways to go in this field, and that is one reason we do not have a prepared statement this morning.

However, we are clear that section 2(b)—and I have been listening carefully to see if our objections have been eliminated, and we feel that they have not—even as you have agreed to amend it thus far, is not an appropriate vehicle to bring about improved utilization.

Mr. WEAVER. Is that 2(b) in the substitute?

Mr. BERGOFFEN. Yes. Specifically, we oppose the idea of "shall require the purchaser to remove," even with that qualifier that you added.

Mr. WEAVER. What page are you on? It is in section 4 of our substitute that we have that language.

Mr. BERGOFFEN. The Forest Service recommended item 4. It was a revision of subsection 2(b).

The words state that, "The Secretary shall require," with the qualifier you added, "the removal by the purchaser." We oppose a unilateral requirement for timber purchasers to carry out activities not directly related to the sale area or to the access routes to the sale.

Current Forest Service policy is, with respect to utilization, not to require utilization to such close standards that the total value of the sale is reduced. The Forest Service has authority to require what you are asking them to do by mutual agreement, and we are sure that arrangements can be worked out on this basis.

If you choose to move forward with provisions along the lines that you have been discussing this morning, we do have some suggested amendments to fortify the principle of mutual agreement. In other words, we are saying that another qualifier in here should be that "The Secretary shall, with mutual agreement of the purchaser, undertake to remove the slash."

Mr. WEAVER. Mr. Bergoffen, I understand very well. I think—and you have heard the language we have been talking about here—that, as Mr. Johnson has suggested, it is only if the opportunities are appropriate, one; and it can be by other persons than the contractor or purchaser, two; and, also, as you see, your very provisions are in for existing sales.

The very things you are suggesting now are in for existing sales. It says, as you see, “*Provided*, That nothing shall abrogate or modify the slash disposal provisions of existing contracts for the sale * * * except to the extent such changes are mutually agreed to by the parties to such contracts.” This is exactly what you are suggesting here.

Mr. BERGOFFEN. I appreciate that interpretation, Mr. Chairman. I think, though, that we are looking at new contracts that would be entered into and what this authorization would mean. It still would say that the Secretary “shall require” with the qualifier. So, he is in a position to unilaterally require, if he chooses to do so, in offering a sale, the removal of this material.

There are a number of considerations that underlie that qualifier with appropriate opportunities. Appropriate opportunities means that somebody has to make a determination as to whether the opportunities are appropriate. This removal adds additional cost. You have to gather it, stack it, remove it, haul it. It could, in many cases, use as much energy as you would gain.

Mr. WEAVER. There is that possibility, and I am a strong net energy person and insist on net energy studies being made whenever we do anything. So, as I said, this is very well established in this language.

Mr. BERGOFFEN. We think the mutual agreement idea, where the contractor and the Forest Service sit down and look at the costs and the opportunities, is the best protection to be sure that those opportunities are really the most appropriate.

Mr. WEAVER. There is no need for the bill, then, because that is the whole point. They have the opportunity, obviously, to enter into any mutually agreed-to contract right now. We want to give them a push. I do not think this is going to affect you people at all.

Very frankly, if you go over the woods, as I have done so many times, and see what is left out there which this country urgently needs now, you know that, without that push, that stuff is going to be left out in the woods. All we are trying to do is give them a push. Are there any questions of Mr. Bergoffen?

The gentleman from Colorado?

Mr. JOHNSON. I would like to pursue this a little bit further, if I may, Mr. Chairman. Do you have that language down on paper?

Mr. BERGOFFEN. No, sir. The language that we offer, or the language that you agreed to earlier?

Mr. JOHNSON. What language did you offer?

Mr. BERGOFFEN. We can provide that. It is here.

Mr. WEAVER. Without objection, it will be included in the record at this point.

[The material referred to above follows:]

Proposed NFPA Amendment To The "Wood Utilization Act of 1979"

Sec. 2. The purposes of this Act are to (1) develop, demonstrate, improve and promote for rapid and widespread use methods to increase and improve utilization of trees, parts of trees and forest products resulting from timber harvesting, forest protection and management, and the manufacture of forest products including wood pulp, wood waste residues and energy; (2) reduce the hazard of forest wildfires; (4) reduce the adverse effects on air quality of burning wood waste residues; (5) enhance the long term productivity of forest resources in each region and for the nation as a whole; and (6) assist in meeting growing demands for wood products by encouraging the development of markets for underutilized forest resources. To implement the purposes of this Act, the Secretary of Agriculture, hereinafter referred to as the "Secretary," shall establish a wood utilization program. This program shall be coordinated with activities pursuant to any authority the Secretary may possess. The Secretary shall --

- (a) make, insure and guarantee loans under the authority of Section 310B of the Consolidated Farm and Rural Development Act, to eligible recipients for the purpose of carrying out demonstrations and pilot projects in the utilization of trees, parts of trees, and forest products resulting from timber harvesting, forest protection and management, and the manufacture of forest products including wood pulp, wood waste residues and energy;
- (b) ~~enter into contracts by mutual agreement for~~
~~require the removal by the timber purchaser or contractor~~
of all trees, parts of trees, and forest products resulting
where such activities provide a cost effective method to
from timber harvesting, ~~which will~~ enhance the long term
productivity of forest resources; ~~provided, however, that~~
~~nothing shall abrogate or modify the slash disposal provisions~~
~~of existing contracts for the sale of public timber except~~
~~to the extent such changes are mutually agreed to by the parties~~
~~to such contracts;~~

Mr. JOHNSON. Would you mind reading it?

Mr. BERGOFFEN. We would suggest that section 2(b) authorize the Secretary to "enter into contracts by mutual agreement for the removal." And then we would add that other language you had indicated.

Mr. JOHNSON. I am sorry. Would you read that again?

Mr. BERGOFFEN. We would start subsection 2(b) with language that would read, "enter into contracts by mutual agreement for the removal."

Mr. JOHNSON. "Shall enter into contracts by mutual agreement"?

Mr. BERGOFFEN. Yes, sir. Instead of "shall require," we are saying "shall require the purchaser to remove." We are suggesting language that would authorize the Secretary to enter into contracts by mutual agreement.

Mr. JOHNSON. The representative from the Library of Congress tells us that, under the National Forest Management Act, section 14, the Secretary can already require a high level of utilization and that this is mandatory now. I do not see that your language adds anything to what we already have. What we already have says, "The Secretary shall require at levels appropriate to opportunities to utilize wood the removal by the timber purchaser or contractor or other person" of wood products resulting from timber harvesting, which will enhance, and not harm the long-term productivity of the forest resources, "when, in the judgment of the Secretary, these actions will further the purposes of this act. You have to remember that that is referring to wood utilization and wastewood.

So, the Secretary, it seems to me, has plenty of discretion—maybe not, but I am telling you what I think about this, and we should be able to disagree if you feel that way. It seems to me that he has got plenty of discretion to dispose of this in ways other than the contract requirement of the timber purchaser.

Mr. BERGOFFEN. Under existing law, before this bill, we would agree that he has a great deal of discretion with respect to utilization. Under the subsection of the National Forest Management Act that you refer to, the Secretary is requiring, through contract arrangements, various forms of requirements that deal with the use of wood: Guarding of unutilized material, for example, or the stacking or piling of unutilized material for various purposes. Those requirements are being done in furtherance of the National Forest Management Act.

But you have to read this language in subsection 2(b) that you have been talking about this morning in the context of this new program that you are dealing with, which is an added program, an added idea of the use of this material for energy purposes, for pilot programs, to study this, if it is, in effect, just a pilot program approach. So, it is adding additional authority.

The point is that these requirements have an impact on the economics of the sale. The current Forest Service policy is to not impose such requirements, even for utilization, such that the sale would not be viable. If they are going to offer a sale, they look at the opportunities for utilization and the current state of the art and offer up a sale with certain levels of requirements, but they do not affect the economics of the sale.

Mr. JOHNSON. Thank you.

The gentleman from the Library of Congress points out that, when you have these timber sales, the bids are awarded to the low bidder; then you enter into a contract, or you add an additional clause to the contract that would require a change by the Secretary, so that you would mess up your whole bidding procedure, and the other bidders would have a right to come back. Is that correct?

Mr. BERGOFFEN. It depends on how this arrangement is worked out. If efforts are made prior to the bidding to explore markets and opportunities and requirements along the lines of use for these purposes, then you have a true mutual agreement situation. That is what we mean by "mutual agreement." We are not talking about abrogating an awarded sale. But if those things are not explored before the sale is awarded, you are going to have more situations, as you experienced recently in Colorado, where the appraisal situation and the working out between what is cost effective and what is not, where you will find that it really is not, and you are not able to sell any timber.

Mr. JOHNSON. That is correct. But the language you are proposing does not deal with the setting up of the contract on which the bid is made. I am just saying that your language is faulty.

Mr. BERGOFFEN. We would have to explore the impact of that language on the bidding process for equity—yes, I would agree. But the principle we are trying to get across is that we do oppose mandatory requirements—the offering up of a sale which would require all purchasers to enter into this kind of an arrangement. The leverage in some parts of the West where timber is in short supply that the Forest Service has is very great.

Mr. JOHNSON. Let me get down to this point. What you are really worried about is that, despite the qualifying language, and the modifications to the mandatory aspects of the language, it is simply not enough to make you feel comfortable; you are afraid that the Secretary is going to abuse the discretion. Is that right?

Mr. BERGOFFEN. That is right.

Mr. JOHNSON. Does he not already have the authority to be arbitrary in this regard?

Mr. BERGOFFEN. He has authority.

Mr. JOHNSON. And he has not done it up to now, so why are you worried that he is going to change as a result of this language which has all those qualifiers in there?

Mr. BERGOFFEN. We have continuing dialogs with the Forest Service about the accuracy and the adequacy of the appraisal process. It generally works very well, but this is an added burden that will be placed upon it, and we are concerned about it. We are in very marginal situations in a number of cases because of a number of new requirements placed upon the harvesting operation.

Mr. JOHNSON. But this is not a requirement; this is discretionary.

Mr. BERGOFFEN. This would be a requirement, and a sale would be offered up that would say, "We have a pilot program under way; and, in connection with this sale, we are requiring the removal under these kinds of arrangements." That is how this would operate in the prospectus for a particular sale. Then you can take it or leave it. You would not be able to bid on the sale unless you were willing to remove all of the material.

Mr. JOHNSON. But he can require that now. Is that right?

Mr. BERGOFFEN. He may be able to require that now but chooses not to. The Secretary's policy and the Forest Service's policy is not to impose economic requirement which affect the net balance of the sale itself. This would change that.

Mr. WEAVER. Would the gentleman yield?

Mr. JOHNSON. I will in just a minute, Mr. Chairman.

I think that where we are down to is that, even though the Secretary has that authority now and does not use it, you are afraid that, because he is given that authority here, despite the qualifiers, he might use it.

Mr. BERGOFFEN. He does not have authority now to require full removal for the purpose of pilot energy projects.

Mr. JOHNSON. No; but he does have the requirement to remove it for other purposes.

Mr. BERGOFFEN. For appropriate utilization.

Mr. JOHNSON. That is right.

Mr. WEAVER. Would the gentleman yield?

Mr. JOHNSON. Certainly.

Mr. WEAVER. The statement was made by the witness that the timber purchaser will know that he has to remove all the slash. That is the whole point—that the sale contract put out for bid will say how much slash, what kind of slash. It certainly will not every time say, "Remove all the slash." That would be ridiculous; we would not want him to. It is the slash that can be appropriately utilized. That last thing in the world I want is for them to go rake up every twig; I do not want them to do that; I want them to get that good, enormously valuable utilizable slash that is now sitting in piles out there in the forest.

I had Northwest Natural Gas—our big natural gas company—come in and tell me that they are just establishing a plant now to use this slash to make pipegrade gas, and they said, "Boy, we want your bill to pass because we are going to need materials coming out of the forest, and you have got to get the timber industry to start bringing it down." And that is what this bill is designed to do.

Mr. JOHNSON. Let me ask you if we could add another word or two here that will satisfy everybody.

What about adding the word "economically" to the end? In other words, we would say, "The Secretary shall require at levels appropriate to opportunities to utilize wood economically," not just "to utilize wood," but he would have to use it economically or it would have economic benefits?

Mr. WEAVER. Would the gentleman yield?

Mr. JOHNSON. Yes.

Mr. WEAVER. I think that is implied, and I would rather have that go into the report.

Mr. JOHNSON. Well, I do not see that it hurts anything if we add to it. You are talking about the economic detriment that is involved with the possibility of something like this?

Mr. BERGOFFEN. We think that is helpful, Mr. Chairman. We are really not certain.

You are dealing with a system here, a system of appraisals and offering up sales which is a complicated system. We are really not very comfortable with the leverage on the system this bill will imply, but

we think that will be helpful and would like to give it some more thought.

Mr. WEAVER. There might be occasions where they want to get it out into sawyards where the economics are not completely established. The whole point of this bill is to get the process moving. Once the economics are established, it is going to take care of itself. We want to start the process moving, and to make the economic determinations would impose, I think, a great difficulty on the Forest Service.

I would be delighted to put in the report that it is our intent in this bill to utilize the word "economically".

Mr. JOHNSON. And that it would not result in an economic burden on the bider that would be detrimental to the sale.

Mr. WEAVER. Absolutely—of course.

Mr. JOHNSON. Is that agreeable to you? That is what you want, is it not? That is what we are talking about.

Mr. BERGOFFEN. Yes; we think that it ought to be an arm's length kind of situation.

Mr. WEAVER. I will instruct the staff right now to put that kind of language in the report.

Mr. JOHNSON. Maybe we have taken care of that now.

Mr. WEAVER. Thank you very much, Mr. Bergoffen. We appreciate your testimony very much.

Mr. BERGOFFEN. Thank you, Mr. Chairman.

Mr. WEAVER. I ask unanimous consent that the substitute we have before us be printed in the record at this point, and considered as the committee print, and open for amendment at any point. That substitute will include the language agreed upon previously in section 4, "The Secretary shall require at levels appropriate to opportunities to utilize wood products the removal by the timber purchaser or contractor or other persons" et cetera.

Without objection, it will be included in the record.

The substitute is open for amendment at any time.

I would then offer the amendment of the National Wildlife Federation as written, except we would delete "4" because that is already in the bill and add, in (1) after "fish" "or wildlife habitat". I propose that that be incorporated at an appropriate place in the bill.

Is there any discussion of that amendment? That is, adding a new section assuring that the Secretary study and monitor operations pursuant to this act to determine the environmental consequences of increased utilization in timber harvests upon the forest resources, including the effects on nutrient flow and soil productivity, fish, and wildlife, and watershed protection.

[No response.]

Mr. WEAVER. If there is no discussion, all those in favor, say "aye."

[Chorus of "ayes."]

Mr. WEAVER. Opposed?

[No response.]

Mr. WEAVER. The amendment is agreed to.

The subcommittee print continues to be open for amendment.

If there are no further amendments, do I hear a motion to report the bill to the full committee?

Mr. JOHNSON. I so move, Mr. Chairman.

Mr. WEAVER. Is there any discussion?

[No response.]

Mr. WEAVER. If not, all those in favor or reporting the bill favorably will say "aye."

[Chorus of "ayes."]

Mr. WEAVER. Opposed?

[No response.]

Mr. WEAVER. The bill is reported to the full committee.

The committee record will remain open for 10 days, with unanimous consent that the staff shall have authority to make any technical or typographical corrections and to put any language in the appropriate place in the bill.

The subcommittee stands adjourned.

[Whereupon, at 10:50 a.m., the hearing was adjourned.]

[The substitute bill referred to follows:]

96th CONGRESS
1st SESSION

H.R.

(Original signature of Member)

IN THE HOUSE OF REPRESENTATIVES

Mr. Weaver introduced the following bill; which was referred
to the Committee on Agriculture

A BILL

(Insert title of bill here)
To authorize the Secretary of Agriculture to establish a Wood Utilization Program to improve the use of renewable resources in timber harvesting, forest protection and management, and the manufacture of wood products including energy through guaranteed loans, timber sales, and other activities.

1 *Be it enacted by the Senate and House of Representatives of the United*

2 *States of America in Congress assembled,* That this Act may be
cited as the Wood Utilization Act of 1979.

Sec. 2. For purposes of (1) developing, demonstrating,
improving and promoting for rapid and widespread use commercially
viable and economically feasible methods to increase utilization
of wood products resulting from timber harvesting, forest
protection and management, and the manufacture of forest
products including wood pulp, wood waste residues and
energy; (2) reducing the hazard of forest wildfires;
(3) reducing the adverse effects on air quality of burning
wood waste residues; (4) enhancing the long term

productivity of forest resources in each region and for the nation as a whole; and (5) assisting in meeting growing demands for wood products by encouraging the development of markets for underutilized forest resources there is hereby established a Wood Utilization Program.

Sec. 3. (a) In order to assist persons, including any public, private, or cooperative organization, in the purchase of wood energy and wood utilization equipment and the construction and maintenance of facilities for the wood utilization of forest products and the production of energy derived from forest products, the Secretary is authorized--

(1) to make loans directly to such persons for 80 per centum of the cost of the purchase of wood energy and wood utilization equipment or construction and operation of wood energy and wood utilization facilities;

(2) to guarantee payment of 75 per centum of the principal of and interest on loans made by private lenders to such persons for the purchase of wood energy and wood utilization equipment in the construction and operation of wood energy and wood utilization facilities.

(3) to consolidate, sell, or otherwise dispose of wood products, to persons receiving direct loans and loan guarantees under this section and to other persons operating wood energy and utilization facilities in accordance with subsection (e); and

(4) to make such regulations, to enter into such contracts and cooperative agreements, and to take such other actions as may be necessary to carry out this section.

(b) No loan may be made or guaranteed under this section unless an application therefor has been submitted to and approved by the Secretary. Such application shall be submitted in such form and according to such procedures as the Secretary may require by regulation. Such application shall contain--

(1) assurances by the applicant that any loan made or guaranteed under this section shall be used for the purchase of wood energy or wood utilization equipment or construction and operation of wood energy or wood utilization facilities utilizing wood products;

(2) information concerning the total cost of the purchase of equipment or construction of the facility for which such loan is sought, estimates of the operating costs and income to be derived from the operation of such equipment or facility, and any other financial information the Secretary may require; and

(3) such other information or assurances as the Secretary may require.

The Secretary shall approve or disapprove any application within ninety days after receiving such application. If the Secretary disapproves an application, he shall make the reasons for such disapproval available to the applicant. Any application disapproved under this subsection may be amended and, when resubmitted, shall be considered as an original application.

(c) (1) The interest rate on direct loans made under this section shall be determined by the Secretary, except that such rate shall not exceed the current average market yield on outstanding marketable obligations of the United States of comparable maturities plus 1 per centum. Such direct loans

shall be made according to such other terms and conditions as the Secretary determines by regulation as sufficient to protect the financial interests of the United States.

(2) A loan may be guaranteed under this section only if--

(A) such loan is for a term not in excess of twenty years;

(B) the Secretary determines that the terms, conditions, maturity, security (if any), and schedule and amounts of repayments with respect to such loan are reasonable and meet such standards as the Secretary determines by regulation are sufficient to protect the financial interests of the United States, taking into account the range of interest rates prevailing in the private market for other loans guaranteed by the United States;

(C) the Secretary determines that the applicant is unable without a guarantee under this section to obtain sufficient credit elsewhere to finance the construction and operation of the facility for which such loan is sought at reasonable rates and terms, taking into consideration prevailing private and cooperative rates and terms for loans for similar periods of time;

(D) the applicant agrees to keep such records and afford such access thereto, and make such reports, in such form, at such times, and containing such information, as the Secretary may require by regulation; and

(E) such other conditions as the Secretary deems appropriate to achieve the purposes of this section and

to protect the financial interests of the United States are met.

(d) (1) For the period beginning on October 1, 1980, and ending on September 30, 1982, the cumulative total of the principal of and interest on loans outstanding at any time guaranteed under this section shall not exceed \$500,000,000.

(2) For the period beginning on October 1, 1980, and ending on September 30, 1982, the cumulative total of the amount of direct loans made under this section shall not exceed \$200,000,000.

(e) (1) In order to assure that persons receiving direct loans or loan guarantees under this section and other persons operating facilities for the production of wood energy have a dependable supply of wood products at a stable price for use in such facilities, the Secretary is authorized to enter into sales contracts, not to exceed ten years, with such persons to sell annually to such persons a specified quantity of forest products upon specified terms of delivery at a price upon which the Secretary and such persons mutually agree. For purposes of complying with contracts entered into under this paragraph, the Secretary may supply wood products from other Federal, State and other governmental agencies, public or private institutions, universities, and organizations, business entities, and individuals in the United States.

(2) Any contract for the sale of any wood products to any buyer under this subsection shall provide that such wood products shall be used for the production of wood energy.

(3) The Secretary shall make available such amounts of

forest products as may be necessary to meet obligations under contracts entered into under this subsection.

(4) In carrying out this section, the Secretary may use the funds available for use by, and the facilities and services of, the Commodity Credit Corporation or any other agency in the Department of Agriculture.

Sec. 4. The Secretary shall require the removal by the timber purchaser or contractor of wood products resulting from timber harvesting which will enhance and will not harm the long term productivity of forest resources when in the judgment of the Secretary these actions will further the purposes of this Act: Provided, however, That nothing shall abrogate or modify the slash disposal provisions of existing contracts for the sale of national forest timber except to the extent such changes are mutually agreed to by the parties to such contracts.

Sec. 5. The Secretary is required to sell, consolidate for sale, or otherwise dispose of wood products and may acquire from other Federal, State and other governmental agencies, public or private institutions, universities, and organizations, business entities, and individuals in the United States ^{wood products} for sale, for consolidation or for other disposal when in the judgment of the Secretary, these actions will further the purposes of this Act: Provided, however, That priority to purchase or otherwise obtain wood products for energy production shall be given first to public bodies or cooperatives.

Sec. 6. The Secretary shall make grants to State and other governmental agencies, public and private institutions, universities, business entities, and individuals in the

United States that will share the costs of pilot projects and demonstrations: Provided, That pilot projects funded under this subsection shall provide that non-Federal cooperators must contribute at least 50 per centum of the costs of wood energy and wood utilization equipment used in the pilot project and 50 per centum of the costs of the construction of facilities for the utilization of forest products and the production of energy which are used in the pilot project: Provided, further, That the Secretary is authorized to and may transfer and vest title to wood energy and wood utilization equipment and facilities acquired in connection with the pilot project to the recipient without further obligation to the government, or on such other terms and conditions as deemed appropriate.

Sec. 7. The Secretary shall make brief annual reports to the Congress on the Wood Utilization Program. The report shall be submitted with the reports required in section 8(c) of the Forest and Rangeland Renewable Resources Planning Act of 1974 (90 Stat. 2949, as amended; (16 U.S.C. 1600).

Sec. 8. The Secretary shall survey and analyze the present status of *wood* utilization and project the volume of wood waste residue for public and private timberlands.

Surveys conducted pursuant to this section shall be coordinated with the comprehensive surveys authorized by section 3(b) of the Forest and Rangeland Renewable Resource Research Act of 1978 (92 Stat. 353; 16 U.S.C. 1641) and shall be conducted on a regional basis.

Sec. 9. The Secretary shall ensure that reports and surveys required by this Act are coordinated with the land management plans prepared pursuant to section 6 of the National Forest Management Act and the State Forest Resource Program prepared pursuant to section 9 of the Cooperative Forestry Assistance Act.

Sec. 10. Nothing in this Act shall be construed to repeal or amend the provisions of the National Forest Management Act or the Multiple Use Sustained Yield Act as amended. The Administration of this Act shall be consistent with the administration of the National Forest Management Act and the Multiple Use Sustained Yield Act.

Sec. 11. The Secretary shall issue such regulations the Secretary deems necessary to implement the provisions of this Act.

Sec. 12. For purposes of this Act--

(1) "wood energy facility" means any facility which produces forest products used in the production of energy or produces energy from forest products;

(2) "wood utilization equipment" means any equipment or vehicle which is used in timber harvesting, forest protection and management, or the manufacture of wood products to increase wood utilization.

(3) "wood energy equipment" means any equipment or vehicle used in timber harvesting, forest protection and management, or the manufacture of wood products to produce energy.

(4) "wood products" means, in addition to products manufactured from wood, trees, parts of trees, wood waste residue, slash and other underutilized material or dead and dying timber.

Sec. 13. There is hereby authorized to be annually appropriated for each of the five fiscal years beginning with fiscal year 1981 the sum of \$7,500,000 for purposes of administering this Act. Such sums shall be in addition to those provided under other provisions of law and shall remain available until expended.

WOOD RESIDUE UTILIZATION ACT

THURSDAY, NOVEMBER 15, 1979

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON FORESTS OF THE
COMMITTEE ON AGRICULTURE,
Washington, D.C.

The subcommittee met, pursuant to notice, at 10:10 a.m., in room 1302, Longworth House Office Building, Hon. Jim Weaver (chairman of the subcommittee) presiding.

Present: Representative Huckaby.

Staff present: J. Robert Franks, associate counsel; Eleanor S. Walsh, clerk; Kathleen Garvin, Gary Norton, Rita L. DiSimone, and Peggy Thomson.

Also present: Representative Fithian of the full committee.

OPENING REMARKS OF HON. JIM WEAVER, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF OREGON

MR. WEAVER. The Forests Subcommittee will be in order.

The purpose of the hearing today is to hear testimony from Members of Congress and administration witnesses on four wood utilization and wood energy bills.

They are the Agriculture, Forestry, and Rural Energy Act, H.R. 5397, and the Biomass Research and Development Act, H.R. 5428, both introduced by my colleague, Mr. Fithian; H.R. 4313, by Mr. D'Amours, a bill to help State foresters establish wood fuel programs; and my own Wood Utilization Act, H.R. 5220.

[The bills referred to appear on p. —.]

The Wood Utilization Act has been revised at my request by the American Forestry Association, and I am looking forward to Dr. Cutler's comments on the new draft. My purpose in holding further hearing on H.R. 5220 at this time is to affirm my continued interest in a wood utilization program to those who have expressed support for H.R. 5220 and to reaffirm that the Department of Agriculture is not doing nearly enough to get the slash out of the forest.

I want to comment that an incredible amount of energy is being wasted now in our forests. One researcher, Dr. Zerbe, of the Madison laboratory has done a study showing that we could get over a quad of energy from slash that is now being wasted. That is over 1 percent of the energy we use in this Nation. In Oregon there is as much slash burned in the forests as is needed to heat three-quarters of the homes and buildings.

We are not getting the slash out. We are not getting it out because of bureaucratic inertia, market forces, and simply the absence of links in the chain of energy suppliers and users.

I want to compliment my good friend, Mr. Fithian, for bringing in his two bills, in which I have a great deal of interest. Also, I want to compliment Mr. D'Amours for his bill, which will help us start using some of the wood in the Northeast in particular.

I also want to say one word of caution. Wood is going to go up in value continuously as it becomes a scarcer resource. We want to make sure that we use it in the proper way and not just go pellmell into programs that might not be productive.

With that, I welcome Mr. Fithian. Please proceed.

**STATEMENT OF HON. FLOYD J. FITHIAN, A REPRESENTATIVE
IN CONGRESS FROM THE STATE OF INDIANA**

Mr. FITHIAN. Thank you, Mr. Chairman.

First of all, let me commend you and your subcommittee for pushing forth in this area and for your work and for your bill last year.

I am here today to assist you in promoting a small revolution in this country. That revolution would be a revolution in thought and a revolution in practice. It is difficult to change things that are long-standing for a couple of hundred years. But it is clear that, if we are going to really make the kind of advance in energy that could and should be made in the decade of the 1980's, it is going to be because somebody promotes a revolution in our thinking.

The very excellent study by the Harvard Business School, which anybody interested in energy ought to read, has this to say in its report *Energy Future*: "there is little reason to expect conventional alternatives to make a sizeable contribution to reducing our dependence on imported oil. These energy sources—domestic oil and gas, coal, and nuclear power—as a group can increase their contribution to cover, at most"—and note this, at most—"one-third to one-half of the Nation's additional energy needs over the next decade."

Yet, I might add parenthetically, that we in Congress, the Nation, the Department of Energy, and others seem to have the total fix, almost total commitment of resources to those areas which the Harvard business study clearly shows can only solve less than half the problem.

I would like to speak first about our goals and what the national goals are. I am not just speaking to you, Mr. Chairman, because you and I are on the same side of this; but I would like to speak to those in the audience as well to understand clearly what our national goals are.

In July 1978, Agriculture Secretary Bergland outlined the Department of Agriculture's energy goals in testimony before the Senate Agriculture Committee. Those goals, reiterated by the U.S. Forest Service in testimony before this subcommittee last year, included net energy self-sufficiency by 1990 in forestry production and processing under conditions that sustain productivity, a worthy goal. A more ambitious goal—that of achieving 20 percent of the country's energy needs from solar and renewable resources, including biomass, by the year 2000—was declared by President Carter in his June 20, 1979, message on solar energy.

Mr. Chairman, these are ambitious but achievable goals, goals which have broad support among our people. The question we must ask our-

selves as legislators is whether present policies and institutional arrangements in the agencies over which we have jurisdiction will allow us to achieve these goals.

My own evaluation is that we will miss the mark by a wide margin unless we organize and energize these agencies to meet the challenge. In the case of our committee, I am talking about the Department of Agriculture; and, in the case of this subcommittee, I am talking about the Forest Service.

No agency in the Federal Government has more abundant resources or greater administrative capabilities to research and implement energy programs affecting rural America than does the USDA. Its network of agency offices in virtually every county throughout the country has a credibility—and I think this is an important fact—among rural citizens which the Department of Energy can never in our lifetime achieve. We have already built up that kind of relationship over 200 years of existence. Therefore, we must utilize that relationship and draw on those strengths.

On balance, biomass energy research, development, and demonstration receives a low emphasis at USDA. Aside from the President's call last summer for a careful review of all solar and renewable energy technologies by government agencies, the department has no strong energy mandate. DOE has been designated the lead agency for energy related activities. Moreover, USDA has an understandable tendency not to undertake or fund work relating solely to energy; USDA is reluctant to burden its limited research and development budget and staff resources by taking on new energy-related projects.

Those biomass energy activities which the Department has undertaken, with some exceptions, have no clear direction or mission. Although an Office of Energy was recently formed to coordinate aspects of the Department's energy activities, no well-established biomass development strategy has emerged from that creation. The role of the Office of Energy appears to be that of monitoring and implementing rather than that of a coordinating office. A new solar/biomass program established in fiscal year 1980 may give the Energy Office somewhat more leverage in directing USDA's biomass development effort, but the fundamental problems hampering the office's coordinating ability will not disappear with the establishment of this program.

Because biomass energy development is inextricably tied to agriculture and forestry policies, and because the food and fiber sectors of the economy affect the economics and availability of bioenergy, the Department of Energy and the Department of Agriculture have common areas of interest and responsibility. Despite overlapping jurisdictions and similar programs, however, virtually no substantive coordination or program planning has taken place between the Department of Energy and the Department of Agriculture.

There are indications that USDA/DOE coordination and cooperation may improve in the future, however, and recent interagency agreements set forth a more explicit biomass development role for both. USDA, for example, is expected to receive a significant portion of the DOE biomass budget—fuel for biomass program—via the pass-through funding, for the purpose of administering some biomass development projects.

H.R. 5428, my Biomass Research and Development Act, uses just such an action forcing mechanism for USDA/DOE cooperation and coordination. Although these agreements constitute a significant change in the way the Federal Government's biomass programs have been administered, serious obstacles remain. The dissimilarities between the functions of these agencies can make effective coordination exceedingly difficult. That is a factor we must constantly bear in mind when we legislate in this area.

Of special interest to the subcommittee are the biomass programs within the U.S. Forest Service. The Forest Service has at its command substantial economic and institutional mechanisms capable of facilitating the use of wood for energy. The agency has given little impetus to wood energy development in the past, however, despite sufficient statutory authority to do so.

A wood utilization and energy application program has been recently initiated which, in part, is to promote the development of wood energy. The program was initiated to improve forest lands management through commercial use of wood for pulp and paper products and energy. The program, however, is a low priority effort within the agency.

During your own excellent hearings on the Wood Residue Utilization Act of 1978 last year, you heard testimony from a number of witnesses on what the Forest Service was doing and, more importantly, not doing to encourage better energy utilization of wood slash, mill wastes, and other residues of commercial lumbering operations.

Since then, the President has ordered the Forest Service to undertake a demonstration project to demonstrate the feasibility of combined fuelwood production/stand treatment activities in New England, an area that my colleague Mr. D'Amours is interested in. This was part of the administration's June 29 solar message. I am sure that you will want to ask the Forest Service about the progress they have made since June on that program and why they could not have implemented it earlier using their existing legal authority.

In any case, Congress should make it clear to the Forest Service that energy production from woodwastes is now a high priority of the Federal Government, complementing—not conflicting with—the agency's important conservation and resource development missions.

Mr. Chairman, whenever anyone offers a bill to the Congress, there are certain assumptions that you proceed upon. I would like to share with you and others my assumptions on this legislation.

Regarding biomass energy technology, H.R. 5428 and H.R. 5398 assume the following:

First, that biomass is a major, ongoing energy supply option with short-term dividends, not a minor resource of little immediate use;

Second, a Federal investment in research and development of biomass is perhaps the best energy investment we can make. Few other energy technologies offer the promise of such a prompt return on our research and development dollar. I might digress and say that I am not knocking any other energy program. I will support practically all of them. But, if we are talking about something that has quick turnaround, we are talking about biomass;

Third, most of biomass' near-term—I am speaking of up to 5 years—potential rests in the use of agricultural residues, forest wastes, and wood for direction combustion; and

Fourth, liquid synthetic fuels, including alcohol, can be obtained from biomass feedstocks using familiar processes which can provide economical substitutes for gasoline and diesel fuel.

Regarding the role of the Forest Service, H.R. 5428 and H.R. 5397 reflect the belief it should:

First, develop research programs on all aspects of wood as a potential energy sources;

Second, that it should formulate technology transfer activities with respect to collection, transport, processing, and utilization of forest biomass, unused mill residues, and urban wood waste;

Third, that the Forest Service should formulate environmental criteria to help increase removal of wood biomass from the National forests in order to encourage using wood for energy;

Fourth, that it should cooperate with DOE and other Federal land management agencies, State and local governments, and with the concerned private sector in efficient use of wood for energy;

Fifth, that it should adopt programs to encourage homeowners to use more wood from National forests; and

Sixth, that it should develop improved cost-effective silvicultural treatment methods in hardwood stands by encouraging the use of thinning and commercial harvest of waste and residues for fuelwood.

Mr. Chairman, I will not take your time to summarize H.R. 5428. You and your staff and the members of the subcommittee can find that summary on pages 5 and 6 of my prepared testimony.

Likewise, I will not take the time of the committee to summarize 5397 but would direct your careful attention to pages 7, 8, and 9 and the 16-point summary of what has generally been referred to as the Talmadge bill.

Mr. Chairman, as you know, and as perhaps some in the room do not know, the Senate acts with a great deal more latitude and flexibility than we do. The Talmadge bill, large as it is and comprehensive as it is—and it is an outstanding piece of legislation—was included as, I suppose, a noncontroversial amendment to some Senate bill and has passed the Senate without going through the normal processes.

Your subcommittee is now faced with trying to match up to Senator Talmadge's train that is already running down the track with some action from our side. Your own bill of last year is an excellent vehicle, I think. We all ought to get behind that and make that a partial match for the Talmadge bill.

We will have some problems because the Talmadge bill is a part of a bill which matches up to our own banking and currency defense production bill on synthetic fuels. To demonstrate some of the complexity which you and other chairmen will have to work out, the Talmadge bill has been referred to no less than four committees in the House, while they were able to handle it as a noncontroversial amendment.

What I am saying is that we are faced with a difficult parliamentary situation but with a great opportunity if we can use enough initiative and imagination to match up parts of your legislation, parts of my

legislation, parts of the Bedell bill, which have already passed this committee, and see if we cannot get them all into conference, in which case we could see early action in a major way on biomass and related energy programs and legislation establishing statutory basis and authorization for expenditure for those programs in this Congress.

That will take a bit of doing, but I am hopeful that we on the Agriculture Committee can at least do our share.

I am going to stop at this point, Mr. Chairman, with just a quick summary. That is to reiterate what I have already said. That is, if we are serious about doing something about the energy problem in the United States, the first step is conservation. That is at the end of our arm. That is with the storm window we put on, the installation we put on, the thermostat, our driving patterns and so on. That is obviously the most immediate part.

I am told by experts that barrels of oil saved in a conservation program will cost—even if we went on the most extravagant conservation program that anybody has thought of—will cost a little less than \$10 a barrel.

The next closest thing to conservation is what you are working on, what these bills are all about. It is biomass energy.

Every energy expert who has looked at it will tell us that the quickest turnaround time is in biomass energy. It is an old technology in many ways, a technology which we bypassed in the days of such free gas and propane and oil costs that it was cumbersome to carry out the ashes and all the rest. But, economically speaking, we have long since overshot that.

It is extremely difficult to get our engineering establishment in this country to consider things like wood gasification or wood-burning stove or a number of things because they think of this as an old technology. Actually, there is a lot of new technology that the Swedes are demonstrating in wood gasification.

Just for our friends from the Forest Service and others here today, let me cite an example. I had lunch not long ago with two businessmen who were breaking ground in Michigan for an \$18 million plant. They intend to run that plant in perpetuity on the proceeds, on the produce from 160 acres of pulpwood land by harvesting one-fifth each year.

That is a fairly energy-intensive industrial undertaking that they are investing \$18 to \$20 million in the construction of. So, at least in the private sector there is a beginning. I think we in the Government sector ought to do everything we can.

I commend you for your dedication and your diligence and the efforts of this subcommittee to call attention to the American people the proximity of relief that is at hand in terms of biomass energy.

Whatever I can do—I have no pride of authorship. I happen to think the two bills, the bill that I introduced for Senator Talmadge on the House side is a comprehensive and excellent piece of legislation. Our own biomass energy bill is the product of a lot of work, not necessarily by ourselves; it was a lot of work by ourselves, but a lot that is already worked out by people at DOE and USDA at the working level.

I will do anything that this subcommittee things would be helpful in trying to further the concept. Every energy expert in the country who

is not affiliated with an oil company or not in the nuclear field, looking at it in any degree of objectivity will tell you, if we are serious about something happening in 5 years, then we are talking about biomass energy.

Thank you, Mr. Chairman.

Mr. WEAVER. Thank you, Mr. Fithian, for the summary of your prepared statement.

Without objection, your entire statement will be placed in the record.

I just want to say that that is some of the very best testimony I have ever heard. You go to the very heart of this issue.

I feel that this Congress, by voting these tens of billions of dollars for energy sources that are the old, conventional types that will take 10 or 15 years to get on line, when we have got these materials ready to go, is mind-boggling.

What I wanted to do with my slash bill was just what you said: Action-forcing, to start changing the Forest Service in our baliwick, to start using this wood.

But our problem is this whole institutional energy situation we have. I just want to give you an example. And I would like very much the Assistant Secretary to hear this story because it is not just the Forest Service or the forest industry that is not using renewable resources for energy.

The largest lumber mill in my district employs 5,000 people. It is now producing 40 megawatts of electricity for its own use. That is a lot of electricity. That is a town of 25,000 people. It could produce another 50 to 100 megawatts of firm power—that is an enormous amount of power—by using the wood waste in the forests today. And this man is an expert. He knows exactly what his costs are and everything else. He says: I can do it at one-third the cost of nuclear power. And we are spending billions of dollars in the Northwest building nuclear plants. Yet, this man and all the other lumber mills could be producing it at one-third to one-half the cost of nuclear power.

But the local utility that is building these nuclear power plants won't buy it from him—it is just incredible.

So, I want to say that your testimony is piercing. One line in your testimony on page 4: You say that biomass is a major ongoing energy supply option, not a minor resource of little immediate use.

That is how it is perceived in this Nation by our energy establishment and the people, too, because they have been told that: that it is just a minor little dib-dab.

Actually, it has more potential than the sources we use today.

I want to thank you for saying that and having that insight.

Mr. FITHIAN. There are a couple of reasons for that. Every night we are told by Amoco that our future lies with them.

I am not against drilling for more oil, but I would today challenge any Government official, any member of the Department of Energy, any member of the U.S. Department of Agriculture, any Congressman, any Senator, to compare the dollars that we are now spending on any other form of energy.

The dollars that we committed in the synthetic fuels bill—and I voted for the bill; and I am not against nuclear power—but I will chal-

lenge anybody in any industry to compare on a dollar cost-benefit return plus any calendar return that they could find anything that is half as cost-benefit efficient. If they can find something that is one-half as cost-benefit efficient as this, I will subsidize. But I have not seen any of those figures, and no one that I know of in the whole energy field could sustain that argument.

Biomass energy is at least twice the opportunity as any other form of energy today.

Mr. WEAVER. Thanks very much Floyd for a very valuable contribution. I will be working closely with you. We have got to pass something out and start what you said: Forcing action in the field on utilization of our wood wastes and other biomass energy because wood has the greatest potential. It is not that minor little thing that they think it is.

Thank you very much for coming.

Mr. FITHIAN. Thank you, Mr. Chairman.

With your permission, since I am very interested in this field, I would like to sit in with the subcommittee the rest of the morning and hear what others are saying.

Mr. WEAVER. It will be a pleasure.

[The prepared statement of Mr. Fithian follows:]

PREPARED STATEMENT OF HON. FLOYD J. FITHIAN

I would like to thank you, Mr. Chairman, and the members of this subcommittee for the opportunity to testify before you here today on two pieces of legislation I am sponsoring in the House dealing with biomass energy, H.R. 5428 and H.R. 5397.

The fact that this subcommittee is holding these hearings today is tremendously encouraging to me, not only because you've asked me to testify about my bills, but also because these hearings tell the public something about how we in Congress are dealing with our energy crisis. Together with the action the full committee took on the Bedell bill last month, these hearings demonstrate that we now understand the fact that every sector of the economy--including agriculture--has a role to play in solving its own energy problem.

As study after study has shown over the past five years, there is no single painless quick fix for our energy problems forthcoming from any source. To quote from one of the most recent, the Harvard Business School's respected study Energy Future,

"there is little reason to expect conventional alternatives to make a sizeable contribution to reducing our dependence on imported oil. These energy sources--domestic oil and gas, coal, and nuclear power--as a group can increase their contribution to cover, at most, one third to one half of the nation's additional energy needs over the next decade."

Forestry and the forest products industry--like agriculture as a whole--must begin to look to its own considerable resources to find energy for the future. That is what we're talking about here today.

Our Goals

In July, 1978, Agriculture Secretary Bergland outlined the Department of Agriculture's energy goals in testimony before the Senate Agriculture Committee. Those goals, reiterated by the U.S. Forest Service in testimony before this subcommittee last year, included net energy self-sufficiency by 1990 in forestry production and processing under conditions that sustain productivity. A more ambitious goal--that of achieving 20% of the country's energy needs from solar and renewable resources (including biomass) by 2000--was declared by President Carter in his June 20, 1979, message on solar energy.

These are ambitious, but achievable goals; goals which have broad support among our people. The question we must ask ourselves as legislators is whether present policies and institutional arrangements in the agencies over which we have jurisdiction will allow us to achieve these goals.

U.S.D.A.'s Response

My own evaluation is that we will miss the mark by a wide margin unless we organize and energize these agencies to meet the challenge. In the case of our committee, I'm talking about the Department of Agriculture and in the case of this subcommittee, I'm talking about the Forest Service.

No agency in the federal government has more abundant resources or greater administrative capability to research and implement energy programs affecting rural America than U.S.D.A. Its network of agency offices in virtually every county throughout the country has a credibility among rural citizens which the Energy Department can never achieve. Its effectiveness in carrying out policy has been demonstrated. With its long history of administering agriculture and forest research and development programs, production incentives, and soil and water conservation projects, U.S.D.A. has the potential to adapt its technical and management capability to biomass development. In fact, the Department of Agriculture's responsibility for agricultural and forestry programs intersects the Department of Energy's responsibility for biomass energy development.

On balance, biomass energy research, development, and demonstration receives a low emphasis at U.S.D.A. Aside from the President's call last summer for a careful review of all solar and renewable energy technologies by government agencies, the department has no strong energy mandate. D.O.E. has been designated the lead agency for energy-related activities. Moreover, U.S.D.A. has an understandable tendency not to undertake or fund work relating solely to energy; U.S.D.A. is reluctant to burden its limited research and development budget and staff resources by taking on new energy-related projects.

Those biomass energy activities which the Department has undertaken, with some exceptions, have no clear direction or mission. Although an Office of Energy was recently formed to coordinate aspects of the Department's energy activities, no well-established biomass development strategy has emerged. The role of the Office of Energy appears to be that of monitoring and implementing rather than that of a coordinating office. A new solar/biomass program established in FY 1980 may give the Energy Office somewhat more leverage in directing U.S.D.A.'s biomass development effort, but the fundamental problems hampering the office's coordinating ability will not disappear with the establishment of this program.

Because biomass energy development is inextricably tied to agriculture and forestry policies, and because the food and fiber sectors of the economy affect the economics and availability of bioenergy, the Department of Energy and the Department of Agriculture have common areas of interest and responsibility. Despite overlapping jurisdictions and similar programs, however, virtually no substantive coordination or program planning has taken place between the Department of Energy and the Department of Agriculture.

There are indications that DOE/USDA coordination and cooperation may improve in the future, however, and recent inter-agency agreements set forth a more explicit biomass development role for both. U.S.D.A., for example, is expected to receive a significant portion of the D.O.E. biomass budget (Fuels for Biomass Program) via pass-through funding, for the purpose of administering some biomass development projects. H.R. 5428, my Biomass Research and Development Act, uses just such an action-forcing mechanism for U.S.D.A./D.O.E. cooperation and coordination. Although these agreements constitute a significant change in the way the federal government's biomass programs have been administered, serious obstacles remain. The dissimilarities between the functions of these agencies can make effective coordination exceedingly difficult, a factor we must constantly bear in mind when we legislate in this area.

Of special interest to this subcommittee are the biomass programs within the U.S. Forest Service. The Forest Service has at its command substantial economic and institutional mechanisms capable of facilitating the use of wood for energy. The agency has given little impetus to wood energy development in the past, however, despite sufficient statutory authority to do so.

A Wood Utilization and Energy Application program has been recently initiated which, in part, is to promote the development of wood energy. The program was initiated to improve forest lands management through commercial use of wood for pulp and paper products and energy. The program, however, is a low priority effort within the agency.

During your own excellent hearings on the Wood Residue Utilization Act of 1978 last year, you heard testimony from a number of witnesses on what the Forest Service was doing and, more importantly, not doing, to encourage better energy utilization of wood slash, mill wastes, and other residues of commercial lumbering operations.

Since then, the President has ordered the Forest Service to undertake a demonstration project to demonstrate the feasibility of combined fuelwood production/stand treatment activities in New England. This was part of the Administration's June 29th Solar Message. I'm sure that you will want to ask the Forest Service about the progress they've made since June on that program and why they could not have implemented it earlier using their existing legal authority.

Congress should make it clear to the Forest Service that energy production from wood wastes is a high priority of the federal government, complementing--not conflicting with--the agency's important conservation and resource development missions.

I believe that testimony received at the hearings this subcommittee held in connection with H.R. 13324 (Weaver bill) last year demonstrate that this is not wishful thinking, but an established fact. Witness after witness testified to the potential economic and environmental benefits to be gained from energy utilization of wood wastes in this country during these hearings. To summarize, developing new markets

for previously unusable wood wastes could mean more income for the wood products industry. Stand treatment activities aimed at energy production and increased productivity could, in the long run, mean more income for woodlot owners, reduced production costs, and increased lumber supplies. Fuel use of slash--forestry wastes otherwise burned in the field--might well reduce air pollution and allow previously uneconomical timber to be commercially harvested. Finally, every ton of wood wastes the forestry industry itself uses to fuel its manufacturing processes means one less \$23.00 barrel of imported oil it will have to buy and its customers will have to help pay for.

Assumptions

Every piece of legislation we introduce in Congress reflects our own assumptions and goals. I would like to make these as explicit as possible.

Regarding biomass energy technology, H.R. 5428 and H.R. 5398 assume:

First, that biomass is a major, ongoing energy supply option with short term dividends, not a minor resource of little immediate use.

Second, a federal investment in research and development of biomass is perhaps the best energy investment we can make. Few other energy technologies offer the promise of such a prompt return on our research and development dollar.

Third, most of biomass' near-term (up to five years) potential rests in the use of agricultural residues, forestry wastes, and wood for direct combustion.

Fourth, liquid synthetic fuels, including alcohol, can be obtained from biomass feedstocks using familiar processes which can provide economical substitutes for gasoline and diesel fuel.

Regarding the role of the Forest Service, H.R. 5428 and H.R. 5397 reflect the belief it should:

First, develop research programs on all aspects of wood as a potential energy source.

Second, that it should formulate technology transfer activities with respect to collection, transport, processing, and utilization of forest biomass, unused mill residues, and urban wood waste.

Third, that it should formulate environmental criteria to help increase removal of wood biomass from the National Forests in order to encourage using wood for energy.

Fourth, that it should cooperate with D.O.E. and other federal land management agencies, State and local governments, and with the concerned private sector in efficient use of wood for energy.

Fifth, that it should adopt programs to encourage homeowners to use more wood from National forests.

Sixth, that it should develop improved cost-effective silvicultural treatment methods in hardwood stands by encouraging the use of thinning and commercial harvest of waste and residues for fuelwood.

Summary of Biomass Research and Development Authorization Act (H.R. 5428)

The Biomass Research and Development Authorization Act seeks to roughly double the size of Federal expenditures for biomass research, development, and demonstration for FY 1980. A total of \$75.6 million would be added to biomass development programs administered by the Department of Energy (D.O.E.) and the Department of Agriculture (U.S.D.A.) for fiscal year 1980, as illustrated by the following chart:

	Added fiscal year 1980 budget authority ¹
Department of Energy	
Conservation and Solar ²	\$19.8
Energy Technology ²	30.4
Department of Agriculture.....	<u>25.4</u>
Total.....	75.6

¹Figures in millions of dollars

²Biomass programs within the Department of Energy are split between the Assistant Secretary for Conservation and Solar Applications and the Assistant Secretary for Energy Technology.

I note for the record that Chairman Ottinger of the House Science and Technology Committee, Subcommittee on Energy Development and Applications, is holding comprehensive hearings on this bill later today. I am including a complete section-by-section analysis of the bill with my testimony.

Of particular interest to this subcommittee are sections 202-203.

Sec. 202. Commercialization--Authorizes a total of \$8.4 million to provide additional support to U.S.D.A. and D.O.E. efforts to commercialize a wide range of biomass technologies.

Although D.O.E. recently chose wood combustion and gasification as being ready for commercialization and has designated a resource manager to oversee the commercialization program, almost no funds or staff have been allocated to this program. Moreover, D.O.E. has taken a narrow view in choosing only wood combustion as a commercially feasible biomass technology. For these reasons, \$8.4 million is earmarked for a comprehensive commercialization activity supporting a host of near-term bioenergy applications including fermentation, gasification of forest and agricultural residues, and direct combustion in utility and industrial applications. This program will complement the technology development effort contained in Section 102 of this act. The Department of Agriculture would be directed to give special attention to integrating commercialization initiatives with the Department of Energy and at least \$4.4 million should be passed through to D.O.E.

Sect. 203. Forest Resource Utilization Research and Development--Authorizes a total of \$17.0 million to establish energy-related markets for residues resulting from conventional forest harvest and stand treatment operations. Low cost harvesting equipment will be developed and demonstrated capable of removing non-merchantable and merchantable biomass from a variety of forest regions. Particular attention will be given to integrating forest and energy programs and policies and bringing the potential wood supplies together with potential wood fuel users in the private sector. At least \$8.0 million will be passed through to the Department of Energy for joint commercialization activities. The Forest Resource Utilization Research and Development program is to dovetail with the Commercialization program (see Sec. 202 above) by focussing developing and implementing a forest waste and residue supply infrastructure.

As you will note, Mr. Chairman, the goals of section 203 are very similar to those of your own Wood Residue Utilization Act. Section 203 does, however, contain a specific action-forcing mechanism--pass-through funding--to insure cooperation and coordination in this effort with the Department of Energy. This mechanism would, hopefully, ensure that the program was administered in such a way as to be responsive to both energy and forestry concerns.

Summary, H. R. 5397, The Agricultural, Forestry, and Rural Energy Act of 1979

The Agricultural, Forestry and Rural Energy Act of 1979, H.R. 5397, would establish the Department of Agriculture as the lead agency in the federal government for the development and production of alternate fuels from biomass, and for research, extension and conservation activities related to agriculture, forestry and rural energy. The goal of this legislation is to reduce by 50 percent the amount of petroleum and natural gas used by rural residents and communities by the year 2000.

The bill:

- 1) Designates the USDA as the lead agency in the federal government for the development and production of alternate fuels from biomass, and for the research, extension and conservation activities related to agriculture, forestry and rural energy.
- 2) Directs the Secretary of Agriculture to establish an Agriculture, Forestry and Rural Energy Board to assess agricultural, forestry and rural energy needs and resources, and to develop the agricultural, forestry and rural energy production, use and conservation program.
- 3) Directs the Secretary of Agriculture to implement the agricultural, forestry and rural energy production, use and conservation program to enable the U.S. to meet the goals of net energy independence for agriculture and forestry, and a 50 percent reduction in petroleum and natural gas use by rural residents and communities by the year 2000.
- 4) Provides for applied research and extension programs at the state level as follows: a) Authorize annually \$50 million solely for the purpose of applied research at state agricultural experiment stations; b) authorize annually \$50 million for cooperative extension work, including on-site demonstrations of techniques by which farmers and owners of forest land may produce their own energy supplies, minimize energy consumption per unit of production, and reduce energy consumption of rural residents, businesses and communities.
- 5) Establishes four Wood Energy Centers, each in a different region of the nation, in areas where there are large amounts of private forest land. Where feasible, each center would be located at an existing forest research facility of the USDA. Each center would perform research, provide technical assistance, and operate demonstration projects, relating to wood energy production and use, and energy use and conservation

in rural areas within the region. Thirty million dollars would be authorized annually for the operation of these centers.

- 6) Requires the Secretary of Agriculture to establish a wood energy production cost sharing program and enter into agreements with owners of non-industrial forest land (1,000 acres or less) to share the cost of forest management practices that increase the production of wood energy. In return for the agreement by the landowner to implement practices contained in an individual forest management plan, the Secretary would agree to share up to 75 percent of the cost of implementing the practices.
- 7) Establishes a 5-year pilot program under the Secretary of USDA in which loans would be made to owners of 5,000 acres or less of private forest land to support forest management practices designed to increase the production of wood. No loan or loan guarantee could be made in excess of \$50,000 to any one landowner.
- 8) Authorizes grants to state forestry agencies for additional state foresters to provide technical assistance to forest landowners in producing wood for energy, and authorize the Secretary of Agriculture to provide training programs and management planning assistance to state foresters on state programs relating to the production of wood for energy. Up to \$8.5 million could be made available for such assistance.
- 9) Establishes permanent state advisory committees in each state in which there are significant amounts of non-industrial private forestland. These committees would be responsible for advising the Secretary and state foresters on the effectiveness of federal programs designed to assist landowners in producing wood for energy, and to determine the potential for development of markets for wood energy.
- 10) The Secretary would be authorized to make loans to establish fuelwood concentration and distribution centers that make fuelwood available to homeowners. Ten million dollars would be authorized annually for each of five fiscal years.
- 11) Requires the availability of wood and its wastes and residues, from the National Forest System, to assist in the research, field-tests, and demonstrations. Timber resources of the National Forest System would be made available to commercial enterprises established with loans and grants.
- 12) Establishes four Agricultural Biomass Centers, each in a different region of the nation, and in areas where there is intensive use of the land for agricultural production. Where feasible, each center would be located at an existing agricultural research facility of the USDA. Each center would

- perform research, provide technical assistance and operate demonstration projects relating to agricultural biomass energy production, use and conservation in rural areas within the region, and train extension personnel to conduct agricultural biomass energy workshops. Thirty million dollars would be authorized annually for these centers.
- 13) Directs the Secretary of Agriculture to implement a workshop, training, information dissemination and technical assistance program on small-scale agricultural biomass energy production for farmers and rural residents and communities. The program would be conducted by state extension services in areas in which there is intensive use of the land for agricultural production. To the extent possible, at least 100 workshops would be conducted annually.
 - 14) Directs the Secretary of Agriculture to make loans for on-farm commercial projects for the production or use of energy from agriculture commodities and forest products and for rural energy conservation. The total amount of grants for projects in any one state could not exceed \$10,000,000 in any fiscal year. The total amount of loans made or insured in any fiscal year may not exceed \$250 million. Not less than one-third of the total could be used for projects that use wood or wood wastes, and not less than one-fourth of the total could be allocated for small-scale production facilities. The total amount of loans guaranteed in any fiscal year could not exceed \$1 billion.
 - 15) Authorizes the Administrator of the Rural Electrification Administration to make grants demonstrating alternate energy and conservation technologies, including but not limited to, small-scale hydropower, geothermal, fuel cell, wind, solar, wood, peat and other biomass projects. Ten million dollars would be authorized for FY80, \$20 million for FY81, \$25 million for FY82, and \$30 million for FY83.
 - 16) Directs the Secretary of Agriculture to provide financial assistance to agricultural producers for the purpose of encouraging energy conservation by sharing the costs and providing technical assistance.

THE AGRICULTURAL, FORESTRY AND RURAL ENERGY ACT, H.R. 5397: A COMPARISON TO THE FOREST FUEL UTILIZATION ACT, H.R. 5220 (Weaver bill)

While both H.R. 5397 and your bill, Mr. Chairman address the problem of increasing the production and use of wood for energy, H.R. 5397 expands our nation's commitment by not only authorizing pilot projects, but by developing a comprehensive national program to encourage the development, production, and use of wood and other biomass for energy, as well as encouraging energy conservation.

The Agricultural, Forestry and Rural Energy Act coordinates our government programs which assist in the development of biomass from all sources. The main advantage in structuring biomass research, development and use in such a manner is that one federal agency would be in charge of ensuring that there was no duplication of programs and that all programs contributed to the final goal of energy independence for agriculture and forestry.

The two bills I have discussed in my testimony here today are admittedly ambitious proposals. But as I have noted in my testimony, we need ambitious programs to meet the goals already established by the President and Secretary Bergland. Anything less would doom us to failure in this important undertaking.

Mr. WEAVER. The Chair would like to call the distinguished gentleman from New Hampshire, Norman D'Amours, another leader in the Congress trying to make some sense out of our energy policy.

Norman, please proceed.

STATEMENT OF HON. NORMAN E. D'AMOURS, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF NEW HAMPSHIRE

Mr. D'AMOURS. Thank you, Mr. Chairman. I would like to reciprocate by thanking you for holding these hearings and, hopefully, expediting this matter through to markup and on to the full committee.

I hope you realize how humbling it is to follow the very best testimony you have ever heard. I cannot match it, but I will try to complement it.

Mr. Chairman, while many have argued that this upcoming presidential primary season is going to generate enough heat to warm our Nation's homes all winter, I am heartened to see that you are taking a longer view and demonstrating your concern in this matter. In New England, we have not been idle. Our region needs to reduce our 80 percent dependency on oil, 80 percent of which is foreign. That has inspired our bipartisan Congressional Caucus to create a New England Energy Congress. We did that last May.

After deliberating for a full year, that Congress reported in June of this year. The congress is composed of 120 energy experts, all with diverse backgrounds in energy and not all seeing eye to eye on what proper course we should follow.

Last June they did report that wood energy was the most abundant and the most readily available resource suitable to reducing our dependence on foreign imports. The final report of the energy congress, called a "Blueprint for Energy Action," exhorted Congress, the Department of Agriculture, and the Department of Energy to act upon some 15 specific recommendations designed to overcome barriers that are thwarting the desirable utilization of wood energy.

It is unfortunate that we do not have national statistics on wood energy as detailed and as precise as the regional report gave us for the New England region. But what is available on a national level clearly bears out the New England Energy Congress' findings on the attractiveness of wood energy. The Booz-Allen report, which is, as you know, a DOE-sponsored study of wood energy, determined that national supplies of wood fuel represented a potential of 9 quads annually. As you know, it is about 12 percent of the energy this Nation used in 1978.

More interestingly, though, that study found that those 9 quads could be increased considerably by supplies that would result from improved forest management techniques.

In New England, the Energy Congress found that by the 1990's, we could be getting half a quad annually from wood. That is equivalent to 80 million barrels of oil and represents 12 percent of New England's total energy consumption and represents a 12-fold increase over 1978. The three northernmost States of New England—Maine, New Hampshire, and Vermont—could eventually displace almost half—40 to 45 percent—of our current oil usage, 80 percent of which is imported.

These statistics I have just been citing are New England-specific. But the Southeast, the Pacific Northwest, the Mid-Atlantic States, the North Central States have similarly vast untapped resources in wood. So, I do not think it is a regional thing. I think it is just a question of these statistics probably holding true nationwide or at least in a number of regions in our country.

The irony is that, with all of this supply and with all of this potential—Mr. Fithian has referred to it and I know you, Mr. Chairman, are aware of it and have referred to it—supply is not nearly meeting demand. A cord of wood in New Hampshire last year was about \$50 to \$60, and I suppose that varied depending on where you were. Now it is about \$75 to \$80, and it is going to go up to about \$100, experts say, by the end of the winter.

Public assistance is required because the wood energy is hamstrung by a variety of factors that prevents the market from operating. Landowners do not understand the economics of the fuelwood and timber markets, the technologies available for harvesting and the principles of forestry management. Small industries and utilities cannot be assured of long-term supply contracts they need because the supply infrastructure is so chaotic.

These problems are all exacerbated because the wood resource is frequently dispersed and for the most part is owned by many individuals, each owning a relatively small parcel. Therefore, there is no natural connection between the source and the market.

The only expertise available to the small landowners is public foresters. This corps of foresters has provided an admirable service over the years, but it is severely undermanned and schedules of individual foresters are backlogged as much as a year. There have been studies showing even these foresters are not fully educated and appreciative of the role proper forest management can and should play in our battle to provide renewable energy resources.

So, with these challenges, I introduced H.R. 4313, the Forest Fuel Utilization Act. I hope this subcommittee will incorporate it into the Fithian bill, which, hopefully, you will be marking up soon.

In my opinion it complements the Fithian bill. I believe Floyd's bill is an extremely important step in advancing the state of the art in biomass conversion. It is comprehensive; it is innovative. My bill is not terribly innovative, frankly; but it is critical to the overall purposes of H.R. 5428, Mr. Fithian's bill. Our efforts to encourage and facilitate the production of biomass energy cannot overlook the needs of potential contribution of woodlot owners, and I know Mr. Fithian does not want to.

We address those needs in my bill in the following ways: \$6.5 million is provided for assistance to States in hiring public foresters in areas particularly with high underutilization of growth and high dependence on oil. The moneys are distributed through the existing rural forestry assistance program because that program is already in place and, as I said, is an effective mechanism, and there is no need to change it.

By the way, this \$6.5 million is probably conservative and low because the Talmadge bill that Mr. Fithian referred to and that he now incorporates into his bill accomplished the same purpose as this, increasing foresters, but at a price tag of \$8.5 million—\$2 million more.

My bill directs the Secretary of Agriculture to provide educational opportunities to foresters so they may be more prepared to appreciate the potential and benefit of wood energy and to pass this on to the people they serve and to coordinate the efforts of the Department of Energy and the Department of Agriculture, as Mr. Fithian does, but also the Small Business Administration. That is going to be handled in the Small Business Committee, I know. It has been referred to that committee, and we are pushing for them to move on it.

But there is a need. And I would appreciate anything this committee can do to spur that need to coordinate SBA efforts because repeatedly the problems confronted by small wood growers and marketers stem from a lack of business expertise as well as a lack of knowledge of wood energy. Under my bill, SBA would be directed to develop a plan to increase informational and financial assistance to woodlot owners and woodfuel distributors. There is a lack of activity in this area today.

The other thing my bill does is survey woodlot ownership on a State-by-State basis. The figures currently used by the rural forestry assistance program are outdated. Therefore, the distribution pattern is distorted. Accurate updated information is needed.

In conclusion, Mr. Chairman, I believe it is important that we look into the advantages of wood energy because it offers us an opportunity to supply energy through a framework of small independent landowners and small businessmen, which is sorely lacking today. We cannot ignore the needs of these people.

I urge you to report out this bill as a section or sections of Mr. Fithian's bill. With proper attention to wood management and harvesting on the grassroots level, we can improve the quality of our overstocked forests while meeting our short-term wood energy objectives. Without it, Mr. Chairman, we can look forward to continuing the patchwork of underutilized stands, overharvested stands and frustrated wood energy potential.

Thank you for the opportunity.

Mr. WEAVER. I want to thank you. You have given me the resolve, with your forceful testimony, to go ahead full-bore. I certainly intend to mark up my bill and yours.

I do believe that we should perhaps incorporate my bill and your bill together and send them out as one package and, at the same time, mark up Mr. Fithian's bill; but his is going to go to other committees.

We want to get some action going now.

Mr. D'AMOURS. That is an excellent idea, however it is handled. I think all of the bills, however many there are, are very complementary. Whatever expedites the process is certainly to be encouraged.

Mr. WEAVER. I would like to get as much passed as possible. If the other subcommittee members feel the same way, we will proceed on all these bills as fast as we possibly can.

There is an important vote in the House right now on hospital cost containment.

Mr. D'AMOURS. Thank you, Mr. Chairman.

Mr. WEAVER. We will recess for a few minutes.

[Recess taken.]

Mr. WEAVER. The subcommittee will be in session.

The chair would like to call the Hon. Rupert Cutler. He is assisted by Mr. Doug Leisz, deputy chief of the U.S. Forest Service; and Dr. Weldon Barton, director of Department of Energy, U.S. Department of Agriculture. I welcome all of you and look forward to your testimony.

STATEMENT OF M. RUPERT CUTLER, ASSISTANT SECRETARY FOR CONSERVATION, RESEARCH, AND EDUCATION, U.S. DEPARTMENT OF AGRICULTURE, ACCOMPANIED BY WELDON BARTON, DIRECTOR, OFFICE OF ENERGY, AND DOUGLAS LEISZ, DEPUTY CHIEF, U.S. FOREST SERVICE

Mr. CUTLER. Thank you, Mr. Chairman. We are pleased to be here again, to offer the views of the Department of Agriculture on wood utilization, on wood energy programs, and on the several bills which would authorize expanded USDA activities in these two areas.

First: Dr. Weldon Barton, director of our Office of Energy, will describe how we view the initiatives covered by the legislation before this subcommittee as fitting into the Department's and the President's overall energy programs. He also will comment on H.R. 5428, on which he will testify before another subcommittee this afternoon. Upon the conclusion of Dr. Barton's testimony, I will explain how our wood utilization efforts for energy and other purposes fit into our overall forest research and management program. I will present the Department's views on H.R. 5220, the Wood Utilization Act of 1979, and the other pending bills. Dr. Barton.

Dr. BARTON. Thank you, Rupert.

Mr. Chairman, I have a statement that I would like to submit for the record at this point and then just summarize it, if I might.

Mr. WEAVER. Without objection, so ordered. Please proceed.

Dr. BARTON. Mr. Chairman, we view the wood energy activities and program of the Department of Agriculture as an integral part of the overall biomass energy program of the Department. It is supportive of the President's overall program of producing additional energy, including the goals of producing and conserving the equivalency of 4.5 million barrels of oil by 1990.

Congressman Fithian mentioned in his testimony earlier this morning the specific goals that Secretary Bergland has set for 1990 to complement the President's goals and to support the President's goals in this particular area. In agricultural production and forestry production and processing we have set a goal of achieving net energy self-sufficiency by 1990 under conditions that would sustain productivity and maintain other objectives.

We consume now, Mr. Chairman, about 6.7 percent of our total U.S. energy consumption in the agriculture and forestry sectors. That is about 5.2 quadrillion Btu's. We are now producing from wood and wood residues about 1.3 quads of energy. We estimate roughly that we would need to produce about 4 quads of additional energy from agricultural and forestry sources to meet that goal of net energy self-sufficiency by 1990.

We would emphasize that, in aiming at this, we would rely primarily upon our existing authorities and build upon existing authorities of the

Department of Agriculture. These would include the extensive technology transfer programs through the Forest Service, through the Cooperative Extension Service and others, carrying out pilot projects and pilot programs, using contracting authorities of the Forest Service and other agencies, and direct financial incentives to foster adoption through the Farmers Home Administration, ASCS, and other agencies.

We do not have at this point, Mr. Chairman, clearly specified the part that wood energy and biomass would make up of our overall effort to achieve these 1990 objectives. It is clear, however, that wood would be the primary material or certainly a primary material in meeting this goal.

We have some additional analysis ongoing within the Department at this time. We hope that, by the end of the year, we will be able to specify a bit more precisely the delineations between residue materials, agricultural materials, forestry materials, and so on related to this goal of net energy self-sufficiency by 1990—with an important caveat, of course, that economics will be the determinant in the final analysis. Of course, we have limited leverages and limited authorities in the Department, and we are never going to be able to be totally precise in terms of how you achieve these objectives and, for that matter, whether they can be achieved within that timeframe.

I am skipping over my prepared statement to where we list a number of initiatives, pilot projects, demonstration projects, and so on that we have ongoing in the wood energy area in the Department of Agriculture. First, USDA, primarily through the Forest Service is establishing a number of demonstration projects for use of wood as a fossil fuel substitute. These demonstrations are encompassing and will encompass a variety of uses of wood energy including space heating for homes and buildings, industrial uses, electric generation, cogeneration. These demonstration projects are being carefully selected for their potential economic feasibility.

We mention one particular project, the Blue Mountain project in Oregon, where wood killed by insect infestations is being removed under a joint DOE/USDA project and is being turned into chips and marketed to local industries for boiler fuel.

We would like, Mr. Chairman, to submit for the record a full list of the ongoing wood energy projects in this context that the Forest Service has along these lines.

Mr. WEAVER. I would like to have them. Without objection, so ordered.

Dr. BARTON. Second, there is a wood energy pilot project that was alluded to by Congressman D'Amours earlier involving ASCS and the Forest Service, which was begun in April 1979. At that time it was in three counties in each of four New England States. Last month, Secretary Bergland expanded that fuelwood program to essentially all of the counties in the six-State New England area.

This pilot project pays for all of the cost of the woodlot owner for technical assistance that is needed to draw up a 10-year management plan and for the marking of the existing stands of timber for selective cutting for fuel use. The project also pays out of ACP funds of the Department of Agriculture 75 percent of the cost of building access roads, if necessary, to get the wood out of the woodlot.

The expanded pilot program that was announced by the Secretary last month, we estimate, will result in the cutting of about 259,000 cords of wood. It will cost about \$1.4 million of ACP moneys. It should replace enough oil and heating oil to comprise a value of about \$11.2 million.

I would emphasize, Mr. Chairman, that the primary, long-term purpose of this fuelwood program is not so much to get the wood cut and used for fuel use but, rather, to try to make sure that the residual stands of timber are protected and that we do not cut the wrong types of trees at the wrong time and that we have a longer term management plan that will protect the forest on a self-sustaining basis.

We hope to have a full-scale information program revolving around this fuelwood pilot project for dissemination of information so that the private sector is encouraged to assume responsibility for similar practices in other areas.

In addition, we have a pilot project that USDA has tentatively approved for a loan guarantee of just under \$7 million to a small firm in Langhorne, Pa. The firm, Enerco, Inc., will manufacture and place at several diverse locations mobile units that are designed to convert forestry and agricultural residues into low-Btu gas, oil, and charcoal for fuel and other uses. Each of these mobile pyrolysis units is expected to produce 60 tons a day of gas, oil and charcoal, with an energy content of about 1 billion Btu's.

The TVA has bought the first of these units from Enerco and is now testing and modifying it. We would expect that our loan guarantee would come into place as soon as that unit has been fully tested and modified and ready for reproduction so that it can be located on a commercial basis in various locations.

Another pilot project tentatively approved by USDA for loan guarantee in the wood area would support the construction by Guarantee Fuels, Inc., a Kansas firm, for two plants in North Carolina to refine forestry and agricultural residues into fuel pellets for direct burning in industrial boilers.

The plants would be constructed sequentially with one in Rowan County first. If it proves viable, then a second one will be in Northampton County. The project is designed to convert daily about 1,200 tons of wet agricultural and forestry residues into 600 tons of homogeneous, transportable, storable fuel pellets for direct combustion.

The project includes provision for a burner mechanism to be installed at textile mills, brick manufacturing plants, and other industrial applications which will enable rather easy conversion of those plants from oil or gas to the wood pellets. The technology of this project has the potential for widespread application, we think, where a clean-burning fuel is desired as a substitute for oil or gas. The loan guarantee that would be involved in this case is just under \$6 million.

I would reiterate, Mr. Chairman, that in our overall wood energy program we intend to emphasize existing authorities and to work from within the existing agencies—obviously, the Forest Service, Farmers Home Administration, REA, SEA, and others. A pilot project involving the use of future timber sales contracts for the removal of wood volumes in addition to the primary products, as you provide in your bill, H.R. 5520, we think, is the type of approach that we have got to use, building upon the existing authorities of the Forest Service if

we are going to have a substantial program of the type that the Secretary's goals would call for.

Mr. Chairman, I will read the last paragraph on H.R. 5428.

With regard to H.R. 5428, the "Biomass Research and Development Authorization Act of 1979" which is pending before the subcommittee, the Department of Agriculture fully supports the concept of expanded research and development on biomass energy as evidenced by the joint efforts of the Department of Energy and the Department of Agriculture. The USDA is currently working with DOE to finalize a program memorandum on biomass energy under which the USDA will provide management for the production and supply efforts of certain portions of the DOE biomass program, and will provide project development and management for the small-scale technology development program for on-farm uses of anaerobic digestion and alcohol production. This funding passthrough with DOE will include an emphasis upon forestry biomass. It will involve about \$12 million of fiscal year 1980 moneys and will be signed by the end of this calendar year. We are convinced that joint efforts of DOE and USDA in the biomass area which draw upon the combined strengths of both agencies are most productive, and we do not believe the need for enactment of additional legislation is demonstrated at this time.

In any case, we would like to sign off this document and get that as a basis for any further consideration.

Mr. Chairman, this concludes my statement. I will turn it back to Dr. Cutler.

Mr. WEAVER. Thank you, Dr. Barton.

I understand that the Office of Management and Budget had some problems with your testimony. Could you tell me what their concerns were?

Dr. BARTON. Mr. Chairman, we always, of course, work through the OMB for full clearance of our testimony. I don't think there were any particular serious problems. There was a concern that we have had throughout this effort that we have a combined, efficient, coordinated program of developing new fuels and that we coordinate the biomass efforts with our efforts in synfuels otherwise and that, therefore, we use the most efficient means possible—

Mr. WEAVER. Fine, but what in particular did they object to?

Dr. BARTON. I think this, in essence, states, Mr. Chairman, that there is a concern that we have a fully coordinated effort, and that we need not overstate our potentials.

Mr. WEAVER. That's exactly what I thought. You know, it's billions, tens of billions for synthetic fuels and a few scrappy millions for developing what Congressman Fithian correctly and appropriately said is a far greater potential. That is exactly where we stand with our energy policy in this country.

I compliment you in your testimony. The list of pilot programs is impressive. I find that most of them are in the East, which, in one way, is appropriate; they use the foreign oil.

But may I point out two things just as examples? You mentioned the pellets. We have been producing those clean-burning wood pellets 10 miles from my home now for 3 or 4 years—producing and selling them for fuel.

I would appreciate your people learning, if they do not already know, about the process developed there. It is long past the pilot stage.

Again, what you are going into are pilot programs. In my district we have enormous and staggering amounts of wood waste—large chunks of wood left in the forest.

I have an excellent young businessman in my district, Larry Simmons, who together with some other loggers need \$1 million or so to get the used equipment needed to bring enormous amounts of this slash out of the forests. He has been doing it and profitably, but he cannot get the money to expand. The SBA won't give it to him. The Farmers Home Administration won't give it to him. The USDA won't give it to him. DOE won't give it to him.

It's right there being wasted, lying and rotting, and the forests are being burned. He can take it out and sell it at a profit to my local utility which is burning it, but he can't get the money.

So, we don't really need all the pilot programs. We need, as Congressman Fithian again says, forced action. We need to go.

I understand in many of these areas we must be careful and know what we are doing. I completely agree. But there are some areas we can move on swiftly right now.

Thank you, Dr. Barton.

Dr. BARTON. We are certainly aware of the activities in wood pelleting that are going on in Oregon. I have had an opportunity to visit the Oregon State facilities, where that work is going on. I have not visited the wood pellet plants out there, but in the project that we are talking about here, recognizing that the technology is there, we are just trying to help get it extended in other areas.

We are certainly in concert with you about getting some action in the other area that you referred to. I think this is related to the wood utilization bill that Dr. Cutler is going to speak on.

Mr. WEAVER. Since you do represent the U.S. Department of Agriculture—something that few people down there seem to realize, and certainly the people of this country don't realize, is that right now we are paying more in the spot market for oil to produce a bushel of corn than we are selling that bushel of corn back to them for.

Dr. Cutler, please proceed.

STATEMENT OF M. RUPERT CUTLER, ASSISTANT SECRETARY FOR CONSERVATION, RESEARCH, AND EDUCATION, U.S. DE- PARTMENT OF AGRICULTURE

Dr. CUTLER. Thank you, Mr. Chairman and Mr. Fithian.

It should be clear from Dr. Barton's statement that wood can and does play an important role in the Department of Agriculture's energy program. Fuels developed from biomass, including wood and wood residues, promise to be a major means of eventually achieving rural net energy self-sufficiency. Better wood utilization will go along way toward helping us meet this energy goal.

It is appropriate that legislation concerning programs to improve utilization of wood, and to produce energy from wood be considered at this time. These programs, I'm sure you will agree, must be shown to be environmentally, as well as economically, sound before they are carried out on a large-scale basis.

Attention to the underutilized forest resource is important to the Nation for more reasons than to simply increase wood supplies. We regard the wood utilization/wood energy issue also as an opportunity to accelerate the management of the forest resource and at reduced costs. Our wood utilization program also can be used to reduce hazards to new forests from destructive fires and from insect and disease infestations, to help regenerate harvested areas, to encourage thinning of overcrowded stands, and to reduce the need to dispose of wood residues by burning, which results in air pollution. By accomplishing all these objectives, a planned and managed program of wood utilization can contribute to the multiple-use management of the forest by enhancing timber-growing conditions, providing wildlife habitat treatments, improving watershed management opportunities, and assisting in recreational developments.

That all calls, Mr. Chairman, as you appreciate, for a fairly intensive program to determine which trees should be removed and which trees should not be removed—in other words, an administrative overhead cost to plan and monitor the tree-cutting.

To gain perspective on the scope of the wood utilization/wood energy question, I would like to provide some data that illustrate the opportunities.

We estimate that in the United States nearly 500 million dry tons of wood and wood residue could be utilized for energy generation and other purposes annually. Logging residues and dead and cull trees make up 145 million tons of this total. Excess timber growth in the form of small, noncommercial trees makes up 230 million tons. Urban tree removals, right-of-way clearings, and processing waste make up the balance.

The Nation currently is consuming about 78 quadrillion Btu's, or quads, of energy annually, of which about 1.3 quads are being produced from wood and wood residues. The 500 million dry tons of wood available converts to a potential of 8 to 9 quads of energy annually. We cannot say just how much of this would be used—economics ultimately will determine that. But we believe that wood and wood residues can supply a significant share of biomass raw materials to help meet our goals of net energy self-sufficiency for agriculture and forestry by 1990.

The extent to which this wood reaches the market can be influenced by our actions to encourage its use and to develop the needed technology. Legislative action such as some of the provisions in the bills now being considered by this subcommittee would be helpful in this regard.

We appreciate the subcommittee's efforts to develop appropriate legislation, and we commit to you our assistance. As you will recall, Mr. Chairman, when Associate Chief Leisz testified before this subcommittee in September, he recommended that a pilot program in wood utilization be authorized. Such a pilot program is the fundamental component of a wood utilization effort.

The Department of Agriculture's report on H.R. 5220 as amended by the subcommittee has been delivered to the committee staff. We appreciate your incorporation of several of our suggestions offered during the development of the legislation.

However, we still have several concerns with the marked-up bill. These deal mainly with the size and scope of the program to be established.

One, we regard as key an amendment that would clearly indicate that the wood utilization program to be established be a pilot effort of specified duration whose purpose is to examine economic efficiency and commercial viability of wood utilization technology through projects and demonstrations.

Second, we also recommend that the loan program be deleted. The amounts authorized for direct and guaranteed loans are, we believe, excessive. Appropriate loanmaking authorities are already available to the Secretary.

Third, we suggest that the mandatory provisions of the bill be made discretionary.

A complete list of our recommended amendments is included in our report on the bill, together with a substitute bill which shows how they could be incorporated.

We understand that American Forestry Association executive vice president Rex Resler has discussed with the chairman a proposal similar to that which we have suggested, and we support Mr. Resler's initiative to develop a consensus approach on provisions which might be included in the legislation. However, we have not sought review of this proposal and, hence, do not have a cleared position on it.

H.R. 4313 would expand the rural forestry assistance program, a part of the Cooperative Forestry Assistance Act of 1978, by providing funds for the employment of foresters by States. It also calls for a determination of the number of forest landowners in each State and requires the use of this determination in allocating program funds among the States.

The bill's purpose presumably is to increase the assistance provided by State-employed foresters to forest landowners. This assistance would be directed to the development of the forest for production of wood energy. To insure that these State foresters actually are capable of providing this assistance, the bill would authorize the Department of Energy and the Small Business Administration to make training or other assistance programs available to them.

We have not provided the committee with a full, formal report of our views on this bill. But, when we gave the sponsor comments on a draft version earlier this year, we indicated that the authority to carry out the purposes of the bill already is available in existing legislation and adequate for the purposes set forth in the bill. Section 3 of the Cooperative Forestry Assistance Act of 1978, which you authored, Mr. Chairman—the rural forestry assistance program, specifically—provides for technical assistance to public agencies and individuals to accomplish the “conversion of wood to energy for domestic, industrial, municipal, and other uses.”

An appropriation authorization of “such sums as may be needed” is provided for this section. Furthermore, section 9 of this act allows each State to focus the Federal-State cooperative effort on forestry matters of highest priority in that State, and this could include a forest fuel technical assistance and training program.

For these reasons, we submit that H.R. 4313 is not needed and believe that expansion of the existing program would be more desirable.

With regard to H.R. 5397, the "Agricultural, Forestry, and Rural Energy Act of 1979," we agree that production of energy from renewable resources has an important role to play in this Nation's energy future. But we do have several fundamental disagreements with the bill. We believe that there should be a central focus for the Government's energy program. Separate planning efforts, programs, and funding within the Department of Agriculture could result, we believe, in fragmentation of responsibility and could undermine our ability to resolve our energy problems. Attached to my statement and provided for the hearing record is a copy of Secretary Bergland's response to Chairman Talmadge which described the Department's opposition to the identical Senate bill, S. 1775.

Mr. Chairman, the Department of Agriculture is very much aware of the need for action to achieve higher levels of wood utilization and to encourage the use of wood for energy. We are working now with the Department of Energy, other Government agencies, and private entities to develop a planned and coordinated program to increase the use of wood and other biomass raw materials for energy. For example, we have begun to develop methods to predict long-term supply and demand for all wood products. Research into more economical residue harvesting systems is underway and will be expanded. Pilot projects are underway to test silvicultural and genetic methods for maximizing biomass production in plantations and in natural stands of timber.

At the same time, Mr. Chairman, we are aware that the removal of most of the wood fiber on an area raises serious questions about soil loss and nutrient depletion. We know these can become serious problems over time. We are working to develop an accurate measure of the value of decaying biomass to soil fertility. We are mindful of the impact that closer utilization may have on animal and plant life, and we will take all appropriate precautions to preclude unwise, single-use management, even for energy, and to minimize adverse environmental impacts.

We are aware of the need to consider these opportunities as responsible resource managers. Intensified forest management for energy and other uses must be done in an environmentally sound manner. Pressures on the forest resource—such as could occur in areas of high fuelwood demand—must not be allowed to jeopardize the resource.

Already, Mr. Chairman, as you know, the rush to the national forests for home heating fuelwood has created a serious management challenge for our field foresters. I personally believe we may need to consider finding some equitable way to charge for this fuel, rather than to give it away free, to justify our escalating administrative costs.

In summary, Mr. Chairman, we are enthusiastic about the role wood can play in solving our energy problems. The amount of energy available from forest biomass as compared to the total energy needs is not a large figure, but we do recognize that the resource is renewable and it can be available in perpetuity. Therefore, we support the efforts of this subcommittee on this subject. Improved wood utilization and the contribution of wood to energy supplies are considered important op-

portunities by the Carter administration. You have our assurance of continued assistance as the consideration of H.R. 5220 continues.

That concludes my prepared testimony. Dr. Barton, Mr. Leisz and I are ready to respond to your questions.

Mr. WEAVER. Thank you very much.

I want Congressman Fithian to ask you questions relative to your testimony on the bill that he is sponsoring in the House.

I would like to say that I certainly compliment you in the strides you are taking and your very reasoned and careful approach.

I agree very much that we must not just go hell-bent for election and rape our woods in the name of energy. I just could not agree with you more.

I would like, however, to point out the double standard that exists in this Nation, in this Government. You say in your testimony something that I, of course, completely concur in: These programs must be environmentally and economically sound. I agree, and that is why I voted against the synthetic fuels bill and the fast track energy mobilization board bill because they waive the environmental laws and they subsidized this energy with tens of billions of dollars. I found them not environmentally sound or economically sound. Yet, that is the major program of the administration.

Congressman Fithian and I are saying here today, in contradiction to one of the statements you make, Dr. Cutler, it is not a large figure—you are talking about biomass. You know, they don't say that about nuclear energy. Yet, the figure that Dr. Barton used says that the potential—we don't know if it is actually going to be realized—is 3 times the amount of nuclear power we have today—3 times the 9 quads you are talking about. We produce 3 quads now.

So, it is an enormous potential. We should not downplay it. At the same time, we must be careful not to just go out and rake down our forests.

Dr. CUTLER. Mr. Chairman, the concern I have in that regard is that the forests be viewed as energy biomass sources only. That not only shortchanges the potential productivity of those forests but gives the private forest landowner a poor deal from the standpoint of the potential value of the products he could grow on his land. The value of wood for energy is something on the order of three-tenths of the value of wood for pulp and something like one-thirty-sixth of the value of wood for lumber.

We are concerned about the rush to energy plantations, the single use of forests for energy, because there are opportunities to grow an array of products, with the thinnings and the residue used for energy, but with lumber being the ultimate product of the good trees that are left. This would return much more income to the landowner and be an environmentally more appropriate use of the landscape.

Mr. WEAVER. I could not agree with you more. The idea of growing trees for energy has never struck me as a sound one.

Yet, I hear the DOE and other parts of our Government using most of the moneys they have to go into that. I find this ridiculous, particularly when—again I say, according to the Forest Service's own estimates—6.6 million metric tons are being burned in the forests of Oregon today, enough to heat three-quarters of the homes.

Dr. CUTLER. We agree that those Btu's should be salvaged.

Mr. WEAVER. May I point out that you say you have appropriate loan-making authorities already available to the Secretary. Yet, Mr. Larry Simmons, who has demonstrated he can make money taking this slash out from Forest Service sales—it is now just being burned—cannot get the money. He is back here in Washington for a week asking the Forest Service, the USDA, the FmHA, everyone: No, we can't do that, they say.

Dr. CUTLER. Let me look into that for you, Mr. Chairman.

Mr. WEAVER. I would appreciate that.

Dr. CUTLER. It is a specific case, and I do not have the details on that case with me.

Mr. WEAVER. I would appreciate your help. That would be enormous.

It is the privilege of the chairman to go over somebody's testimony, the main theme of which I agree with. But to say, "at the same time, we were aware that the removal of most of the wood fiber in an area raises questions of soil loss and nutrient depletion in the soil."

I am very concerned about this. My understanding is, from testimony and other hearings, however, that most of the nutrients reside in the smaller particles.

Dr. CUTLER. The leaf fall is important.

Mr. WEAVER. That would stay there. It is the big stuff, mainly cellulose, that they will be taking out. Nevertheless, it is still a question we must concern ourselves with.

Forgive me for saying this, but I wish the Forest Service were just as concerned on both a nutrient basis and also energy basis with the herbicide kill. They now kill things like alder and cyanothus that fix nitrogen in the soil. They kill these species with herbicides that are, without question, damaging our soils for growing our timber.

I have foresters in Oregon who are developing programs that show it is reducing nutrients in our soil and that we are not growing trees as fast. Yet, the determination of the resource agencies to continue to use these chemicals and kill these plants valuable for both energy and soil just boggles my mind.

Dr. CUTLER. I think you know, Mr. Chairman, that we have taken steps to reduce the use of those phenoxy herbicides on the national forest system. We have reorganized in Washington to provide more expertise and guidance on brush control policies. So we expect to have an enlightened program in that regard.

Mr. WEAVER. I appreciate the very fine strides that the Secretary is making. I want to compliment him and thank him very much for his work, and I know it is to try to change general patterns of thinking that have been years and years in the building up. You cannot just come in and do that overnight. I understand that and appreciate that.

I have got a couple of technical questions here that I would like to ask.

Mr. Leisz, you have stated the Department of Agriculture needs a slash bill because it lacks the authority under existing statutes. Is that correct?

Mr. LEISZ. We have a situation that, for most of our slash disposal work, we follow a process of collecting the money for the disposal of

the logging slash from the operators. That is authorized by the Brush Disposal Act of 1916.

What we currently lack is the funding and authority to handle the material that is naturally created slash—the windfalls, the other material that is on the forest floor—that is not the result of the logging operation. We do not have a process actually to blend in, for example, the removal of both the logging created slash and the naturally created slash through any kind of funding deposit situation.

Mr. WEAVER. How about using the brush disposal fund, opening that up to use it for this purpose?

Mr. LEISZ. Well, this would be one of the opportunities to do it, and I think this is considered in the bill—both H.R. 5220 and, I think, also in the proposal that the American Forestry Association put together.

I should add to that that we clearly have the authority to require in the timber sale contract the material—

Mr. WEAVER. Dr. Cutler, do you have any objection to opening up the brush disposal fund to uses of this kind?

Dr. CUTLER. That is a policy question on which we do not have cleared testimony. The Office of Management and Budget might consider this to be back-door funding of a program by using receipts that otherwise would go into the Treasury. I think it is an admirable objective, but I cannot give you a cleared statement of administration position on it.

Mr. WEAVER. I appreciate that very much. Thank you.

I intend to push forward with that because I think it is a very valuable tool.

Dr. Cutler, at the October meeting of the Society of American Foresters, Secretary Bergland said that the commitment to forest research is not strong enough and that Agriculture plans to double the scope of biomass research.

Does this mean you can double the scope without also doubling the budget?

Dr. CUTLER. We can reprogram with the Forest Service research budget. We also have asked within the context of the 1981 budget for increases in this kind of forestry research. Our request is being scrutinized in the Office of Management and Budget. We do not know what the outcome will be. As you know, Chief Peterson has placed research at the top of his priority list. I have joined him in asking the Department and the administration for additional support for forest research, particularly in the area of biomass energy research.

I am optimistic that our 1981 budget will show increases in this area.

Mr. WEAVER. Very good.

Dr. BARTON. Mr. Chairman, let me add one thing to what Dr. Cutler has said.

With respect to the 1980 budget, we do have probably about a doubling of the efforts compared to 1979 in the biomass area. I think our total funding was about \$1.5 million in 1979, and we do have some \$4 million in the 1980 budget that will be devoted essentially to biomass research.

Part, I think, of what the Secretary was referring to is the expanded effort that will be under way in the 1980 budget as compared to the 1979—in addition to what Dr. Cutler has said about subsequent budgets.

Mr. WEAVER. Do you need further authorization in addition to the forest research authorization passed last year? If not, why has not the Department moved faster in the area of residue harvest delivery systems?

Dr. CUTLER. We do not need new authorization. Thanks to the work of this subcommittee in particular, the Forest Service has an entire updated and very comprehensive set of authorities in most areas.

We have redirected some of our research efforts to biomass such as efforts underway at Rhinelander, Wis., through the North Central Forest Experiment Station. We have completed an agreement with the Department of Energy, and we have looked for every possible opportunity to cooperate with DOE to encourage wood energy research proposals. I understand that some 25 or more research proposals are in various stages of consideration.

Mr. WEAVER. Do you see a need, as I do, to set up Forest Service depots to handle the wood coming out? You mentioned in your testimony—or Mr. Leisz did—the idea of possibly selling the firewood. But what about depot centers, concentration centers for the public?

Dr. CUTLER. Let me ask Doug Leisz to respond to that. Doug?

Mr. LEISZ. We are aware of the program for wood concentration yards initiated by the State of Vermont. It seems to be working quite well. In this case, the State agency is actually hiring the cutting and removal of the wood to concentration yards. Private citizens, in return for a payment of a fee appropriate for the cost the State has incurred, come in and cut their firewood at the concentration yard.

This has a lot of beneficial effects. It reduces the individual transportation requirements to pick up the firewood. It also insures that only the trees that should be removed for firewood purposes are removed.

We think that program actually looks very encouraging for expansion.

Mr. WEAVER. Good. I would like to see them out in my territory.

You don't need further statutory authority to set up these depots, do you?

Mr. LEISZ. No, sir.

Mr. WEAVER. I know you can sell portions of trees. You can, I am sure, set up the depots to handle them.

Dr. Cutler, in H.R. 1775 and H.R. 5397, there is authorization to establish agricultural biomass energy centers, each in a different region of the United States.

This question is just simply to ask you to be sure to set one up in Portland.

Dr. CUTLER. I hear you talking, Mr. Chairman.

Mr. WEAVER. It just boggles my mind. I think the Forest Service is just worlds and worlds ahead of everyone else compared to the utility industry in this country. The Portland Gas and Electric Co. has got a coal-burning plant that has been shut down because it violates standards. Now, they are going to shift to natural gas when we have wood pellets and wood wastes there in Portland. If we had a center there,

maybe we could get it through their thick skulls that they should be using this wood waste instead of extremely valuable natural gas.

The gentleman from Indiana, I would hope, would have some questions on his bill to the witnesses.

Mr. FITHIAN. Thank you, Mr. Chairman. I have questions in several areas. First of all, I want to commend both Secretary Cutler and Dr. Barton for their testimony. I do believe that there is a beginning of a movement in the direction which many of your critics would applaud. I am not sure that they would applaud for the speed of movement, but I think that they would applaud the direction.

I have some institutional questions—that is, questions of how you coordinate. Is the memorandum of understanding between the USDA and DOE, in your judgment, and in all candor, leading to better cooperation? Some of us have been really concerned about the lack of cooperation, with DOE going off here and USDA doing a thing with boll weevils and so on.

Dr. BARTON. I might comment, Mr. Fithian, that we believe it is. An example of that is the upcoming program memorandum that we do think, clearly, that we will be finally signing off on before the end of the year. That will involve, as I mentioned earlier, about \$12 million of funding transfer from DOE to the Department of Agriculture.

I suppose the short answer is that we think that we are evolving a cooperative program in this area. I think probably you will find that types of activities, including the specific ongoing contracts that we would be overseeing under that program memorandum and our ability to use some discretionary moneys that would come over under that program memorandum, will lead to a relatively more rational approach and a sorting out, if you will, of responsibilities between the two Departments.

In short, we think that we are making real progress in this area.

Mr. FITHIAN. I note in your testimony, Dr. Barton, that you cite that \$12 million funding passthrough. I want to ask you and Secretary Cutler whether or not as a mechanism, whether or not as a device, the passthrough funding, which is a feature of my bill that is both before this subcommittee and—we will be testifying this afternoon—before Mr. Ottinger's Science and Technology Subcommittee because there is this dual jurisdiction problem—I wanted to know whether or not you see the passthrough funding as an action-forcing mechanism. Does that really force action, in your view, as an administrative device, first? Second, will it lead to what some of its proponents believe will be a necessity for closer cooperation between the Departments?

Dr. CUTLER. Passthrough funding is used for a variety of objectives. Our Science and Education Administration uses passthrough funding from several other departments. There are some disadvantages with that if we don't have a corps of USDA-funded scientists working, in effect, on a base program. This base program would be supplemented by passthrough money from other departments. In this manner we have in-house expertise and continuity and with that base we can add opportunities based on passthrough funding.

I am optimistic—and Dr. Barton is closer to it—that we can evolve a mutually acceptable approach with DOE to research priorities. I don't feel like we are, in effect, having our strings pulled by another

department with respect to some of these projects—that it will be very much more of a teamwork approach in the future. Weldon, could you pick that one up?

Dr. BARTON. I cannot add a great deal to what Dr. Cutler has said. I would reiterate that the passthrough money is not a replacement, we think, for some core funding within the Department of Agriculture to build upon. It is partly because, as we have said earlier here, much of our energy activities in the Department of Agriculture—and certainly much of the biomass activity is an integral part of the ongoing forestry programs or agricultural commodity programs and is difficult to separate out as an energy program per se.

For that reason, if no other, we need the core responsibilities and the core funding so that the passthrough moneys then can build upon that and strengthen it.

Mr. FITHIAN. Are there other options which we in the Congress should consider to help along the development of USDA/DOE cooperation?

Dr. BARTON. You may want to take a close look with us at where we are as we carry out the program involving the passthrough moneys.

This, incidentally, will involve a considerably larger amount of money in the biomass area than we currently have in the direct solar or the wind passthrough. It is at substantial amount in that respect.

We would welcome the opportunity to sit down with you, to work with you on possible ways of supplementing, or coordinating with the administrative initiative we have underway at this point.

Dr. CUTLER. Mr. Fithian, I would like to move the conversation a bit to technology transfer—that is, how we apply the results of the research.

There are some important opportunities that involve Extension and the Forest Service's State and private forestry role through the State foresters, that we really have not faced up to yet, as far as I'm concerned. The bill that this committee authored and reported last year called the Renewable Resources Extension Act of 1978 offers opportunities for land grant universities and other forestry departments to expand their forestry extension programs to provide technical assistance through county extension offices to forest landowners on forestry, including biomass energy opportunities from forestry.

I hope that we are going to be able in 1980 to bring you a 1981 budget request that appropriately funds that Renewable Resources Extension Act program.

Furthermore, as we move to improve our State and private forestry program, another one of Chief Peterson's high priority goals, we ought to encourage the State 24 foresters to include in their State forestry plans, specific reference to forest energy opportunities, not only from the standpoint of forest management but cooperatives and fuelwood concentration yard opportunities. This can be done as they apply for block grants from the Forest Service in response to the authority in left over after they have decided how much to put into nuclear, how to ask for a comprehensive grant rather than a project-by-project funding approach.

This is where the State forester and his Service foresters who deal directly on a one-to-one basis with the forest landowner can bring

to that landowner's attention the energy opportunities as well as the other forest product opportunities on this private, nonindustrial forest land. So, those are two areas that deserve attention in future budgets.

Mr. FITHIAN. Let me just make a quick comment on this. We want to help you. I think you are pointed in the right direction.

I also think—and you can't say this but I can—the dice are heavily loaded against you folks—heavily loaded against you in this Government. I know where OMB is coming from. I know where DOE is coming from. I know where the power structure is in terms of energy in this country, and you're included out, basically.

I can't speak for Chairman Weaver, but I do not believe that you will be here next year with anything like an adequate budget request because it will be cut off before you get here. I will predict that flat away. You will not be here with anything like an adequate budget request. You will be crowded out. You will get the crumbs that are left over after they have decided how much to put into nuclear, how much to put into synfuels, how much to put into a dozen other areas.

This bureaucratic administrative hangup that we have around here is seriously impeding the progress in the field of energy.

I think Chairman Weaver and those of us who are really interested in moving forward are going to have to move forward over your official objections. And I know you have to object officially once the party line is hammered out. I am not criticizing that. I know you have to do that.

I hope you will understand that some of us believe that there is so much needed to be done than you are thinking about doing in a budgetary sense that we are going to have to go ahead and act that way and hope we can get the Congress to act that way and drive it home that way.

Let me cite some figures for you. Despite all we have said this morning in terms of potential, Mr. Chairman, there is only \$57 million in the whole biomass energy field this year. That is out of a \$4.5 billion budget in the energy research field.

We are, therefore, despite all of the potential that Weldon spoke of and I spoke of and Mr. D'Amours spoke of and the chairman spoke of—despite all of that, your budget share is less than 8 percent. And it will continue to be less than 8 percent because you do not figure into the power structure.

That is just the pure truth of the matter. So, if we are going to get there, we are going to have to get there with you or somebody over in your shop, unofficially or otherwise, advising us of projects that you think are doable. If they get cut off at OMB—my whole R. & D. bill is not my original thought. It is made up of projects that were worked out, cleared at the working level of both your Department and the Department of Energy and proposed and then were cut off because OMB said that we can't afford that in the budget. Then we turned around and passed an \$80 billion synthetic fuels bill. That is what's happening in the country. There is a move under way to do these things.

I am just telling you that I, as one Member of Congress, know that you are not going to be back in here with an adequate budget request.

Therefore, I think, Mr. Chairman, we will have to work over and above what you are thinking of.

Mr. WEAVER. I can assure the gentleman from Indiana that he speaks every word for me in that statement.

Mr. FITHIAN. I do have some other questions. I just wanted to make that editorial comment so you would understand where I'm coming from.

You have a lot of critics in the field, Mr. Secretary and Dr. Barton. There is a lot of criticism floating around. Of course, our job is to try to get more projects, more demonstration projects, more money, and more everything.

For those of us who are enthusiastic supporters of biomass, our job is made more difficult because of the prevalence of criticism. So, I want to deal with that criticism this morning. I hope that I can be able to tell some of your critics that things are moving, it's not as bad as it seems, and their criticism is not as well founded this year as it was last year, and so on.

Let me then not be a devil's advocate but just try to touch upon those points of sharp criticism of your activities, which we ought to try to change, at least the public perception of them, and, I suspect, in some cases change the reality of them as well.

Some of the critics of the biomass program charge that biomass technologies continue to receive a very low priority, both in your shop and in the DOE. I take it from your testimony this morning, Weldon, that these four demonstration projects would indicate that you are putting some muscle into that field—you know it is not as much as I would like—but you are moving in that field.

But, do not the critics have a legitimate claim that even with your own personal interest of the three representatives here this morning, at USDA, as a whole, energy matters are still a rather poor country cousin? Isn't that really true of USDA?

Dr. CUTLER. Let me just kick that off.

As in any other bureaucracy, our bureaucracy is fettered by chains related to traditional programs. In a period when the budget is very tight, the problems associated with reprogramming are very real.

When I was responsible for the research and extension programs in the Department, these were very real problems for me. Trying to move research and development moneys from traditional areas, traditional commodities, traditional crops, whether it is cotton or tobacco or something else, and moving it into energy is extremely difficult to do for the kinds of reasons that members of Congress know better than anyone else.

Therefore, you make marginal, incremental adjustments where you think you can, and hope for a larger budget. When the larger budget does not appear on the horizon, then the opportunities to make the shifts are few and far between. It is just a very tough situation.

Mr. FITHIAN. Thank you.

I do not know whether you have an opportunity to interact with your counterparts over at the Department of Energy or not, informally or otherwise. Sometimes we are so structurally hung up on turf questions that we really do not get on with the business of the American people.

Mr. Chairman, I have got to express my disappointment, not for your activity in this area but, when I see major efforts, even within

the biomass field, being made at DOE on such 21st-century technologies as kelp farming and energy plantations, when Jim Weaver has got millions of Btu's standing in deadwood in Oregon, I have got to say that we have our priorities screwed up somehow or other. And I've got to say that DOE has got the priority screwed up.

There is more money going into kelp farming. There is more money going into energy plantations and pretty esoteric stuff.

Dr. CUTLER. There is a lot of momentum going for their program, no question about it.

Mr. FITHIAN. Let me ask you some specific things.

In the private sector there have been some really exciting things happening with methane from animal waste. I know that is a little off the subject of our testimony this morning, but I don't get a chance to talk to you folks as often as I would like.

What specific steps has the Department of Agriculture taken to implement the President's June 29 directives, which included the implementation of a pilot program for on-farm methane generation?

Dr. BARTON. Mr. Fithian, the first thing that I am going to mention does not apply to on-farm. We do have a pending project involving Lamar, Colo., for a \$14 million loan through the Farmers Home Administration to fund a methane conversion project to provide gaseous fuel for the city of Lamar. It would be a substantial project.

We have had some problems of funding the front-end design work on that project. I think we are at the end of that. We are now funding a little under \$1 million which we are going to be devoting to that design work. I think we can move along now with that project.

In addition, I had an opportunity on Tuesday of this week. I was out at a cooperative conference in Columbia, Mo. I had a chance to go with Jim Fisher and see his methane conversion pilot unit and his full-scale unit for a farm using the waste material from 400 hogs there on the university lands. It is really extremely impressive to see the work that he has going on.

We have worked with Fisher now and with the Department of Energy and with our own Farmers Home Administration. We have developed a plan that we hope will use some of the moneys coming from the passthrough memorandum that I referred to earlier, to begin to fund a small number of both on-farm gasohol units and a small number of on-farm methane conversion units. We can use those then as a basis for experience in getting the standards down better on a workable basis. Hopefully, from there then we can expand and the private sector will pick up. Or we can use our regular loan programs to a larger extent.

I am talking about this small number being a combination of loans and some grant assistance for the first of these.

In answer to your question, I think that, even though we have not been doing as much as we would like to have been doing in this area, you are going to see some activity now in small-scale methane conversion.

Mr. WEAVER. We are going to have to be adjourning shortly. We do not have too much time. We have Department of Energy witnesses.

Do you have another key question you want to ask?

Mr. FITHIAN. I am trying to sort out which of the remaining questions I really want to ask.

Do you have any plans to expand the fuelwood demonstration pilot programs, like the one in New England, to other areas of the country?

Mr. LEISZ. Yes, we do. The speed with which we do that will depend upon the responsiveness we find in States. We concentrated in New England first because the greater proportion of the income of people goes for heating there than in other parts of the country.

Mr. FITHIAN. If I can squeeze in one more quick question.

Dr. Cutler, do you have any intention to exercise as much influence as you can to place a higher priority on solar, in the broader definition of the term, energy applications in the USDA ag research and extension program? Is that what I understood you to say earlier?

Dr. CUTLER. We certainly are.

There is a strong thrust. Dr. Barton, if he had time, could elaborate on it. Our Director of Science and Education is moving as quickly as he can in the solar area.

Mr. FITHIAN. Thank you, Mr. Chairman.

Mr. WEAVER. I want to thank my friend from Indiana for his leadership and concerns.

Mr. FITHIAN. May I just say one more thing?

Would both of you look carefully at section 202 of my bill—not the Talmadge bill, but the bill that I have introduced—which authorizes the total of about \$8.5 million additional support for USDA to commercialize this whole biomass technology—take a look at that particular part of that bill and that project?

Mr. WEAVER. I want to thank you very much.

As Congressman Fithian has so aptly and penetratingly stated, the malaise lies within our institutions, not with you gentlemen, who are doing an outstanding job and obviously trying to push ahead in the program. It lies in the things that Congressman Fithian said.

It is probably exemplified best by all the presidents of the oil companies and energy companies. They say that we have two choices in this country: nuclear or coal. They don't even think in terms of things we are talking about here. So, we get \$57 million for the biomass budget. That is literally shocking—just incredible.

Thank you very much for appearing. I hope to see you a little later.

I call to the stand Dr. Bennett Miller, Program Director, Solar, Geothermal, Electric, and Storage Systems, U.S. Department of Energy. He is accompanied by Mr. Sanford Harris, Chief, Biomass Systems Energy Branch.

[Discussion off the record.]

Mr. WEAVER. Gentlemen, I am going to ask that your testimony be placed in the record. Without objection, so ordered.

I just wonder if we could all gather around the table and talk informally now. Is that all right?

With that, the hearing is adjourned.

[Whereupon, at 12:10 p.m., the hearing was adjourned.]

[The bills H.R. 4313, H.R. 5397, and H.R. 5428, and the prepared statements of Weldon Barton, Dr. Bennett Miller, and S. David Freeman follow:]

96TH CONGRESS
1ST SESSION

H. R. 4313

To provide for grants to the States to employ State foresters, to provide for a current determination of the number of woodlot owners in each State, to provide for the availability of forest fuel utilization training, and to increase the assistance and information provided by the Department of Energy to the Forest Service and by the Small Business Administration to small woodlot owners and wood fuel distributors and marketers.

IN THE HOUSE OF REPRESENTATIVES

JUNE 5, 1979

Mr. D'AMOURS introduced the following bill; which was referred jointly to the Committees on Agriculture and Small Business

A BILL

To provide for grants to the States to employ State foresters, to provide for a current determination of the number of woodlot owners in each State, to provide for the availability of forest fuel utilization training, and to increase the assistance and information provided by the Department of Energy to the Forest Service and by the Small Business Administration to small woodlot owners and wood fuel distributors and marketers.

1 *Be it enacted by the Senate and House of Representa-*
2 *tives of the United States of America in Congress assembled,*

1 That this Act may be cited as the "Forest Fuel Utilization
2 Act of 1979".

3 SEC. 2. (a) The Secretary of Agriculture (hereafter in
4 this Act referred to as the "Secretary") is authorized to
5 make grants through the rural forestry assistance program of
6 the Forest Service to the States for the employment by the
7 States of additional State foresters or equivalent State offi-
8 cials.

9 (b) In determining the amount of financial assistance to
10 be provided to a State under subsection (a) the Secretary
11 shall consider the underutilization of forest growth in the
12 State and the potential utilization in the State of wood as a
13 fuel in place of oil.

14 (c) In addition to any sums otherwise authorized to be
15 appropriated, there is authorized to be appropriated to the
16 Secretary to carry out subsection (a) the sum of \$6,500,000
17 for the fiscal year ending on September 30, 1980, and the
18 sum of \$6,500,000 for the fiscal year ending on September
19 30, 1981.

20 SEC. 3. (a) The Secretary shall determine not later than
21 one year after the date of the enactment of this Act the
22 number of woodlot owners in each State (as of the date the
23 determination with respect to such State is made).

24 (b) The determination with respect to each State made
25 pursuant to subsection (a) shall be used after that determina-

1 tion is made whenever the number of woodlot owners in such
2 State is a factor in any law, regulation, custom, or usage or
3 is a factor in the application of any law, regulation, custom,
4 or usage.

5 SEC. 4. (a) The Secretary is authorized to take such
6 actions as the Secretary deems are necessary to make forest
7 fuel utilization training programs available to State foresters,
8 or equivalent State officials, in States in which forest growth
9 is underutilized and in which there is a potential for the utili-
10 zation of wood as a fuel in place of oil.

11 (b) The Secretary shall submit to the House of Repre-
12 sentatives and the Senate not later than one year after the
13 date of the enactment of this Act a report on the actions
14 taken by the Secretary under subsection (a).

15 SEC. 5. Not later than one year after the date of the
16 enactment of this Act, the Secretary of Energy shall—

17 (1) after consulting with the Secretary, develop a
18 plan to increase the assistance and information pro-
19 vided to the Forest Service by the Department of
20 Energy; and

21 (2) submit to the House of Representatives and
22 the Senate a report (including a copy of the plan devel-
23 oped pursuant to paragraph (1)) on the progress made
24 since the date of the enactment of this Act in increas-

1 ing the assistance and information provided to the
2 Forest Service by the Department of Energy.

3 SEC. 6. Not later than one year after the date of the
4 enactment of this Act, the Administrator of the Small Busi-
5 ness Administration shall—

6 (1) after consulting with the Secretary, develop a
7 plan to increase the managerial assistance and informa-
8 tion provided to small woodlot owners and wood fuel
9 distributors and marketers by the Small Business Ad-
10 ministration; and

11 (2) submit to the House of Representatives and
12 the Senate a report (including a copy of the plan devel-
13 oped pursuant to paragraph (1)) on the progress made
14 since the date of the enactment of this Act in increas-
15 ing the managerial assistance and information provided
16 to small woodlot owners and wood fuel distributors and
17 marketers by the Small Business Administration.

96TH CONGRESS
1ST SESSION

H.R. 5397

To promote the development of energy from agricultural commodities, forest products, and their wastes and residues, and rural energy conservation practices.

IN THE HOUSE OF REPRESENTATIVES

SEPTEMBER 25, 1979

Mr. FITHIAN introduced the following bill; which was referred jointly to the Committees on Agriculture, Banking, Finance and Urban Affairs, Interstate and Foreign Commerce, and Science and Technology

A BILL

To promote the development of energy from agricultural commodities, forest products, and their wastes and residues, and rural energy conservation practices.

1 *Be it enacted by the Senate and House of Representa-*
2 *tives of the United States of America in Congress assembled,*
3 That this Act may be cited as the "Agricultural, Forestry,
4 and Rural Energy Act of 1979".

5 SEC. 2. The table of contents in the first section of the
6 Food and Agriculture Act of 1977 is amended by adding at
7 the end thereof the following:

"TITLE XX—AGRICULTURE, FORESTRY, AND RURAL ENERGY ACT

"Sec. 2001. Short title.

"SUBTITLE A—FINDINGS, PURPOSES, AND DEFINITIONS

"Sec. 2002. Findings.

"Sec. 2003. Purposes.

"Sec. 2004. Definitions.

"SUBTITLE B—DESIGNATION OF THE DEPARTMENT OF AGRICULTURE AS THE
LEAD AGENCY FOR THE DEVELOPMENT AND PRODUCTION OF ALTERNATE
FUELS FROM BIOMASS AND RURAL ENERGY CONSERVATION

"Sec. 2011. Designation.

"Sec. 2012. Coordination.

"SUBTITLE C—AGRICULTURAL, FORESTRY, AND RURAL PRODUCTION, USE, AND
CONSERVATION PROGRAM

"Sec. 2021. Duty of the Secretary.

"Sec. 2022. Agricultural, Forestry, and Rural Energy Board.

"Sec. 2023. Program development.

"Sec. 2024. Agricultural, Forestry, and Rural Energy Production, Use, and Conser-
vation Program.

"Sec. 2025. Annual reports to Congress.

"SUBTITLE D—AGRICULTURAL, FORESTRY, AND RURAL ENERGY RESEARCH
AND EXTENSION

"Sec. 2031. Agricultural, forestry, and rural energy research.

"Sec. 2032. Agricultural, Forestry, and Rural Energy Extension.

"Sec. 2033. Coordination of research and extension.

"SUBTITLE E—WOOD ENERGY DEVELOPMENT

"Sec. 2041. Wood Energy Centers.

"Sec. 2042. Wood energy production cost sharing.

"Sec. 2043. Forest management loan pilot program.

"Sec. 2044. Assistance to State forestry agencies.

"Sec. 2045. State advisory committees.

"Sec. 2046. Fuelwood concentration and distribution centers.

"Sec. 2047. National forest system assistance in wood energy development projects.

"Sec. 2048. Relation to Program and Board.

"SUBTITLE F—AGRICULTURAL BIOMASS ENERGY DEVELOPMENT

"Sec. 2051. Definition.

"Sec. 2052. Agricultural Biomass Energy Centers.

"Sec. 2053. Agricultural biomass production assistance.

"SUBTITLE G—AGRICULTURAL, FORESTRY, AND RURAL ENERGY PRODUCTION,
USE, AND CONSERVATION LOANS, GRANTS, AND COST SHARING

"Sec. 2061. Loans and demonstration grants.

"Sec. 2062. Consolidated Farm and Rural Development Act amendments.

"Sec. 2063. Rural electrification demonstration grants for alternative energy
sources.

"Sec. 2064. Lending for energy production and conservation projects by production
credit associations, Federal land banks, and banks for cooperatives.

"Sec. 2065. Agricultural conservation program energy conservation cost sharing.

"SUBTITLE H—EFFECTIVE DATE

"Sec. 2071. Effective date."

1 SEC. 3. The Food and Agriculture Act of 1977 is
2 amended by adding at the end thereof a new title XX as
3 follows:

4 "TITLE XX—AGRICULTURAL, FORESTRY, AND
5 RURAL ENERGY ACT

6 "SHORT TITLE

7 "SEC. 2001. This title may be cited as the 'Agricultur-
8 al, Forestry, and Rural Energy Act'.

9 "Subtitle A—Findings, Purposes, and Definitions

10 "FINDINGS

11 "SEC. 2002. Congress finds that—

12 "(1) the dependence of the United States on im-
13 ported petroleum and natural gas must be reduced by
14 all economically and environmentally feasible means,
15 including the use of domestic biomass energy sources;

16 "(2) the agricultural, forestry, and rural sectors of
17 our economy must conserve energy and substitute re-
18 newable sources of fuel for imported petroleum and

1 natural gas to the extent consistent with the mainte-
2 nance of agricultural and forest productivity and a
3 healthy rural economy;

4 “(3) agricultural commodities, forest products, and
5 their wastes and residues are renewable resources that,
6 when properly used for the production of industrial hy-
7 drocarbons, alcohol fuels, and other energy sources,
8 can substantially assist in reducing dependence on im-
9 ported petroleum and natural gas and in making the
10 agricultural, forestry, and rural sectors of our economy
11 more energy self-sufficient;

12 “(4) the Secretary of Agriculture and the agencies
13 subject to the direction of the Secretary of Agriculture
14 administer programs and exercise authorities affecting
15 the production of energy from, and management of, re-
16 newable energy sources;

17 “(5) the programs and authorities of the Depart-
18 ment of Agriculture also serve other national needs, in-
19 cluding the production of food, animal feed, wood and
20 wood products for housing and other uses, fertilizer
21 and petrochemical substitutes, and other necessities;
22 and

23 “(6) a national program for the production and
24 use of energy from biomass that can produce the maxi-
25 mum feasible energy from biomass materials while not

1 impairing the Nation's ability to produce food and fiber
2 on a sustainable basis for domestic and export use, and
3 for rural energy conservation, must be formulated and
4 implemented within a multiple-use framework.

5 "PURPOSES

6 "SEC. 2003. The purposes of this title are to—

7 "(1) establish the Department of Agriculture as
8 the lead agency in the Federal Government for the de-
9 velopment and production of alternate fuels from bio-
10 mass, and for research, extension, and conservation ac-
11 tivities related to agricultural, forestry, and rural
12 energy;

13 "(2) assure the development and implementation
14 of an agricultural, forestry, and rural energy produc-
15 tion, use, and conservation program that will enable
16 the United States to meet the goals of net energy inde-
17 pendence for agriculture and forestry, and a 50 per
18 centum reduction in petroleum and natural gas use by
19 rural residents and communities, by the year 2000;

20 "(3) create within the Department of Agriculture
21 an Agricultural, Forestry, and Rural Energy Board to
22 assist the Secretary in developing and implementing
23 the agricultural, forestry, and rural energy production,
24 use, and conservation program; and

1 “(4) make changes in existing programs and au-
2 thorities of the Department of Agriculture related to
3 research, technology transfer, and operational activi-
4 ties, in order to conform such programs and authorities
5 to the requirements for the agricultural, forestry, and
6 rural energy production, use, and conservation pro-
7 gram, and establish new programs and authorities
8 necessary for the effective implementation of that
9 program.

10 “DEFINITIONS

11 “SEC. 2004. As used in this title, the term—

12 “(a) ‘biomass’ means agricultural commodities,
13 forest products, and their wastes and residues, that can
14 be used as fuel or for the production of industrial hy-
15 drocarbons, alcohols, or other energy sources that will
16 assist in reducing petroleum and natural gas imports.
17 Biomass, without limiting its meaning, includes grain
18 and stalks of corn, wheat, rice, and sorghum, cotton-
19 seed and peanut hulls, fruits and vegetables and their
20 processing byproducts and residues, aquatic plants,
21 specific energy-farm crops, wood and wood products,
22 bark, pulp, and chips, and residues from logging and
23 paper manufacturing;

1 “(b) ‘Board’ means the Agricultural, Forestry,
2 and Rural Energy Board created under section 2022 of
3 this title;

4 “(c) ‘Program’ means the Agricultural, Forestry,
5 and Rural Energy Production, Use, and Conservation
6 Program developed under section 2024 of this title;
7 and

8 “(d) ‘Secretary’ means the Secretary of Agricul-
9 ture.

10 "Subtitle B—Designation of the Department of Agriculture
11 as the Lead Agency for the Development and Produc-
12 tion of Alternate Fuels From Agricultural Commodities
13 and Forest Products and Rural Energy Conservation

14 "DESIGNATION

15 “SEC. 2011. The Department of Agriculture is desig-
16 nated as the lead agency of the Federal Government for the
17 development and production of alternate fuels from biomass,
18 and for research, extension, and conservation activities relat-
19 ed to agricultural, forestry, and rural energy.

20 "COORDINATION

21 “SEC. 2012. The Secretary shall establish with the De-
22 partment of Energy and other Federal agencies procedures
23 for coordination in areas of mutual interest with respect to
24 agricultural, forestry, and rural energy production, use, and
25 conservation.

1 “Subtitle C—Agricultural, Forestry, and Rural Energy
2 Production, Use, and Conservation Program

3 “DUTY OF THE SECRETARY

4 “SEC. 2021. In order to enable the United States to
5 achieve net energy independence for agricultural and forestry
6 production, processing, and marketing, and to reduce the pe-
7 troleum and natural gas consumption of rural residents and
8 communities by 50 per centum, by the year 2000, the Secre-
9 tary of Agriculture shall implement the Program developed
10 under section 2024 of this title.

11 “AGRICULTURAL, FORESTRY, AND RURAL ENERGY BOARD

12 “SEC. 2022. (a) The Secretary shall establish an Agri-
13 cultural, Forestry, and Rural Energy Board to perform, and
14 assist the Secretary to perform, the functions and duties re-
15 quired by this title.

16 “(b) The Board shall be composed of nine members, as
17 follows—

18 “(1) the Secretary,

19 “(2) the Deputy Secretary of Agriculture,

20 “(3) the Under Secretary of Agriculture for Inter-
21 national Affairs and Commodity Programs,

22 “(4) the Assistant Secretary of Agriculture for
23 Food and Consumer Services,

24 “(5) the Assistant Secretary of Agriculture for
25 Natural Resources and Environment,

1 “(6) the Assistant Secretary of Agriculture for
2 Marketing Services,

3 “(7) the Assistant Secretary of Agriculture for
4 Rural Development,

5 “(8) the Director of Economics, Policy Analysis,
6 and Budget, and

7 “(9) the Director of the Science and Education
8 Administration.

9 “(c) The members of the Board may authorize designees
10 to represent them at meetings of the Board.

11 “(d) The Secretary shall be Chairperson of the Board.

12 “(e) The Secretary shall designate an executive director
13 for the Board, to be paid at a rate not in excess of the rate
14 prescribed for grade GS-18 in the General Schedule set out
15 in section 5332 of title 5 of the United States Code, and shall
16 provide for such additional professional and clerical assist-
17 ance as necessary for the Board to meet its responsibilities
18 under this title.

19 “(f) The Board may use the resources of all Department
20 of Agriculture agencies (including the funds and facilities of
21 the Commodity Credit Corporation) and other Federal agen-
22 cies, and outside consultants, as necessary to meet its respon-
23 sibilities under this title.

24 “(g) The Board shall meet at the call of the Secretary,
25 but at least quarterly.

1 “PROGRAM DEVELOPMENT

2 “SEC. 2023. (a) The Board shall assist the Secretary in
3 carrying out section 2021 of this title by—

4 “(1) assessing the Nation’s agricultural, forestry,
5 and rural energy needs, resources, practices, legal au-
6 thorities, programs, and related elements within a mul-
7 tiple-use framework;

8 “(2) preparing the Programs based upon such as-
9 sessment; and

10 “(3) preparing the reports required by section
11 2025 of this title.

12 “(b) In assessing agricultural, forestry, and rural energy
13 needs and resources, the Board shall—

14 “(1) identify agricultural, forestry, and rural
15 energy objectives, consistent with the goals contained
16 in section 2021 in this title;

17 “(2) determine the quality and quantity of biomass
18 materials that are potentially available for energy pro-
19 duction;

20 “(3) identify the ways in which renewable re-
21 sources can be used to meet United States energy
22 needs, and especially promising areas of development;

23 “(4) identify and assess practices to conserve
24 energy in agricultural and forest production, process-
25 ing, and marketing and in rural communities;

1 “(5) identify and evaluate new agricultural, forest-
2 ry, and rural energy production, use, and conservation
3 systems and technologies;

4 “(6) identify policies and procedures necessary to
5 ensure that the production of agricultural commodities
6 and forest products will not be interrupted by energy
7 shortages;

8 “(7) identify the practices necessary to conserve
9 and enhance the productivity of soil resources, while
10 pursuing the goals contained in section 2021 of this
11 title;

12 “(8) identify ways to minimize the adverse conse-
13 quences of energy production on agricultural, forest,
14 and rural lands and rural communities;

15 “(9) analyze the comparative economic value of
16 renewable resources within a multiple-use framework,
17 including, in addition to potential energy usage, alter-
18 nate uses such as the production of food, animal feed,
19 housing and other construction materials, fertilizer, and
20 petrochemical substitutes;

21 “(10) assess existing and anticipated Federal and
22 State laws, policies, programs, and regulations relating
23 to the production and use of biomass energy and the
24 conservation of energy in agriculture, forestry, and
25 rural communities;

1 “(11) evaluate the effectiveness of existing De-
2 partment of Agriculture programs and policies in
3 achieving the goals contained in section 2021 of this
4 title;

5 “(12) analyze the adequacy of existing legal au-
6 thorities and funding for the implementation of the
7 Program, and recommend changes in such authorities
8 and funding necessary for the achievement of the goals
9 contained in section 2021 of this title; and

10 “(13) analyze the costs and benefits of optional
11 elements for the Program.

12 “(c) The assessment of agricultural, forestry, and rural
13 energy needs and resources required under subsection (b) of
14 this section shall be completed by December 31, 1980, and
15 updated when necessary, but at least every five years. The
16 initial report and the updated reports shall be submitted to
17 Congress.

18 “AGRICULTURAL, FORESTRY, AND RURAL ENERGY
19 PRODUCTION, USE, AND CONSERVATION PROGRAM

20 “SEC. 2024. (a) The Board shall prepare an Agricultur-
21 al, Forestry, and Rural Energy Production, Use, and Conser-
22 vation Program, recommending to the Secretary measures,
23 actions, funding levels, and other means to achieve the goals
24 contained in section 2021 of this title without reducing the
25 productivity of United States agriculture or forestry to meet

1 other national needs, or adversely affecting the viability of
2 rural communities. The Program shall include, but not be
3 limited to—

4 “(1) an inventory of the specific needs and oppor-
5 tunities for public and private investment in agricultur-
6 al, forestry, and rural energy production, use, and con-
7 servation projects;

8 “(2) identification of estimated costs, returns, re-
9 sults, and benefits associated with investments in such
10 a manner that the estimated costs can be directly com-
11 pared with the total related benefits; and

12 “(3) a discussion of the priorities and options for
13 the accomplishment of the Program, specifying esti-
14 mated returns, results, and benefits.

15 “(b) The Program shall use and be based upon the
16 Board’s assessments made under section 2023 of this title, as
17 well as other relevant data.

18 “(c) The Program shall be developed in cooperation
19 with Federal, State, and local agencies and organizations in
20 accordance with such procedures as the Board may prescribe
21 to ensure public participation.

22 “(d) The Program shall be completed and submitted to
23 the Secretary and Congress within one year after enactment
24 of this title and shall be revised when necessary, but at least

1 every five years, and resubmitted to the Secretary and Con-
2 gress.

3 "ANNUAL REPORTS TO CONGRESS

4 "SEC. 2025. For the purpose of providing information
5 that will aid Congress in its oversight responsibilities and im-
6 prove the accountability of agency expenditures and activi-
7 ties, the Secretary shall prepare annual reports that evaluate
8 the implementation of the Program and submit them to Con-
9 gress by February 1 of each year, the first such report to be
10 submitted by February 1, 1981.

11 "Subtitle D—Agricultural, Forestry, and Rural Energy
12 Research and Extension

13 "AGRICULTURAL, FORESTRY, AND RURAL ENERGY

14 RESEARCH

15 "SEC. 2031. (a) In order to facilitate the development of
16 agricultural, forestry, and rural energy production, use, and
17 conservation, the Secretary shall implement an agricultural,
18 forestry, and rural energy applied research program within
19 the Department of Agriculture in accordance with the Pro-
20 gram. The Secretary shall use, to the extent feasible, existing
21 facilities of the Department of Agriculture, the Wood Energy
22 Centers established under section 2041 of this title, and the
23 Agricultural Biomass Energy Centers established under sec-
24 tion 2052 of this title, to implement the applied research pro-

1 gram. Applied research under this subsection shall include,
 2 but not be limited to, applied research to develop—

3 “(1) economical and energy-efficient fuel from bio-
 4 mass;

5 “(2) techniques for using energy derived from bio-
 6 mass in the production, processing, and marketing of
 7 agricultural commodities and forest products, especially
 8 techniques that farmers and owners of nonindustrial
 9 forest land may use;

10 “(3) economical ways in which rural communities
 11 can use energy derived from biomass;

12 “(4) the use of wood, especially hardwood, as an
 13 economical and energy-efficient material in building
 14 construction; and

15 “(5) energy conservation systems and techniques
 16 for farmers, owners of forest land, rural residents, and
 17 rural communities.

18 “(b) Section 1 of the Act of June 29, 1935 (49 Stat.
 19 436, as amended; 7 U.S.C. 427), is amended by inserting
 20 after ‘irrigation);’ in the third sentence the following: ‘applied
 21 research to develop agricultural, forestry, and rural energy
 22 production, use, and conservation;’.

23 “(c) Section 3 of the Act of March 2, 1887 (24 Stat.
 24 441, as amended; 7 U.S.C. 361c), is amended by—

1 “(1) in subsection (a), inserting ‘(1)’ immediately
2 after the subsection designation and adding at the end
3 thereof a new paragraph (2) as follows:

4 “(2) There are further authorized to be appropriated
5 such sums as Congress may determine to be necessary, not
6 to exceed \$50,000,000 annually, solely for the purpose of
7 applied research at State agricultural experiment stations to
8 develop agricultural, forestry, and rural energy production,
9 use, and conservation. This authorization is in addition to any
10 other authorization provided in this Act or in other law.’; and

11 “(2) in subsection (b)(1), striking out ‘such sums’
12 and inserting in lieu thereof ‘the sums appropriated
13 under subsection (a)(1) of this section’.

14 “(d) Section 3(a)(1) of the Forest and Rangeland Re-
15 newable Resources Research Act of 1978 is amended by in-
16 serting ‘energy production, conservation of energy,’ immedi-
17 ately after ‘for timber,’.

18 “(e) Because of biomass energy production must be bal-
19 anced with food and fiber production and the land on which
20 these two types of production take place is finite, considera-
21 tion must be given to the land available for both types of
22 production. To ensure that land availability is given appropri-
23 ate consideration in developing biomass energy production,
24 the Secretary shall (1) include in the research performed
25 under this section analyses of the possible restrictions to bio-

1 mass energy production due to the unavailability of land, and
 2 (2) coordinate such analyses with similar activities under the
 3 Soil and Water Resources Conservation Act of 1977 and the
 4 Forest and Rangeland Renewable Resources Planning Act of
 5 1974.

6 “(f) The Secretary shall conduct a study of the feasibil-
 7 ity of alternate crop-livestock systems to produce both food-
 8 stuffs and fiber for domestic and export markets and biomass
 9 for use in the production of energy. The study shall include,
 10 but not be limited to, determination of—

11 “(1) the technical feasibility of such alternate sys-
 12 tems;

13 “(2) the proper use and conservation of soil and
 14 water resources for each alternate system;

15 “(3) potential fuel, livestock, and grain production
 16 under such alternate systems;

17 “(4) the practical farm-level applicability of such
 18 alternate systems; and

19 “(5) potential economic and Government policy
 20 initiatives to promote the development of such alter-
 21 nate systems.

22 The study shall be completed, and a report of the Secretary's
 23 findings submitted to Congress, by December 31, 1981.

1. "AGRICULTURAL, FORESTRY, AND RURAL ENERGY

2 EXTENSION

3 "SEC. 2032. (a) In order to facilitate the development of
4 agricultural, forestry, and rural energy production, use, and
5 conservation, the Secretary shall implement an agricultural
6 forestry, and rural energy extension program within the De-
7 partment of Agriculture in accordance with the Program to
8 disseminate the results of rural energy research performed
9 under this title and encourage farmers, owners of forest land,
10 rural residents, and rural communities to adopt projects for
11 the production and use of energy from biomass, and energy
12 conservation techniques. The program shall include onsite
13 demonstrations of techniques by which farmers and owners of
14 forest land may produce their own energy supplies, energy
15 consumption per unit of production is minimized, and rural
16 residents, businesses, and communities may reduce their
17 energy consumption.

18 “(b) The Act of May 8, 1914 (38 Stat. 372-374, as
19 amended; 7 U.S.C. 341-349), is amended by—

20 “(1) striking out in section 1 (7 U.S.C. 341) ‘and
21 home economics’ and inserting in lieu thereof ‘, home
22 economics, and rural energy’; and

23 “(2) adding at the end of section 3 (7 U.S.C. 343)
24 a new subsection (f) as follows:

1 “(f) There are further authorized to be appropriated
 2 \$50,000,000 solely for rural energy cooperative extension
 3 work. This authorization is in addition to any other authori-
 4 zation provided in this Act or other law. Such funds shall be
 5 used—

6 “(1) to establish core groups at the State level
 7 to—

8 “(A) train extension agents in agricultural,
 9 forestry, and rural energy production, use, and
 10 conservation techniques,

11 “(B) develop and manage citizen energy
 12 conservation assistance programs at the local
 13 level, and

14 “(C) perform such other activities as the
 15 Secretary of Agriculture determines necessary
 16 for the cooperative rural energy extension program, and

17 “(2) for the conduct of workshops and provision
 18 of other training, dissemination of information, and pro-
 19 vision of technical assistance with respect to the pro-
 20 duction of energy from biomass, as provided in section
 21 2053 of the Food and Agriculture Act of 1977.’.

22 “(c) The first sentence of section 6 of the Renewable
 23 Resources Extension Act of 1978 is amended by—

1 “(1) striking out ‘\$15,000,000’ wherever that
2 figure appears therein, and inserting in lieu thereof
3 ‘\$20,000,000’; and

4 “(2) inserting before the period at the end thereof
5 the following: ‘, including \$5,000,000 for each such
6 fiscal year for rural energy extension work conducted
7 under this Act’.

8 “COORDINATION OF RESEARCH AND EXTENSION

9 “SEC. 2033. (a) The research and extension programs
10 conducted under this title shall be coordinated with the food
11 and agricultural research and extension activities conducted
12 under title XIV of this Act.

13 “(b) The Board shall consult on a continuing basis
14 with—

15 “(1) the Federal Subcommittee on Food and Re-
16 newable Resources of the Federal Coordinating Coun-
17 cil for Science, Engineering, and Technology,

18 “(2) the Joint Council on Food and Agricultural
19 Sciences, and

20 “(3) the National Agricultural Research and Ex-
21 tension Users Advisory Board,
22 for the purpose of coordination of research and extension
23 activities.

1 “Subtitle E—Wood Energy Development

2 “WOOD ENERGY CENTERS

3 “SEC. 2041. (a) The Secretary shall establish four
4 Wood Energy Centers, each in a different geographic region
5 of the United States and located in an area containing sub-
6 stantial amounts of private forest land. To the extent practi-
7 cable, the Centers shall be established at existing Depart-
8 ment of Agriculture facilities for forest research.

9 “(b) Under the direction of the Board, each Wood
10 Energy Center shall—

11 “(1) perform applied wood energy production and
12 use and energy conservation research projects that rec-
13 ognize the needs and opportunities of the region in
14 which the Center is located;

15 “(2) develop and maintain a wood energy research
16 information bank;

17 “(3) field-test promising research findings on wood
18 energy production and use and energy conservation (in-
19 cluding home insulation, industrial energy-efficiency
20 monitoring, and other energy conservation systems and
21 techniques applicable to the region);

22 “(4) in cooperation with State extension services
23 and through contracts with local entities having the
24 necessary technical resources, provide technical assist-
25 ance to landowners, colleges and universities, and

1 other interested parties in its region on agricultural,
2 forestry, and rural energy production, use, and conser-
3 vation, and commercialization of rural energy projects;

4 “(5) demonstrate wood energy production and use
5 and energy conservation projects, using, to the extent
6 feasible, applied research performed under this title, in-
7 cluding, but not limited to, demonstrations of—

8 “(A) production, transportation, and handling
9 of fuel from wood;

10 “(B) use of wood energy for industrial parks,
11 rural businesses, and rural communities;

12 “(C) wood pyrolysis and gasification for crop
13 and lumber drying, poultry housing, and other
14 agricultural uses;

15 “(D) direct burning of wood for industrial
16 and home use;

17 “(E) in cooperation with land-grant institu-
18 tions and State foresters, using privately owned
19 land voluntarily offered and other land available
20 to the Forest Service, wood energy plantations;

21 “(F) in cooperation with land-grant institu-
22 tions, engineering techniques that efficiently use
23 wood for fuel; and

24 “(G) other projects designated by the Board;

1 “(6) disseminate information on new energy tech-
2 nologies through the conduct of conferences, seminars,
3 and training programs;

4 “(7) perform rural energy need analyses for rural
5 residents and communities and State governments
6 within the region; and

7 “(8) where appropriate, perform similar research,
8 field test, and demonstration programs with respect to
9 agricultural commodities.

10 “(c) The Wood Energy Centers shall implement the
11 provisions for solar energy model farms and demonstration
12 projects contained in subtitle H of title XIV of this Act.

13 “(d) Where appropriate, the Wood Energy Centers shall
14 share resources and coordinate efforts with the regional solar
15 energy research, development, and demonstration centers es-
16 tablished under section 1455 of this Act.

17 “(e) There are authorized to be annually appropriated
18 \$30,000,000 for the Wood Energy Centers, such sums to be
19 in addition to appropriations for forest research facilities that
20 house the Centers.

21 “WOOD ENERGY PRODUCTION COST SHARING

22 “SEC. 2042. (a) The Secretary may establish a wood
23 energy production cost-sharing program and may, under such
24 program, enter into agreements with owners of nonindustrial

1 private forest land to share the cost of forest management
2 practices that increase the production of wood for energy.

3 “(b) Cost sharing under this section shall be available to
4 owners of nonindustrial private forest land, including individ-
5 uals, groups, Indian tribes or other native groups, associ-
6 ations, corporations, or other legal entities owning one thou-
7 sand acres or less of private nonindustrial forest land capable
8 of producing wood for energy. Cost-sharing agreements en-
9 tered into under this section shall be based on individual
10 forest management plans that will ensure maximum develop-
11 ment of the land for wood for energy, developed by the land-
12 owners in cooperation with, and approved by, the State for-
13 ester or equivalent State official. The plans shall describe the
14 activities and practices necessary to improve the forest land
15 for the production of wood for energy. Practices eligible for
16 cost sharing shall include, but not be limited to, forestation,
17 timber stand improvement, and forest resources management
18 and protection.

19 “(c) In return for the agreement by the landowner to
20 implement practices contained in an individual forest man-
21 agement plan, the Secretary shall agree to share up to 75 per
22 centum of the cost of implementing those practices set forth
23 in the agreement for which the Secretary determines that
24 cost sharing is appropriate. The portion of the cost, including
25 labor, to be shared shall be set forth in the agreement.

1 “(d) Technical assistance shall be provided for the cost
2 sharing program under this section by State foresters or
3 equivalent State officials employed under section 2044 of this
4 title.

5 “(e) There are authorized to be annually appropriated
6 \$100,000,000 to carry out this section. The funds available
7 for cost sharing under this section shall be distributed by the
8 Secretary among the States based on the ratio of the acres of
9 nonindustrial private forest land in each State to the total
10 acres of nonindustrial private forest land in all the States.

11 “FOREST MANAGEMENT LOAN PILOT PROGRAM

12 “SEC. 2043. (a)(1) In order to encourage owners of non-
13 industrial private forest land to implement and maintain
14 forest management programs, and thereby increase the pro-
15 duction of wood for energy, the Secretary shall conduct a
16 pilot program of financial assistance to owners of nonindus-
17 trial private forest land. The program shall include, but not
18 be limited to, (A) insured loans and guaranteed loans that
19 provide periodic loan disbursements to participating landown-
20 ers, (B) consolidation for resale in private capital markets the
21 loan obligations of participating landowners, and (C) loans to
22 Federal or State chartered banks, savings and loan associ-
23 ations, cooperative lending agencies, Federal land banks, or
24 other legally organized lending institutions for the purpose of
25 making guaranteed loans under this section.

1 “(2) The pilot program shall operate for five consecutive
2 calendar years, beginning with the first full calendar year in
3 which funds are first made available under this section. No
4 new loans shall be insured or guaranteed under this section
5 after the fifth calendar year of operation of the pilot program.

6 “(3) The Secretary may defer the repayment of princi-
7 pal and interest on loans to landowners insured under this
8 section under such conditions as the Secretary shall deem
9 appropriate.

10 “(4) Any contract of insurance or guarantee executed by
11 the Secretary under this section shall be an obligation sup-
12 ported by the full faith and credit of the United States and
13 incontestable except for fraud or misrepresentation of which
14 the holder has actual knowledge.

15 “(5) The provisions of section 310B(d)(6) of the Consoli-
16 dated Farm and Rural Development Act shall apply to loans
17 insured or guaranteed under this section.

18 “(b) Any individual, group, Indian tribe or other native
19 group, association, partnership, corporation, or other legal
20 entity owning five thousand acres or less of nonindustrial pri-
21 vate forest land capable of producing wood for energy shall
22 be eligible to receive insured or guaranteed loans under this
23 section if the applicant certifies in writing, and the Secretary
24 determines, that the applicant is unable to obtain sufficient

1 credit elsewhere at rates and terms comparable to those pro-
2 vided in this section.

3 “(c)(1) The Secretary shall not insure or guarantee a
4 loan in excess of \$50,000 to any one eligible landowner
5 under this section.

6 “(2) The total period of time permitted for repayment
7 for a loan insured or guaranteed under this section shall not
8 exceed forty years.

9 “(3) the Secretary may guarantee to any Federal or
10 State chartered bank, savings and loan association, coopera-
11 tive lending agency, Federal land bank, or other legally orga-
12 nized lending institution not to exceed 90 per centum of that
13 portion of the overall loan to a landowner that exceeds the
14 market value of the assets securing the loan in the event of
15 default by the landowner.

16 “(4) Insured or guaranteed loans to eligible landowners
17 under this section shall be made upon the personal liability of
18 the borrower and shall be secured by (A) the land, (B) the
19 timber grown thereon, or (C) the land and timber with re-
20 spect to which the loan is made, and such other security as
21 the lender may require. If such loans to landowners are se-
22 cured by the timber alone, additional security may include
23 insurance on the timber crop against natural hazards, if such
24 insurance is available, or a performance bond on the out-
25 standing loan obligation.

1 “(5) Loans to eligible landowners guaranteed under this
2 section shall bear interest at rates to be agreed upon by the
3 lender and landowner, but not in excess of such rate as may
4 be determined by the Secretary. Loans insured under this
5 section shall bear interest at rates determined by the Secre-
6 tary, but not less than such rates as determined by the Secre-
7 tary of the Treasury taking into consideration the current
8 average market yield on outstanding marketable obligations
9 of the United States with remaining periods to maturity com-
10 parable to the average maturities of such loans, adjusted in
11 the judgment of the Secretary of the Treasury to provide for
12 rates comparable to the rates prevailing in the private market
13 and considering the Secretary’s insurance of the loans, plus
14 an additional charge prescribed by the Secretary to cover the
15 Secretary’s losses and cost of administration, and further ad-
16 justed to the nearest one-eighth of 1 per centum.

17 “(6) The landowner shall prepare, keep current, and
18 adhere to an individual forest management plan that shall (A)
19 be developed in cooperation with, and be approved by, the
20 State forester or equivalent State official, (B) describe the
21 activities needed to maintain or increase the productivity of
22 the owner’s forest land for the production of wood for energy,
23 and (C) include estimates of the volume of timber to be har-
24 vested during the term of the loan and the value thereof. The
25 estimated value so determined shall serve as the basis for

1 determining the principal amount of the loan. The landowner
2 may use the balance of the periodic disbursements received,
3 after bringing interest and any other charge current, in any
4 manner the landowner deems appropriate, so long as the pro-
5 visions of the management plan and loan agreement are
6 observed.

7 “(7) Borrowers who sell the forest land with respect to
8 which an insured or guaranteed loan is made before the loan
9 term is completed or who do not carry out the activities pre-
10 scribed by the forest management plan required by paragraph
11 (6) of this subsection shall make immediate repayment of all
12 principal and accrued interest, plus interest subsidies and
13 other costs that may have been incurred by the Secretary in
14 insuring or guaranteeing the loan, except as provided in para-
15 graph (12) of this subsection. In addition, the Secretary may
16 assess penalties the Secretary deems appropriate upon the
17 termination of the loan or failure by the borrower to carry out
18 the forest management plan prior to the time agreed upon by
19 the borrower and the Secretary or, in the case of guaranteed
20 loans, the lender.

21 “(8) The amount of the periodic loan disbursement to a
22 landowner under this section shall be based upon the future
23 expected market value of the timber securing the loan, but in
24 no case shall the total principal and interest obligation of the
25 loan exceed 80 per centum of the future expected market

1 value of the timber as estimated in the forest management
2 plan.

3 “(9) Individual loan agreements and forest management
4 plans shall be periodically reviewed by the lender, landowner,
5 and the preparer of the forest management plan. Following
6 such review, except as otherwise provided in this section, the
7 loan period, principal amount, interest rate, and amount and
8 interval of the periodic disbursement may be adjusted as
9 agreed upon by the landowner and lender.

10 “(10) At the discretion of the lender, loans guaranteed
11 under this section may, upon the application of the landown-
12 er, be transferred to, and assumed by, a new nonindustrial
13 landowner who agrees to the terms and conditions of the
14 loan, and assumes any outstanding liability and obligations
15 thereunder, and who otherwise qualifies under this section.

16 “(11) The borrower may prepay without penalty all or
17 any part of the outstanding loan obligation insured or guaran-
18 teed under this section. Income from the sale of timber cov-
19 ered by the loan agreement shall be applied to the outstand-
20 ing loan obligation. However, periodic loan disbursement
21 may continue over the full term of the loan, even if payments
22 applied to the loan obligation are made during the loan
23 period.

24 “(12) Except with respect to guaranteed loans, the
25 landowner shall agree that if at any time it shall appear to

1 the Secretary that the landowner may be able to obtain a
2 loan from any Federal or State chartered bank, savings and
3 loan association, cooperative lending agency, Federal land
4 bank, or other legally organized lending institution at rates
5 and terms comparable to those provided for in this section,
6 the landowner shall, upon request by the Secretary, apply for
7 and accept such loans in an amount sufficient to repay the
8 Secretary or the insured lender, or both, and to pay for any
9 stock necessary to be purchased in a cooperative lending
10 agency in connection with such loan.

11 “(d) To assist in the development of the program and
12 aid in preparing recommendations regarding the continuation
13 and expansion of the program, the Secretary shall appoint a
14 committee, to be in existence through the period of the pilot
15 program under this section, of not less than five persons, in-
16 cluding, but not limited to, representatives from public agen-
17 cies, private lending institutions, private forestry concerns,
18 and individual landowners. The Secretary shall consult with
19 the committee in the preparation of reports required under
20 subsection (f) of this section. The Secretary shall establish
21 procedures for the selection of members and operation of the
22 committee. Individuals who serve on the committee and are
23 not employed by the Federal Government shall be paid such
24 compensation for their services as the Secretary shall deter-
25 mine, but such compensation shall not exceed the daily

1 equivalent of the rate prescribed for grade GS-18 in section
2 5332 of title 5 of the United States Code per day, and actual
3 necessary traveling and subsistence expenses, or a per diem
4 allowance in lieu of subsistence expenses, as authorized by
5 section 5703 of title 5 of the United States Code for persons
6 in Government service employed intermittently, when assist-
7 ing in the development of the pilot program away from their
8 homes or regular places of business. The committee estab-
9 lished by this subsection shall coordinate its activities with
10 the Board.

11 “(e) The Secretary shall, in accordance with section 553
12 of title 5 of the United States Code, promulgate such final
13 rules and regulations as the Secretary deems appropriate to
14 implement the provisions of this section.

15 “(f) The Secretary shall annually report to Congress on
16 the progress of the pilot program conducted under this sec-
17 tion. The first such report shall be submitted upon the com-
18 pletion of the first year of operation of the pilot program. A
19 final report shall be submitted prior to completion of the fifth
20 calendar year of operation and include an evaluation of the
21 pilot program and the Secretary's recommendation on the
22 need for, and the nature and scope of, a permanent forest
23 management loan program.

24 “(g)(1) The loan program authorized under this section
25 shall be funded using moneys drawn from the Rural Develop-

1 ment Insurance Fund established under section 309A of the
 2 Consolidated Farm and Rural Development Act and shall be
 3 subject to the provisions of that Act governing that fund. The
 4 Secretary may use such moneys to (A) make insured loans to
 5 eligible landowners under this section, but not in excess of
 6 \$25,000,000 in total may be expended for such loans annu-
 7 ally, (B) guarantee loans to eligible landowners under this
 8 section, and (C) loan funds to legally organized lending insti-
 9 tutions for the purpose of making guaranteed loans under this
 10 section, but not in excess of \$10,000,000 in total may be
 11 expended for such loans annually.

12 “(2) There are authorized to be appropriated such sums
 13 as may be necessary for administrative and operating ex-
 14 penses under this section and reimbursement to the Rural
 15 Development Insurance Fund for funds withdrawn for the
 16 operation of the program. Such sums shall remain available
 17 until expended.

18 “ASSISTANCE TO STATE FORESTRY AGENCIES

19 “SEC. 2044. (a) The Secretary may make grants to
 20 State foresters or equivalent State officials for the employ-
 21 ment of additional foresters or equivalent State officials to
 22 provide technical assistance to owners of private forest land
 23 in (1) identifying the opportunities for, and increasing the
 24 production of, wood for energy, and (2) in developing individ-
 25 ual forest management plans under the wood energy produc-

1 tion and energy conservation cost-sharing program author-
2 ized under section 2042 of this title and the forest manage-
3 ment loans under the pilot program authorized under section
4 2043 of this title, and as necessary and appropriate to ensure
5 the efficient application of forest management practices under
6 such programs.

7 “(b) The Secretary may take such actions as the Secre-
8 tary deems necessary to make wood energy use training pro-
9 grams available to State foresters or equivalent State offi-
10 cials. The Secretary shall consult with the Secretary of
11 Energy on training materials and other assistance available
12 from the Department of Energy.

13 “(c) The Secretary may provide management and plan-
14 ning assistance under section 8 of the Cooperative Forestry
15 Assistance Act of 1978 to State foresters or equivalent State
16 officials, upon their request, on State programs relating to
17 the production of wood for energy.

18 “(d) There are authorized to be appropriated such sums,
19 not in excess of \$8,500,000 annually, as are necessary to
20 carry out the purposes of this section.

21 “(e) In determining the amount of financial assistance to
22 be provided to any State under this section, the Secretary
23 shall consider the quantity of forest growth that is underused,
24 and the potential for use of this material as fuel, in each
25 State, using as a basis for such consideration the Renewable

1 Resource Assessment prepared under section 3 of the Forest
 2 and Rangeland Renewable Resources Planning Act of 1974,
 3 along with other pertinent information.

4 "STATE ADVISORY COMMITTEES

5 "SEC. 2045. The Secretary shall establish permanent
 6 State advisory committees in States in which there are sig-
 7 nificant amounts of nonindustrial private forest land. These
 8 committees shall (1) advise the Secretary and the State for-
 9 ester or equivalent State official on its determinations as to
 10 the effectiveness of Federal programs designed to assist
 11 owners of private nonindustrial forest land in producing wood
 12 for energy, (2) determine the potential for development of
 13 markets for wood energy, and (3) report its findings on these
 14 matters to the Secretary and State forester or equivalent
 15 State official every six months. The Secretary shall establish
 16 procedures for the selection of members and operation of the
 17 committees. State forestry planning committees, where they
 18 exist, shall serve as advisory committees.

19 "FUELWOOD CONCENTRATION AND DISTRIBUTION

20 CENTERS

21 "SEC. 2046. (a) In order to improve the use of wood,
 22 and its wastes and residues, from public and private forest
 23 land and provide a ready source of fuelwood for homeowners,
 24 the Secretary may make loans to establish fuelwood concen-

1 tration and distribution centers that make fuelwood available
2 to homeowners.

3 “(b) Applicants for loans under this section shall be sub-
4 ject to the eligibility requirements for borrowers under sec-
5 tion 310B of the Consolidated Farm and Rural Development
6 Act.

7 “(c) There are authorized to be appropriated for such
8 loans \$10,000,000 annually for each of five fiscal years be-
9 ginning with the fiscal year ending September 30, 1980.

10 “NATIONAL FOREST SYSTEM ASSISTANCE IN WOOD
11 ENERGY DEVELOPMENT PROJECTS

12 “SEC. 2047. The Secretary shall make available wood,
13 and its wastes and residues, from the National Forest System
14 to assist in the research, field-tests, and demonstrations au-
15 thorized under sections 2041 and 2052 of this title. The Sec-
16 retary may make available the timber resources of the Na-
17 tional Forest System, in accordance with appropriate timber
18 appraisal and sale procedures, to commercial enterprises es-
19 tablished with loans or grants provided under section 2061 of
20 this title.

21 “RELATION TO PROGRAM PLAN AND BOARD

22 “SEC. 2048. The Secretary shall ensure that the imple-
23 mentation and conduct of the programs under this subtitle are
24 (a) in conformity with the Program and (b) under the direc-
25 tion of the Board.

1 “Subtitle F—Agricultural Biomass Energy Development

2 “DEFINITION

3 “SEC. 2051. For purposes of this subtitle ‘agricultural
4 biomass energy’ means energy produced from renewable re-
5 sources other than wood, or their wastes and residues.

6 “AGRICULTURAL BIOMASS ENERGY CENTERS

7 “SEC. 2052. (a) The Secretary shall establish four Agri-
8 cultural Biomass Energy Centers, each in a different geo-
9 graphic region of the United States and located in an area in
10 which there is intensive use of the land for growing agricul-
11 tural commodities. To the extent practicable, the Centers
12 shall be established at existing Department of Agriculture
13 facilities for agricultural research.

14 “(b) Under the direction of the Board, each Agricultural
15 Biomass Energy Center shall—

16 “(1) perform applied agricultural biomass energy
17 production and use and rural energy conservation re-
18 search projects that recognize the needs and opportuni-
19 ties of the region in which the Center is located;

20 “(2) develop and maintain an agricultural biomass
21 energy research information bank;

22 “(3) field-test promising research findings on agri-
23 cultural biomass energy production and use and rural
24 energy conservation (including home insulation, indus-
25 trial energy-efficiency monitoring, and other energy

1 conservation systems and techniques applicable to the
2 region);

3 “(4) train extension personnel to conduct agricul-
4 tural biomass energy workshops, on the production of
5 agricultural biomass energy, as provided in section
6 2053 of this title, and develop model training programs
7 for agricultural biomass energy workshops;

8 “(5) in cooperation with State extension services
9 and through contracts with local entities having the
10 necessary technical resources, provide technical assist-
11 ance to landowners, colleges and universities, and
12 other interested parties in its region on agricultural,
13 forestry, and rural energy production, use, and conser-
14 vation, and commercialization of rural energy projects;

15 “(6) demonstrate agricultural biomass energy pro-
16 duction and use and energy conservation products
17 using, to the extent feasible, applied research per-
18 formed under this title including, but not limited to,
19 demonstrations of—

20 “(A) production, transportation, and handling
21 of fuel from agricultural biomass;

22 “(B) the use of agricultural energy biomass
23 for industrial parks, rural businesses, and rural
24 communities;

1 “(C) the use of direct solar, passive solar,
2 wind, and geothermal energy to convert agricul-
3 tural commodities to fuel;

4 “(D) wood pyrolysis and gasification for crop
5 drying, poultry housing, and other agricultural
6 uses;

7 “(E) in cooperation with land-grant institu-
8 tions, engineering techniques that efficiently use
9 agricultural biomass for energy;

10 “(F) solar power for crop drying, irrigation
11 pumps, and other purposes; and

12 “(G) other projects designated by the Board;

13 “(7) disseminate information on new energy tech-
14 nologies through the conduct of conferences, seminars,
15 and training programs;

16 “(8) perform rural energy need analyses for rural
17 residents and communities and State governments
18 within the region; and

19 “(9) where appropriate, perform similar research,
20 field test, and demonstration programs with respect to
21 wood.

22 “(c) The Agricultural Biomass Energy Centers shall im-
23 plement the provisions for solar energy model farms and
24 demonstration projects contained in subtitle H of title XIV of
25 this Act.

1 “(d) Where appropriate, the Agricultural Biomass
2 Energy Centers shall share resources and coordinate efforts
3 with the Regional Solar Energy Research and Demonstra-
4 tion Centers established under section 1455 of this Act.

5 “(e) There are authorized to be annually appropriated
6 \$30,000,000 for the Agricultural Biomass Energy Centers,
7 such sums to be in addition to appropriations for agricultural
8 research facilities that house the Centers.

9 “AGRICULTURAL BIOMASS PRODUCTION ASSISTANCE

10 “SEC. 2053. (a) In order to enable the United States, by
11 1990, to produce annually agricultural biomass energy in
12 amounts equivalent to the energy available from six million
13 barrels of oil, the Secretary shall implement a program, using
14 the State extension services, to conduct workshops and pro-
15 vide other training, disseminate information, and provide
16 technical assistance with respect to the small-scale produc-
17 tion and use of ethanol, methanol, low and medium British
18 thermal unit gas, and other energy forms from agricultural
19 biomass (including, but not limited to, compost material). The
20 program shall be conducted in areas of the United States in
21 which there is intensive use of the land for growing agricul-
22 tural commodities, under the direction of the Board.

23 “(b) State extension services shall conduct agricultural
24 biomass energy workshops providing (1) instruction to inter-
25 ested parties on the construction and operation of agricultural

1 biomass energy production facilities, and (2) instruction to
2 county extension agents on the conduct of agricultural bio-
3 mass energy extension on the local level. The State exten-
4 sion services shall use personnel trained at the Agricultural
5 Biomass Energy Centers for the conduct of workshops, but
6 may also contract with colleges and universities, junior col-
7 leges, and vocational schools, including vocational agricultur-
8 al schools, for facilities and additional personnel needed for
9 the workshops. To the extent feasible, each workshop shall
10 be conducted at a location at which an operational agricultur-
11 al biomass production unit is available. To the extent feasi-
12 ble, not less than one hundred workshops shall be conducted
13 annually. At least 5 per centum of the county extension
14 agents in each State in which there is intensive use of the
15 land for growing agricultural commodities shall be trained
16 through the workshops on providing the practical training,
17 information, and technical assistance on agricultural biomass
18 energy production required under subsection (c) of this
19 section.

20 “(c) State extension services shall, at the local level and
21 on a continuing basis, make available practical training, in-
22 formation, and technical assistance to farmers, rural resi-
23 dents, and rural communities on economical and energy-effi-
24 cient small-scale production of ethanol and other agricultural
25 biomass energy. Such assistance shall include educational

1 programs to inform persons of Federal laws affecting the pro-
 2 duction, transportation, and handling of agricultural biomass
 3 energy products.

4 “(d) For the purpose of this section, ‘small-scale produc-
 5 tion’ means production annually of not less than one thou-
 6 sand gallons, nor more than two million gallons, of ethanol,
 7 or, for other forms of agricultural biomass energy, its energy
 8 equivalent.

9 “Subtitle G—Agricultural, Forestry, and Rural Energy
 10 Production, Use, and Conservation Loans, Demonstra-
 11 tion Grants, and Cost Sharing

12 “LOANS AND DEMONSTRATION GRANTS

13 “SEC. 2061. (a) In order to facilitate the development of
 14 biomass as a source of energy and improved energy conser-
 15 vation practices and reduce the Nation’s need for imports of
 16 petroleum and natural gas, the Secretary shall establish
 17 projects for rural energy conservation and the production and
 18 use of energy from biomass through direct, insured, or guar-
 19 anteed loans as provided in this section to finance the con-
 20 struction, establishment, renovation, or operation of commer-
 21 cial or on-farm projects.

22 “(b) In order to encourage the adoption of biomass
 23 energy production and rural energy conservation systems and
 24 techniques, the Secretary may make grants for the construc-
 25 tion, establishment, renovation, or operation of demonstration

1 projects for the production and use of energy from biomass or
2 rural energy conservation. The total amount of grants for
3 projects in any one State may not exceed \$10,000,000 in any
4 fiscal year.

5 “(c) To the maximum extent practicable, the Secretary
6 shall select for financial assistance under this section projects
7 that (1) show promise of success based on research, field-
8 testing, and demonstrations performed by the Wood Energy
9 Centers and Agricultural Biomass Energy Centers estab-
10 lished under this title and (2) carry out the Program.

11 “(d) Loans may be made or insured, or guaranteed, and
12 grants made under this section—

13 “(1) with respect to on-farm projects, to any
14 farmer or rancher in the United States, or on-farm, co-
15 operative, or private domestic corporation or partner-
16 ship that is controlled by farmers or ranchers and en-
17 gaged primarily and directly in farming or ranching in
18 the United States; and

19 “(2) with respect to commercial projects, to any
20 domestic public, private, or cooperative organization
21 organized for profit or not for profit, or individual who
22 is a United States citizen.

23 “(e) No loan may be made or insured, or guaranteed,
24 and no grant may be made under this section unless the Sec-
25 retary determines that the total energy content of the alter-

1 nate fuel to be manufactured under the project will exceed
2 the total energy from the petroleum and natural gas used in
3 manufacturing the alternative fuel.

4 “(f)(1) The total amount of loans made or insured under
5 this section in any fiscal year may not exceed \$250,000,000.
6 Not less than one-third of the total amount of loans made or
7 insured under this section in any fiscal year shall be allocated
8 for projects that use wood or wood wastes, and not less than
9 one-fourth of the total amount of loans made or insured under
10 this section in any fiscal year, including loans for projects
11 that use wood or wood wastes, shall be allocated for small-
12 scale production facilities.

13 “(2) The total amount of loans guaranteed under this
14 section in any fiscal year may not exceed \$1,000,000,000.
15 Not less than one-third of the total amount of loans guaran-
16 teed under this section in any fiscal year shall be allocated to
17 projects that use wood or wood wastes, and not less than
18 one-fourth of the total amount of loans guaranteed under this
19 section in any fiscal year, including loans for projects that use
20 wood or wood wastes, shall be allocated for small-scale pro-
21 duction facilities.

22 “(3) For the purpose of this subsection, ‘small-scale pro-
23 duction’ means production annually of not more than two
24 million gallons of ethanol, or, for other forms of biomass
25 energy, its energy equivalent.

1 “(g) The Secretary shall establish such terms and condi-
2 tions for loans and grants under this section as necessary to
3 implement the purpose of this section and ensure the prompt
4 repayment of loans.

5 “(h) Insofar as practicable, not less than 75 per centum
6 of the loans, loan guarantees, and grants under this section in
7 any fiscal year shall be executed by May 31 of such fiscal
8 year.

9 “(i) The Secretary may use any agency of the Depart-
10 ment of Agriculture—including the Forest Service, the
11 Farmers Home Administration, the Agricultural Stabilization
12 and Conservation Service, and the Rural Electrification Ad-
13 ministration—to carry out the loan and grant program under
14 this section.

15 “(j) The Secretary shall coordinate the loan and grant
16 program under this section with (1) the industrial hydrocar-
17 bon and alcohol loan and grant programs under section 1419
18 of this Act and section 509 of the Rural Development Act of
19 1972, as added by section 1420 of this Act; (2) the farm loan
20 programs under the Consolidated Farm and Rural Develop-
21 ment Act, as amended by section 2062 of this title; and (3)
22 the program for solar energy model farms and demonstration
23 projects under sections 1452 through 1454 of this Act.

24 “(k) The Secretary may issue such regulations as are
25 necessary to implement this section.

1 power from small streams and rivers in rural areas';
 2 and

3 "(4) inserting in the first sentence of section
 4 310B(a) 'commercially feasible projects for biomass
 5 energy production,' after 'control,';

6 "(5) striking out in section 312(a)(2) 'solar energy'
 7 and inserting in lieu thereof 'biomass or solar energy
 8 or increases energy conservation';

9 "(6) inserting '(a)' after the section designation of
 10 section 346; and

11 "(7) adding at the end of section 346 a new sub-
 12 section (c) as follows:

13 "(c) In addition to amounts otherwise authorized, loans
 14 for each of the fiscal years ending September 30, 1980, Sep-
 15 tember 30, 1981, and September 30, 1982, are authorized to
 16 be insured, or made to be sold and insured, or guaranteed—

17 "(1) under the Agricultural Credit Insurance
 18 Fund as follows:

19 "(A) real estate loans, \$50,000,000 for
 20 farm improvements that establish nonfossil energy
 21 systems on the farm; and

22 "(B) operating loans, \$20,000,000 for
 23 equipment that uses biomass or solar energy or
 24 promotes energy conservation,

1 which amounts, in the discretion of the Secretary, may
2 be used either for insured or guaranteed loans; and

3 “(2) under the Rural Development Insurance
4 Fund as follows:

5 “(A) industrial development loans,
6 \$270,000,000, of which \$20,000,000 may be for
7 insured loans and \$250,000,000 may be for guar-
8 anteed loans, with authority to transfer amounts
9 between such categories, to be use for commercial
10 biomass energy production projects; and

11 “(B) community facility loans, \$25,000,000
12 for loans to rural electric cooperatives for electric
13 generating projects that use nonfossil energy,
14 which amount, in the discretion of the Secretary,
15 may be used either for insured or guaranteed
16 loans.’.

17 “RURAL ELECTRIFICATION DEMONSTRATION GRANTS FOR
18 ALTERNATE ENERGY SOURCES

19 “SEC. 2063. (a) The Administrator of the Rural Electri-
20 fication Administration may make grants to owners of rural
21 electric systems eligible to receive loans under the Rural
22 Electrification Act of 1936, or federations of such owners, for
23 projects demonstrating alternate energy and conservation
24 technologies including, but not limited to, small-scale hydro-

1 power, geothermal, fuel cell, wind, solar, and wood, peat,
2 and other biomass projects.

3 “(b) Grants may cover all or a portion of the cost of
4 such projects, including, but not limited to, expenditures for
5 construction and operation, and required economic, environ-
6 mental, technological, planning, or other studies. Grants may
7 be made alone or in combination with other governmental
8 assistance or private funding.

9 “(c) Grants shall be made on such terms and conditions
10 as the Administrator considers appropriate to further the pur-
11 poses of this title.

12 “(d) There are authorized to be appropriated for pur-
13 poses of this section \$10,000,000 for the fiscal year ending
14 September 30, 1980; \$20,000,000 for the fiscal year ending
15 September 30, 1981; \$25,000,000 for the fiscal year ending
16 September 30, 1982; and \$30,000,000 for the fiscal year
17 ending September 30, 1983. Any amounts appropriated
18 under this section are to remain available until expended.

19 “LENDING FOR ENERGY PRODUCTION AND CONSERVATION
20 PROJECTS BY PRODUCTION CREDIT ASSOCIATIONS,
21 FEDERAL LAND BANKS, AND BANKS FOR COOPERA-
22 TIVES

23 “SEC. 2064. The Farm Credit Administration shall en-
24 courage the production credit associations, Federal land
25 banks, and banks for cooperatives to use the existing

1 authority in the Farm Credit Act of 1971 to make loans to
 2 farmers for the establishment or operation of commercially
 3 feasible biomass energy production or energy conservation
 4 projects.

5 "AGRICULTURAL CONSERVATION PROGRAM ENERGY
 6 CONSERVATION COST SHARING

7 "SEC. 2065. Section 8 of the Soil Conservation and Do-
 8 mestic Allotment Act is amended by—

9 "(1) inserting after the word 'conservation' in the
 10 first sentence of subsection (b) the following: '(including
 11 energy conservation)'; and

12 "(2) inserting after the first two sentences of sub-
 13 section (b) a new paragraph as follows:

14 "The Secretary may provide financial assistance to ag-
 15 ricultural producers for the purpose of encouraging energy
 16 conservation by sharing the costs and providing technical as-
 17 sistance for (1) the establishment, restoration, and better use
 18 of shelter belts to conserve energy in farmsteads, feed lots,
 19 and rural residences, (2) the establishment and use of mini-
 20 mum tillage systems, (3) the efficient storage and application
 21 of manure and other suitable wastes to the land for land fer-
 22 tility and soil improvement, (4) the use of integrated pest
 23 management, (5) the use of energy-efficient irrigation water
 24 management, and (6) the establishment of water conservation

1 measures necessary for the improvement of crop yields in
2 relation to the amount of energy used in crop production.’.

3 “Subtitle H—Effective Date

4 “SEC. 2071. The provisions of this title shall become
5 effective October 1, 1979.”.

96TH CONGRESS
1ST SESSION

H. R. 5428

To provide for research and development programs to increase the utilization of biomass.

IN THE HOUSE OF REPRESENTATIVES

SEPTEMBER 27, 1979

Mr. FITHIAN introduced the following bill; which was referred jointly to the Committees on Agriculture, Interstate and Foreign Commerce, and Science and Technology

A BILL

To provide for research and development programs to increase the utilization of biomass.

1 *Be it enacted by the Senate and House of Representa-*
2 *tives of the United States of America in Congress assembled,*

3
4 SHORT TITLE

5 SECTION 1. This Act may be cited as the "Biomass
6 Research and Development Authorization Act of 1979".

7 STATEMENT OF FINDINGS AND POLICY

8 SEC. 2. (a) The Congress finds that—

9 (1) biomass fuels can contribute significantly to
the Nation's solid, liquid, and gaseous fuel supplies in

1 the near term at costs competitive with the replace-
2 ment costs of petroleum-based fuels;

3 (2) sufficient resources exist within the United
4 States to provide feedstocks for biomass fuels without
5 threatening vital food and fiber production;

6 (3) the orderly development and use of biomass
7 fuels is consistent with the Nation's environmental
8 goals; and

9 (4) greater coordination and cooperation between
10 Federal agencies is necessary for the prompt and or-
11 derly development of biomass fuels.

12 (b) It is the policy of the United States to support tech-
13 nology development for biomass fuels at appropriate levels
14 and to reduce institutional barriers to the development and
15 commercialization of biomass fuels.

16 TITLE I—DEPARTMENT OF ENERGY FUNCTIONS

17 IN GENERAL

18 SEC. 101. It is the purpose of this title to provide for
19 the conduct of additional biomass research and development
20 within the Department of Energy. The funds specified in the
21 succeeding provisions of this title are authorized to be appro-
22 priated to the Secretary of Energy for fiscal year 1980 in
23 accordance with section 660 of the Department of Energy
24 Organization Act, for operating expenses for the programs
25 involved, and shall be in addition to any other funds author-

1 ized to be appropriated for the same or related purposes by
2 other laws.

3

POWER SYSTEMS

4 SEC. 102. To provide for the development of intermedi-
5 ate- and small-scale gasification and direct combustion sys-
6 tems, with the objective of developing, demonstrating, and
7 commercializing near-term bioconversion applications using
8 agricultural and forest residues, there are authorized to be
9 appropriated the sum of \$12,400,000 for systems develop-
10 ment (solar applications) and the sum of \$3,900,000 for dem-
11 onstrations (solar applications). Of the total amount author-
12 ized by the preceding sentence, \$3,100,000 is to be used in
13 supporting the design and implementation of safety and per-
14 formance standards for residential wood heating systems, the
15 development of advanced high-efficiency stoves; and
16 \$10,200,000 is to be used in funding the development and
17 demonstration of low-Btu gasification units in industrial and
18 agricultural applications.

19

GASOHOL TECHNOLOGY DEVELOPMENT

20 SEC. 103. To provide for research and development in
21 gasohol technology, including acid hydrolysis, enzymatic hy-
22 drolysis, and onfarm fermentation, there are authorized to be
23 appropriated the sum of \$2,000,000 for technology support
24 (biomass) and the sum of \$5,000,000 for conversion technol-
25 ogy (biomass).

1 INTEGRATED FARM SYSTEMS

2 SEC. 104. To provide for the development and imple-
3 mentation of onfarm energy production systems, including
4 the funding of design studies and development projects which
5 integrate food, feed, and fuel production (with particular at-
6 tention to comparisons of integrated farms with conventional
7 farms as to net energy conserved, net profits, and soil and
8 water conservation effectiveness), there is authorized to be
9 appropriated the sum of \$3,500,000 for systems development
10 (solar applications). In carrying out the program under this
11 section, the Secretary of Energy shall coordinate his activi-
12 ties with those of the Science and Education Administration
13 in the Department of Agriculture.

14 ANAEROBIC DIGESTION

15 SEC. 105. To provide for the development of onfarm
16 anaerobic digestors, there is authorized to be appropriated
17 the sum of \$2,300,000 for technology support (biomass). The
18 Secretary of Energy shall administer the program under this
19 section in coordination with the integrated farm systems pro-
20 gram under section 104 and with the Secretary of Agricul-
21 ture, and shall make at least \$2,000,000 available to the
22 Agency for Rural Development in the Department of Agri-
23 culture, from the sum appropriated pursuant to the preceding
24 sentence, for the conduct of activities of the type described in
25 that sentence.

1 ADVANCED PYROLYSIS RESEARCH AND DEVELOPMENT

2 SEC. 106. To provide for applied research into fast
3 throughput pyrolysis systems having high reaction rates and
4 potentially high efficiencies, with the objective of providing
5 biomass conversion technologies capable of producing ethyl-
6 ene which can be converted to ethanol, acetylene, and other
7 petrochemical feedstocks which will replace fossil fuels, there
8 is authorized to be appropriated the sum of \$4,000,000 for
9 conversion technology (biomass). The Secretary of Energy
10 shall administer the program under this section in coordina-
11 tion with the Office of Energy Research in the Department of
12 Energy, and shall make at least \$2,000,000 available to such
13 Office, from the sum appropriated pursuant to the preceding
14 sentence, for use in the conduct of activities described in that
15 sentence.

16 BASIC BIOMASS RESEARCH

17 SEC. 107. To provide for projects investigating the gas
18 phase kinetics and catalysis of biomass in the area of basic
19 and applied thermochemical research, with the objective of
20 increasing the scientific understanding of bioconversion and
21 laying the groundwork for engineering advancements in that
22 field, there is authorized to be appropriated the sum of
23 \$4,100,000 for research and exploratory development (bio-
24 mass). The Secretary of Energy shall administer the program
25 under this section in coordination with the Office of Energy

1 Research in the Department of Energy and with the National
2 Science Foundation, and shall make at least \$3,000,000
3 available to the Office and the Foundation, from the sum
4 appropriated pursuant to the preceding sentence, for the con-
5 duct of activities of the type described in that sentence.

6 AGRICULTURAL RESOURCE UTILIZATION RESEARCH AND
7 DEVELOPMENT

8 SEC. 108. To provide for the development and demon-
9 stration of a diverse range of feedstock cultivation and har-
10 vesting systems capable of use in the near term, with the
11 objective of developing supply systems capable of delivering
12 feedstock to energy users in an economically and environ-
13 mentally acceptable fashion (and with particular emphasis
14 given to the integration of agriculture and energy programs
15 and policies), there is authorized to be appropriated the sum
16 of \$13,000,000 for technology support (biomass). In carrying
17 out the program under this section, the Secretary of Energy
18 shall make at least \$4,000,000 available to the Secretary of
19 Agriculture, from the sum appropriated pursuant to the pre-
20 ceding sentence, for the conduct of activities of the type
21 described in that sentence.

1 TITLE II—DEPARTMENT OF AGRICULTURE

2 FUNCTIONS

3 IN GENERAL

4 SEC. 201. It is the purpose of this title to provide for
5 the conduct of additional biomass research and development
6 within the Department of Agriculture. The funds specified in
7 the succeeding provisions of this title are authorized to be
8 appropriated to the Secretary of Agriculture for fiscal year
9 1980 for operating expenses for the programs involved, and
10 shall be in addition to any other funds authorized to be appro-
11 priated for the same or related purposes by other laws.

12 COMMERCIALIZATION

13 SEC. 202. To provide for a comprehensive commercial-
14 ization activity in support of near-term bioenergy applications
15 including fermentation, gasification of agricultural and forest
16 residues, and direct combustion in utility and industrial appli-
17 cations (complementary to the technology development activ-
18 ities carried out under the power systems program referred to
19 in subsection (b)), there is authorized to be appropriated the
20 sum of \$8,400,000 for market development and training. In
21 carrying out the program under this section the Secretary of
22 Agriculture shall give particular attention to the integration
23 of commercialization initiatives with the Department of
24 Energy, and shall make at least \$4,400,000 available to the
25 Secretary of Energy, from the sum appropriated pursuant to

1 the preceding sentence, for the conduct of joint commercial-
2 ization programs of the type described in that sentence.

3 FOREST RESOURCE UTILIZATION RESEARCH AND

4 DEMONSTRATION

5 SEC. 203. To provide for the development and imple-
6 mentation of a forest waste and residue supply infrastructure
7 (in coordination with the commercialization program under
8 section 202), including the establishment of energy markets
9 for residues resulting from conventional forest harvests and
10 stand treatment operations, and including the development
11 and demonstration of low-cost harvesting equipment which is
12 capable of removing biomass (both merchantable and non-
13 merchantable) from a variety of forest regions (with particu-
14 lar attention given to integrating forest and energy programs
15 and bringing potential wood suppliers together with potential
16 wood fuel users in the private sector), there are authorized to
17 be appropriated the sum of \$17,000,000. In carrying out the
18 program under this section, the Secretary of Agriculture shall
19 make at least \$8,000,000 available to the Department of
20 Energy, from the sums appropriated pursuant to the preced-
21 ing sentence.

Statement of Weldon Barton
Director, Office of Energy
U.S. Department of Agriculture

MR. CHAIRMAN AND MEMBERS OF THE SUBCOMMITTEE:

I am pleased to appear before the Subcommittee this morning, with Assistant Secretary Rupert Cutler.

From an agricultural energy perspective, the USDA views the utilization of wood for energy as a major part of the Department's energy conservation and production activities designed to assist in meeting President Carter's energy goals.

The Administration has established a goal of reducing U.S. dependence on foreign oil by the equivalency of 4.5 million barrels per day by 1990, through a combination of energy conservation and production of new domestic energy supplies.

In support of the President's goals, Secretary Bergland has proposed the following goal for the agricultural and forestry sectors for the year 1990:

Agricultural production and forestry production and processing: net energy self-sufficiency, under conditions that sustain productivity and maintain other objectives in both of these sectors.

This calls for, by 1990, the production of enough energy from agricultural and woody biomass materials so that, together with measures to conserve energy in agriculture and forestry, these sectors are contributing as much biomass energy to the general U.S. economy as they are taking in petroleum and other energy from the general economy. Thus, agriculture and forestry would be self sufficient on a net accounting basis.

Presently, agricultural production and forestry production and processing together consume about 6.7 percent of total U.S. energy usage, or 5.2 quadrillion BTU's (quads). Wood and wood residues are now providing about 1.3 quads of energy. To reach the net energy self sufficiency goal based on biomass sources alone, we estimate that an additional 4 quads of energy would have to be produced from all agricultural and forestry biomass sources.

A number of existing authorities will be used by USDA, in coordination with the Department of Energy and other agencies, to pursue the energy self-sufficiency goal. These include: (1) extensive technology transfer programs; (2) pilot projects and programs; (3) contracting authorities and other quasi-regulatory measures; and (4) financial incentives to foster adoption.

We are not certain what mix of authorities will be most effective in pursuing the goal and we recognize that economics and market forces--much of which remains uncertain at the present time--will have a primary influence on how the goal is realized. Nevertheless, given the present economics of energy and biomass sources, it does not seem imprudent to seek net energy self-sufficiency in agriculture and forestry by 1990--and to adapt and use existing authorities so that economics and market forces are assisted in exerting the maximum influence in achieving the goal.

Clearly, woody biomass will serve as a primary raw material source in meeting the 1990 goal. Wood and wood residues are already providing the equivalency of about 46 percent of the energy used in forestry production, transport and processing (about 1.3 of 2.8 quads) and the Department of Energy has identified wood combustion as an area particularly ready for further commercial application.

The USDA is currently analyzing our on-going and projected wood energy activities and initiatives of the Forest Service and other USDA agencies. This is being done within the context of USDA's current and projected energy conservation activities and initiatives, and of energy production activities involving other USDA units and other biomass feedstock materials. The analysis is designed to develop balanced and coordinated usage of authorities in pursuing the 1990 goal.

With respect to wood energy, we have tentatively identified three alternative levels of activity, and mixes of authorities. These are estimated by 1990 to yield increments of additional forest sector energy production of 1.0, 2.0, and 4.1 quads, respectively. When these production levels are related to projected total purchased energy usage by the forestry sector in 1990 (including production, transport and processing of

forestry products), the three options range from leaving the sector energy-deficient by 1.8 quads to achieving a net energy "surplus" of 2.0 quads.

We plan to complete our overall analysis by the end of this year, in order to provide an improved basis for determining how the production of energy from wood and other biomass materials and the conservation of energy in agriculture and forestry can best contribute to the President's overall energy goals.

Population of the United States is projected to increase to 245 million people by 1990 (Census Series II projections), and food and fiber production needs would increase by 20 percent to account for population growth and continued export of 20 percent of our food and fiber output. A preliminary analysis indicates that without conservation efforts agricultural production energy requirements would increase from 2.0 quads to about 2.4 quads of energy. However, our research agencies indicate that by 1990 energy conservation efforts can reduce our agricultural production energy needs to less than 2 percent greater than in 1974--2.044 quads of energy.

The possible "surplus" of up to 2.0 quads of additional biomass energy from forestry activities suggests that only minor contributions of biomass energy from the agricultural production sector would be required to meet the net energy self-sufficiency goal. However, there are over 600 million tons of biomass residues produced annually from our farms and it is expected that significant amounts of energy will be produced from the farm residues and from use of some commodities. Furthermore, we do not know at this time what is the best balance among forestry and agricultural materials as sources of energy related to the 1990 goal.

In considering present and projected use of wood and other agricultural materials for energy and USDA activities in this area, the following are important considerations: (1) USDA activities are often designed to protect related objectives (such as soil conservation; protection of different types of wood for their highest-value use; maintenance of adequate food production to meet domestic and export needs and commitments, etc.), while allowing economics to pull agricultural and forestry biomass materials into

energy uses; (2) wood will often be most economically used when burned as a solid fuel where it backs out the use of liquid or gaseous fuels; (3) increased wood utilization per se, regardless of whether directly for fuel or for chemical, construction, or alternate uses, tends to serve energy conservation goals--since wood is generally less energy intensive to produce than steel or aluminum for construction and for other end uses.

The USDA, while continuing its surveys of potential wood availability for energy purposes and related research and development work, is expanding its activities in pilot and demonstration projects and programs designed to encourage commercial utilization of wood materials under proper conditions. The following are examples of these efforts:

- USDA is establishing demonstration projects for use of wood as a fossil fuel substitute. These demonstrations are encompassing a variety of uses of wood energy, including space heating for homes and buildings, industrial uses, and electric generation and co-generation. They are being carefully selected for potential economic feasibility.

One such wood-energy demonstration project is now in place in Oregon, where large volumes of timber have been killed by insects. Energy products are being given a high priority during the salvage of this dead timber, resulting in wood chips being marketed to local industries for boiler fuel. The USDA and DOE are cooperating on this project.

- A wood-energy pilot project involving ASCS and the Forest Service was begun in April 1979 in three counties in each of four New England States, and on October 17 was expanded to include the six-state New England area. The project pays for all costs to private woodlot owners for the technical assistance needed to develop 10-year forest management plans and for marking the existing stand of timber for selective cutting for fuel use. Seventy-five percent of the cost of building access roads, where necessary, is also provided. The expanded pilot project will result in the cutting of about 259,000 cords of fuel wood, will cost about \$1.4 million, and should replace about 777,300 barrels of home heating oil at a current value of \$11.2 million.

The primary long-term purpose of this fuel wood pilot project is the protection of the residual stands of timber on the acreage harvested for fuel wood, and the management of the remaining stands on a sustained-yield basis over the 10-year period of the management plan and beyond. Information from the pilot project will be disseminated so that the private sector is encouraged to assume responsibility for similar practices in other areas.

- A pilot project has been tentatively approved by USDA for a loan guarantee of some \$6.9 million to Enerco, Inc., Langhorne, Pennsylvania, to manufacture and place at diverse locations, mobile units designed to convert forest and agricultural residues into gas, oil and charcoal for fuel and other uses. Each of these mobile pyrolysis units is expected to produce 60 tons a day of gas, oil and charcoal, with an energy content of 1 billion BTU's. Total annual energy production is estimated at 13.5 trillion BTU's. The TVA has purchased one of these units for testing purposes, and final approval of the USDA loan guarantee for commercial reproduction of the unit is contingent on the satisfaction performance of the TVA unit on a continuous basis.

- Another pilot project tentatively approved by USDA for a loan guarantee would support the construction by Guarantee Fuels, Inc., of two plants in North Carolina to refine forestry and agricultural residues into fuel pellets for direct burning in industrial boilers. The project is designed to convert daily 1,200 tons of wet agricultural and forestry residues into 600 tons (9.7 billion BTU's) of homogeneous, transportable, storable fuel pellets for direct combustion. The project includes provision for a burner mechanism to be installed at textile mills, brick manufacturing plants, or other industrial applications which will enable the conversion of plants from oil or gas to the wood pellets with little difficulty. The technology of this project has the potential for widespread applicability, where a clean-burning fuel is desired as a substitute for oil or gas. The loan guarantee will be approximately \$5.85 million for the Guarantee Fuels project.

There are other projects concerning wood energy in progress or being planned, involving the joint efforts of the Forest Service, Farmers Home Administration, Rural Electrification Administration, Science and Education Administration, and other USDA agencies. As the USDA seeks to expand wood energy utilization toward reaching the overall goal for 1990, we will attempt wherever possible to take advantage of, and build upon, the existing forestry management and assistance programs of the Forest Service and other USDA agencies. A pilot program involving use of future timber sales contracts for removal of wood volumes in addition to the primary products, as provided in H.R. 5220, is the type of approach that must be employed if the USDA is to make a direct contribution to expanded use of wood for energy purposes on a sustained basis. We have provided our specific views on this type of approach in the context of our report on H.R. 5220.

With regard to H.R. 5428, the "Biomass Research and Development Authorization Act of 1979" which is pending before this Subcommittee, the Department of Agriculture fully supports the concept of expanded research and development on biomass energy as evidenced by the joint efforts of the Department of Energy and the Department of Agriculture. The USDA is currently working with DOE to finalize a program memorandum on biomass energy under which the USDA will provide management for the production and supply efforts of the DOE biomass program, and will provide project development and management for the small-scale technology development program for on-farm uses of anaerobic digestion and alcohol production. This funding pass-through program from DOE to USDA will include an emphasis upon forestry biomass, will involve about \$12 million, and will be signed by the end of this calendar year. We are convinced that joint efforts of DOE and USDA in the biomass area which draw upon the combined strengths of both agencies are most productive, and do not believe that the enactment of legislation is necessary at this time.

Enclosure 3

STATUS REPORT - WOOD UTILIZATION AND ENERGY APPLICATION PROGRAM

PROJECT & SOURCE	DESCRIPTION	STATUS
1. Hybrid Geothermal-wood generation R-5, California Water Board and Geo-Products	Project will use geothermal water as feed-stock and for drying wood chips. Wood to heat water to 9000 for generating electricity. Spent water may be used for greenhouses. California Water Board will purchase 75% of electricity to pump water to lower California. Rest will be sold in Susanville area. Lassen NF will be main wood supplier.	Funds for feasibility study - FS-\$300,000 committed; State-\$150,000 committed; DOE-\$800,000 committed 1/; Geo-Products \$750,000 committed. Call for bids on resource feasibility study being prepared for early issuance. 2/ \$200M FY 79, \$225 in FY 80 \$400M FY 81
2. Wood heating and cooling Berea Lab Forest Service Research	Addition to Lab will use wood fired heat pump unit.	Approved for inclusion in request for bids. Contract award by September 1, 1979. May request DOE funds to study and monitor operation.
3. Wood Power Generation Wolverine Electric & Consumers Power Company, Michigan, R-9	Electric Companys plan to install a series of 25 Mwt. plants in Michigan. First plant scheduled for operation 1982. A market for 285,000 cds. each plant. NFS State and Private lands will benefit. Long term contract may become an issue.	Hersey is site for first plant. FS-State environmental assessment underway. Morbark Forester now working for CPC. Expect early action to develop wood procurement strategy. Environmental group has issued negative assessment report.
4. Pilot Study use of Forest Residues for fuel. R-2, RMS	Proposal to convert South Dakota School of Mines boiler to wood from forest residues and gather cost and operational data as well as demonstrate use of wood. Potential use - 20-30,000 tons per year. Possible wood-coal combination system.	Proposal calls for investment of FR-\$2 million; SDSM-\$1 million over 5-year period. Simmering while other alternatives are investigated.

Status Report - WUEAP Projects

9. Utilization of wood for heat and power generation in Vermont. FS, State of Vermont, Burlington Electric Company Systems Vermont State of Vermont	FS proposes study to determine effect of strong energy wood demand on environment, economy, wood & soil resource, and existing markets. Study will also verify logging costs. State wishes to test Cable Systems for small timber on steep terrain. Has selected scottish made system for 1st test. Seeks \$89,000 for training crews, renting equipment and operating sales. To improve utilization and management and reduce hazard and damage. State has initiated program to pay operator to haul to concentration area near good road where people can cut to stove length. Rotating fund pays operator and is replenished by purchaser payments. Legislature appropriated \$175,000 for fund. Similar approach to above Vermont project	DOE approved, then withheld, funding. Still hopeful
10. Fuelwood Concentration Yards State of Vermont	To improve utilization and management and reduce hazard and damage. State has initiated program to pay operator to haul to concentration area near good road where people can cut to stove length. Rotating fund pays operator and is replenished by purchaser payments. Legislature appropriated \$175,000 for fund. Similar approach to above Vermont project	We have proposal. Will take to DOE by September 7.
11. Fuelwood Concentration Yards New York	Proposal will study, test and demonstrate fuelwood systems on small forest holdings. Performance and cost will be documented. Power company proposes to salvage beach logs and trees for chipping and electric generation in Alaska. Millions of tons of this material lies along the shore and is a hazard and eyesore. Other uses are impractical. Many acres are being cleared in Alaska to make farmland. Wood could be used for both electric generation and heating in small Alaska communities. Both oil and electricity high priced to natives.	Two yards operating. Several more selected and advertised for bids. Wood being cut on Forest, Recreation, and Fish and Game Lands. Costs to consumer \$20-\$40/cord which covers all State costs.
12. Logging Systems for small timber U. Syracuse, NY Energy Office	Proposal will study, test and demonstrate fuelwood systems on small forest holdings. Performance and cost will be documented. Power company proposes to salvage beach logs and trees for chipping and electric generation in Alaska. Millions of tons of this material lies along the shore and is a hazard and eyesore. Other uses are impractical. Many acres are being cleared in Alaska to make farmland. Wood could be used for both electric generation and heating in small Alaska communities. Both oil and electricity high priced to natives.	Proposal being prepared by State.
13. Power generation for driftwood in Alaska. Private.	Proposal will study, test and demonstrate fuelwood systems on small forest holdings. Performance and cost will be documented. Power company proposes to salvage beach logs and trees for chipping and electric generation in Alaska. Millions of tons of this material lies along the shore and is a hazard and eyesore. Other uses are impractical. Many acres are being cleared in Alaska to make farmland. Wood could be used for both electric generation and heating in small Alaska communities. Both oil and electricity high priced to natives.	Proposal reviewed by FS and submitted by NY Energy office to DOE for funding.
14. Power generation and home heat from agricultural clearing. FS, State of Alaska	Proposal will study, test and demonstrate fuelwood systems on small forest holdings. Performance and cost will be documented. Power company proposes to salvage beach logs and trees for chipping and electric generation in Alaska. Millions of tons of this material lies along the shore and is a hazard and eyesore. Other uses are impractical. Many acres are being cleared in Alaska to make farmland. Wood could be used for both electric generation and heating in small Alaska communities. Both oil and electricity high priced to natives.	Dropped
15. Power generation and home heat from agricultural clearing. FS, State of Alaska	Proposal will study, test and demonstrate fuelwood systems on small forest holdings. Performance and cost will be documented. Power company proposes to salvage beach logs and trees for chipping and electric generation in Alaska. Millions of tons of this material lies along the shore and is a hazard and eyesore. Other uses are impractical. Many acres are being cleared in Alaska to make farmland. Wood could be used for both electric generation and heating in small Alaska communities. Both oil and electricity high priced to natives.	DOE financed study by Battelle Institute underway. FS providing input to study.

Status Report - WUEAP Projects

2. FS Greenhouse, Petersburg, Alaska, FS	R-10 proposes installing wood boiler in nursery and using existing oil system as back-up. Petersburg sawmill only 5 miles away may supply fuel and itself by a candidate for cogeneration.	Ready for detailed feasibility analysis.
3. Cogeneration, Alaska Timber Corp, Klawock, ATC, State, FS	Alaska timber proposes generating electricity from residue using waste steam for drying. Can generate enough for itself and towns of Klawock and Craig. Local REA will buy electricity as will Klawock	Referred to FmHA for guaranteed loan. Talks underway. ATC has purchased boilers and generators. Need building and conveyor--about \$1 million. Should be resolved first quarter of FY 1980.
4. Production of stove logs from mill and forest Residues. Jim Burton Associates, State of Wyoming	Company proposed expanding production of stove logs from 50 to 100 tons day using mill residues. FS and State will test systems for producing and delivering logging residues as part of input.	Proposal being prepared
5. Residue removal Credits. FS	Forest Service will test use of Residue Removal Credit System similar to road construction credits to have logging residues brought to concentration area where fuelwood can be cut by public.	Test will be initiated in FY 1980
6. Cogeneration Hulett, Wyoming Five County RC&D, State, FS, and Mills	Hulett has 4 wood processing plants producing 500 tons of residues per/day which could convert to 14 megawatts of electricity. Process steam could be used in dryers, and to heat the high school and part of the town residences. Mills use about 2 mgwt.	Proposal presented to DOE 8/29 for feasibility study to determine what size generation facility should be built. FmHA interested in guaranteed loan potential. REA will buy excess but price may be low.
17. Ethanol Plants - Honey Lake and Burney, California Geo-Products, State	Proposed two 8500 gal/day plants using mill and forest residues. As a by-product 3 mgwts of electricity will be generated	Proposal submitted to DOE by Geo-Products.
18. Economic Analysis model FS	Pacific Southwest station plans to make economic analysis of harvesting wood for power generation which can be developed as a model for future analyses.	Study plan is being developed.

Status Report - WUEAP Projects

19. Fuelwood distribution project - Bangor, Maine Area. State, FS	Using labor from manpower and youth programs fuel wood would be cut and removed from the forest to be sold in the urban area. Recipients would be the elderly and the handicapped. Cost to individuals will be on an ability to pay basis.	Currently the group is seeking funds for this project. Believe funds will come from HUD through Community Service Program.
20. Pennsylvania - Fire wood pilot project - Harrisburg Area. State	1,000 cords of Gypsy moth killed oak will be cut on State Lands, trucked, and piled at the Harrisburg State Fair site. Estimated cost delivered to Harrisburg is \$65-\$70/cd. Wood will be resold for \$75-\$80/cd. 500 cds will be available to dealers for resale.	State expects to break even on this project. Some legal problems. Wood dealers say it is hurting their business.
21. Wood residue cogeneration facility, University of Oregon Eugene Water & Electric Board (EWEB) and FS	Add forest residue to mill residue in cogeneration plant already operating on campus. Unit currently provides 60% of electrical needs plus heating and cooling buildings. Project will determine collection and conversion costs plus volumes available.	EWEB & FS each contributing \$10,000 to Project Development DOE cooperation and support expected.
22. EWEB electric generation and industry cogeneration.	EWEB seeks to secure needed wood additions to its mill residue sources from logging residues. In addition, it is considering an additional generating facility using logging residues. Electricity would be sold to California grid replacing oil generation until EWEB needs power in 1980's.	EWEB now obtaining 20% of needs from forest residues. Has option on unused Hines Lumber Co. generator. If forest residues are cheap enough will generate electricity for sale.
23. Seattle City Light Silviculture Project	DOE has funded study to grow hardwoods on power company ROW and test silvicultural and fertilization practices to maximize energy wood production. Will establish feasibility and practical procedures for growing energy biomass.	PNW prepared the plans and will oversee the operations. Planting in 1979 and 1980 cost about \$1MM over 5 years.

Status Report - WUEAP Projects

24. Additional wood generation or cogeneration plants: Kinzua Hepper, Hepper Ore., Tacoma, Washington; SUS Lumber Co., Bey Wa.; Klickitat PUD Bey Wa.; Coos-Curry Elect. Coop., Coos Bay, Ore.; Brooks-Scanlon Lbr. Co., Bend, Ore.; Simpson Lbr. Co., Shelton, Wa.	Most will use processing residues.	Some FS involvement. Study completed. Being studied for funding.
25. Hanford Tree Farm	Test of farm crops & trees irrigated with warm waste water from nuclear plant. Hybrid poplar looks best but many species will be tested.	6 acres planted to trees using well water as control. When nuclear plant is completed in 1982 warm water will be substituted to compare.
26. Dow-Corning Direct Combustion-Michigan	New construction will use wood boiler for steam and heat. Will use \$150,000 cords/yr.	Resource study complete. Expect this plant will be built sometime in the next 2 years.
27. North Star Electric Cooperative-Minnesota	Propose series of wood biomass generation facilities along 165 miles of the Canadian Border. Will sort for logs. Chips will be processed to methanol for storage and use during peaking periods.	Conceptual stage looking for help in preparing formal proposal.
28. Vaagan Lbr. Co., Coleville, Wa.	Cogeneration using processing waste. Will produce 4000 KW.	Begin operation this fall. Co. has 15 year contract with Power Co. to sell excess electricity.
29. Battelle Lab. Gasification Study	Convert forest residues to pipelines grades Methane for use in making urea fertilizer. Also will test production of other gases.	Funded by DOE. Success to date, beyond expectations. Study done 1980.
30. Morton-Randall, Lewis County, Washington	Municipal waste, forest and mill residue power plant.	Feasibility study underway.
31. Washington Power Company	Forty mgwt. power plant using 500,000 ton/year mill and forest residue.	Plant being designed scheduled to operate 1982.
32. Twin Timber Sale-Willamette NF	Willamette has offered and sold this sale which consist of two clearcut blocks--one requiring removal of all material 3" and larger--the other 11" and larger. Residue will be sold to EWEB (Eugene Water and Electric Board) for cogeneration plant. EWEB & FS will be collecting cost data for future sales and possible expansion.	Sale was bought in August '79. Operation soon.



DEPARTMENT OF AGRICULTURE
OFFICE OF THE SECRETARY
WASHINGTON, D.C. 20250

9 OCT 1979

Honorable Herman E. Talmadge
United States Senate
Washington, D.C. 20510

Dear Senator Talmadge:

I am responding to your request of September 24 for Administration views on S. 1775, a bill to promote the development and conservation of rural energy that was introduced on September 19. We have not had an opportunity to fully evaluate the changes made in markup but believe that most of the comments that follow are still applicable. We appreciate your interest in the topic and your willingness to work with the Administration in developing a sound and effective energy program. It is in this spirit that we offer our views.

First, we agree that the production of energy from renewable resources has an important role to play in this Nation's energy future. As you know, President Carter has long been a strong proponent of the use of renewable resources, including agricultural and forestry biomass material. The expanded use of biomass was a central part of the National Energy Plan the President submitted to Congress in May 1977. It is also intended that it be a part of the Energy Security Corporation proposal now pending before Congress. The Administration has proposed that the current 4 cent per gallon excise tax exemption for gasohol be extended indefinitely. We believe this is extremely important and would provide a significant incentive for the construction of additional alcohol production capacity. In addition, the Administration has voiced support for a contingent authorization of up to \$100 million for each of fiscal years 1980 and 1981 for direct or guaranteed loans for the construction of smaller scale alcohol fuel plants of up to \$3 million per project. Funding for such loans would come from receipts of the windfall profits tax, and thus, program implementation would be contingent upon enactment of that authority. We urge prompt approval of these measures.

In addition to these legislative proposals, the Administration has aggressively exercised its administrative authorities in this field. This includes the use of existing loan and grant programs to finance the construction of small scale plants, technical assistance in the design and operation of alcohol fuel plants, a several-fold increase in research and development funding, the use of gasohol fuels in Federal vehicles, and the simplification of Federal reporting requirements for alcohol fuel producers. The Administration has also prepared legislation, introduced as S. 1200, to simplify current regulatory requirements applicable to

those distilled spirits plants which operate solely to produce a product for fuel use. In short, we are strong and enthusiastic supporters of the development of energy from biomass sources.

With regard to S. 1775, we have several fundamental disagreements.

As you know, a major theme of the President's energy policy is to provide a central focus for the government's energy planning and resource allocation and to make our national energy plan comprehensive in scope, covering all forms of energy, all areas of the country and all sectors of our economy. To establish in the Department of Agriculture a separate planning board for some aspects of energy production, use, and conservation; to establish separate energy use and conservation goals for certain economic sectors and geographic areas that might not be feasible or compatible with established national goals; and to provide separate and independent funding of all these activities outside of the Department of Energy and the Energy Security Corporation, all of which are proposed by S. 1775, would result in a fragmentation of responsibility that could undermine our ability to develop a unified set of actions to resolve our energy problems.

Though a centralized, coordinated planning and resource allocation system is essential to ensure success in achieving our National energy objectives, the President's proposal envisions using the capabilities of many agencies in implementing our plans, including the Department of Agriculture. Thus we would support the concept of a major role for the Department of Agriculture in research and development in the biomass area, and would be pleased to work with your Committee in ensuring that the Department has all necessary authority to conduct such programs. The funding for such activities however, should continue to be through appropriations allocated by DOE to the Department of Agriculture and other Federal agencies as appropriate. This will ensure that what is undertaken in the agriculture and forestry areas as well as other areas of research contribute optimally toward our overall energy objectives. We also support making full use of the Department of Agriculture in reaching energy conservation goals, in the delivery of small scale loans and technical assistance for energy production.

The Administration also recognizes that the production of fuel from agricultural commodities and forestry products impacts heavily on food, agricultural, and forestry policies, and that such biomass production must be closely integrated with food, agricultural and forestry programs and policies. The Department of Agriculture clearly has an important and continuing role to play in this regard.

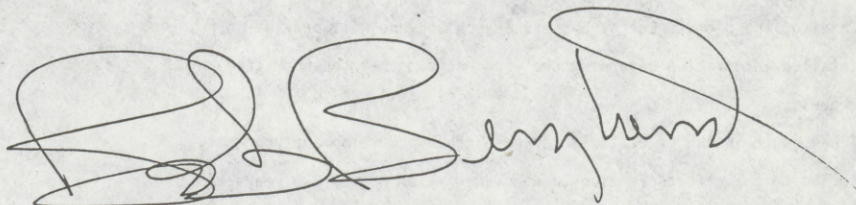
We strongly disagree with the proposal to establish a separate loan and loan guarantee program for larger scale biomass plants funded through the Department of Agriculture. The Administration has proposed that the Windfall Profits Tax be used as the source of revenue for

commercialization purposes and that the Energy Security Corporation be responsible for commercialization of a range of new fuels using domestic resources. The development of fuels using agricultural commodities and other biomass sources is an important part of the Energy Security Corporation's charter. The Energy Security Corporation should be given the sole responsibility for encouraging the development of all sorts of synthetic fuels, including those derived from biomass. Only in this manner can the corporation trade off among the varieties of synthetic fuels, assuring that the mix of fuels developed for the nation is appropriate.

Given the fundamental disagreements cited above, we strongly recommend that S. 1775 not be enacted. We believe the President's program as proposed will meet the needs of all elements of our Nation in solving our energy problems. We would be pleased to work with the Committee in identifying new authorities, if any, that might be needed to enable the Department of Agriculture to participate appropriately in this energy program.

The Office of Management and Budget advises that there is no objection to the submission of this report, and that enactment of S. 1775 would not be in accord with the President's program.

Sincerely,

A large, stylized handwritten signature in dark ink, appearing to read "S. S. Myers". The signature is written in a cursive, flowing style with large loops and a long horizontal stroke extending to the right.

SECRETARY

STATEMENTS OF DR. BENNETT MILLER
PROGRAM DIRECTOR FOR
SOLAR, GEOTHERMAL, ELECTRIC AND STORAGE SYSTEMS
AND
MR. SANFORD HARRIS
BRANCH CHIEF FOR
BIOMASS ENERGY SYSTEMS
UNITED STATES DEPARTMENT OF ENERGY

Dr. Miller

Mr. Chairman and Members of the Committee:

I am pleased to have this opportunity to speak to you today concerning the Department of Energy's view of wood as an energy source and the work we have on-going in the area of biomass energy in general, and wood in particular. Accompanying me today is Mr. Sanford Harris who is the Chief of the Biomass Energy Systems Branch and who will provide more detailed information regarding the wood program that the Committee may request.

I have been in charge of the solar research and development programs, including the efforts related to wood energy for nearly two years and I believe that among the biomass resources of the United States, wood is and will remain the major source of feedstocks for energy. Of the estimated 2 percent of our national energy needs that are derived from biomass today, virtually all of it comes from wood. This is predominantly in the form of direct combustion of wood wastes in the forest products industry. The President has set as a national goal that 20 percent of our energy shall come from solar and other renewable energy sources by the year 2000. We expect as much as half of this to come from biomass, and the majority of that from wood. Since studies indicate that our energy consumption by the year 2000 will equal about 100 quads annually, we are predicting that as much as 5 to 8 quads of energy per year will come from the forests by the year 2000. These estimates should indicate to you that the Department of Energy is starting to appreciate that our Nation's forests are a great untapped energy resource. At the same time we are learning the need to exercise caution in using this resource. It will require wise leadership and cooperation among all parts of the government and the private sector to insure that this

energy resource can be harnessed without harm to the ecological, recreational and traditional non-energy needs that are met by the forests.

I believe that the biomass programs that we have developed in support of wood use reflect our perceptions of wood's significant near-term potential as an energy source and I would like to have Mr. Harris review this part of the program for your information. Then I would like to return for a discussion of the legislation under consideration today.

Mr. Harris

The largest part of our effort has been directed toward the improvement of older technologies and the development of new ones to use wood in ways other than direct combustion. These include gasification to produce low-and medium-Btu gas for direct use as a fuel, or for conversion and enhancement to produce richer gas for transport. We are also working on pyrolysis, that is, the treatment of wood by heat in the absence of air to produce rich gas and char. These are both useful products for direct heat, and the gas may be converted to more concentrated energy forms. In the longer term, we hope to liquefy wood to produce an oil resembling #6 commercial oil which could prove valuable as a heating oil. Further, we are reviving and improving the technology to produce ethyl alcohol from wood. This technology may be a strong competitor to ethanol production, from grains and sugar crops and, because of the lower cost of wood, may become the dominant method of alcohol production.

These efforts are an extensive part of the program. This fiscal year we will reach some decision points with regard to the future of these conversion technologies and to our program emphasis in coming years.

One way to enhance the use of wood is to expand the resource base through improved management and harvesting techniques. This may eventually take the form of silvicultural energy farms. These would simply be environmentally sound tree farms in which species, selected for their fast growth are raised for direct combustion or for conversion

to other energy products. This concept could more than double the available annual wood energy resource within the next 20 years. We have launched several projects, in the area of wood production and harvesting, each addressing a significant opportunity to expand the resource available for use.

In parallel with these programs, a wood resource manager was appointed within the former Office of Conservation and Solar Applications to manage a program to ensure the transition of wood technologies to commercial application. His responsibilities cover residential, commercial, and industrial uses of direct wood combustion. All of the various components of these programs, including specialized work on industrial and residential applications, have been coordinated through the appropriate offices involved with each of these end use sectors. Under the new organization of the Department, all these offices will serve under the Assistant Secretary for Conservation and Solar Energy. We expect that this new organization will improve the coordination of technology transfer activities and thereby accelerate commercialization.

It is important to reiterate that we know the primary importance of wood in all its forms and potential uses. We are encouraged by the amount of public support we have received so far, and we are working as closely as we can with the various organizations and individuals who know and appreciate this opportunity.

The wood energy R&D program at the Department of Energy is part of a larger program in Biomass Energy Systems. Other efforts within the program are devoted to conversion technologies which are available for near term applications including fermentation of sugars and starches and digestion of animal wastes for methane production developed for use on farms or through agricultural cooperatives. In parallel, efforts are underway to increase production of biomass species applicable to these and advanced systems currently under development. The advanced biomass technologies include gasification, anaerobic digestion and other systems which can take advantage of agricultural residues

and other cellulosic materials to produce economically competitive fuels. Innovative and very advanced research is also being pursued to identify new and improved biomass species for production options, and to develop more efficient processes for conversion of biomass to energy. Many of these cannot make a significant contribution to energy supplies until after 1990 making the wood energy program all the more important because it promises an early payoff.

Authorizations for grants, loans, and other financial support in DOE programs for biomass commercial implementation have been limited. Loan guarantees for biomass conversion facilities producing alternative fuels have been authorized through the Department of Energy Act of 1978 (PL 95-238). Draft regulations under this act have been issued by the Department. However, under this law there have been no appropriations to implement the program for biomass energy systems. Another alternative, which is already starting to be implemented, is the use of existing loan programs at other agencies to introduce these technologies into the marketplace. Loan programs at agencies such as the Economic Development Administration, the Small Business Administration, the Community Services Administration and the USDA, are already starting to be used to support the construction of fermentation and anaerobic digestion plants.

In order to carry out this extensive energy development program for biomass, DOE has decentralized responsibility for specific program elements to other organizations. The main focus of activity remains the Biomass Energy Systems Branch in DOE Headquarters, which is responsible for the research, development and demonstration activities necessary to make wood and other biomass systems commercially feasible. These activities, as described in the previous sections of this testimony, are currently supervised at Headquarters by a staff of five professionals. We are actively recruiting for three additional professionals and two positions in the support staff. In addition, two professionals in the Office of Solar, Geothermal, Storage and Electrical Energy Systems are assigned to support the Branch and oversee biomass activities including wood technologies for the Program Director.

Operations in DOE are increasingly being decentralized to field organizations. The Biomass Branch has assigned lead technical responsibility for specific components of the program to offices and laboratories in which there are experts in particular fields. These include the Department of Agriculture's Forest Service and Science and Education Administration which manages the production and supply components and residues and wastes work in the Office of CSA and in DOE operation offices. Most of the technical program management is decentralized, although Headquarters continues to maintain control over the general direction and policies of the wood program.

The Solar Applications Office, which like our program, is now part of the combined Office of Conservation and Solar Energy, has been active in the application of proven wood combustion technology. They have worked in close liaison with the Biomass Energy Systems Branch, which provides technical support and assistance. The Industrial Applications Program of the Solar Applications Office has managed residential and industrial wood combustion projects for the Branch. A Wood Resource Manager has been appointed to promote rapid commercialization of systems using the direct combustion of wood. The Branch is supporting this effort by committing \$2 million in FY 79 to fund demonstration projects in the fields of residential heating, wood stove design, and development of safety and health standards. The cooperative efforts will be facilitated by the recent reorganization which puts all solar technology development and commercialization under the Assistant Secretary for Conservation and Solar Energy. Significant improvements in the coordination and the efficiency of the efforts are expected to result. The new structure will also provide for an orderly and timely progression of wood and other biomass technologies through the development process from research to final commercial implementation.

Another area in which close coordination and cooperation in wood energy must continue is in the work being performed jointly by DOE and the Department of Agriculture. A Memorandum of Understanding (MOU) describing how the Departments will work together was signed October 30, 1978. Over the last year we have been working under this Departmental MOU which requires the completion of a specific Program MOU delineating

areas of cooperation and responsibilities for each Department in the area of "Biomass as an Energy Source." The draft biomass memorandum being developed by the two departments stipulates that the Department of Agriculture will provide field management for the production and supply efforts of the DOE biomass program, and will provide project development and management for the small-scale technology development program for on-farm uses of anaerobic digestion and alcohol production. DOE retains the responsibility for the overall program guidance and policy, and establishes objectives and criteria which are to be jointly accomplished. It is expected that a final biomass memorandum will be signed by the end of this calendar year. The total budget for this effort to be managed by USDA in FY 80 will be about \$12 million.

I hope that this brief review has answered most of your questions and has conveyed some of the sense of optimism we feel about biomass in general and wood in particular, a renewable energy resource, and some of the progress we have made in management of the government's wood utilization programs. I will now defer to Dr. Miller who will discuss the proposed legislation relating to wood.

Dr. Miller

I would like to talk about the legislation under consideration by this Subcommittee, H.R. 5397, H.R. 5220 and H.R. 4313. We welcome the support and interest in renewable energy that has been expressed by the Congress and the general public, especially in the area of near-term technologies. These bills would add significant amounts of money to specific elements of our FY 80 biomass program. We believe however, that the budget which was proposed by the Administration, reviewed and passed by Congress, and enacted by the President as PL 96-69 provides for a sufficient and balanced research and development effort on biomass energy systems. We believe that the pace of these efforts is consistent with the stage of development of the technologies and products being developed. We understand that USDA will provide more detailed comment on H.R. 5220 and H.R. 4313. Finally, with respect to H.R. 5397 the Department defers to the views expressed by the Secretary of Agriculture in his October 9, 1979 letter on a companion bill S. 1775, to Senator Talmadge. We at DOE, like the nation as a

whole, are acutely aware of the need to reduce our dependence on imported oil. We are, therefore, looking carefully at a variety of options to use biomass to provide liquid fuels or to otherwise displace current oil usage. We are, for example, currently reviewing our effort in alcohol fuels to determine what steps may be taken to accelerate the availability of alcohol for the industrial and transportation sectors.

This ends my prepared statement. I appreciate having the opportunity to present an overview of our biomass energy programs and some of our current activities. If you or the other subcommittee members have any questions, we will be happy to answer them .

Thank you.

STATEMENT OF
S. DAVID FREEMAN
CHAIRMAN
TENNESSEE VALLEY AUTHORITY
TO THE
SUBCOMMITTEE ON FORESTS
COMMITTEE ON AGRICULTURE
THE HOUSE OF REPRESENTATIVES
NOVEMBER 14, 1979

The United States currently uses 75 quadrillion Btu's of nonrenewable energy each year. Nearly half our energy consumption is satisfied by oil. Approximately 50 percent of this total or nearly 20 quads is imported oil. In economic terms, this represents a \$50 billion contribution to our current economic problems. More importantly, the world's dependence on one source of energy will continue to exacerbate international tensions, economic chaos, and the loss of personal freedoms as governments, by necessity, decide who can and cannot have much needed fuels.

One immediately available alternative to our continued, heavy dependence on foreign oil is wood. Wood is one of America's energy aces. At present, we are using approximately one quad of energy from solar and wood energy resources annually. In spite of the massive increase in energy usage over the past hundred years, our consumption of wood energy is about half of what it was a century ago. Today, with proper forest management and stocking programs, I believe our forests could supply about

9.5 quads of renewable energy each year without interfering with other wood product and fiber uses. If more intensive programs are undertaken, the yearly potential of wood as a renewable energy resource--19 quads-- could nearly equal by the middle of the next century the amount of oil currently imported to this country each year. With proper safeguards, this can be done in an environmentally sound manner, but as I will note later it is essential to proceed with great care. Before continuing, however, I must stress that the views expressed herein, particularly with respect to the need for legislation, are my own and not those of the Administration.

In the Tennessee Valley, forest biomass increases at an annual rate of 2.3 billion cubic feet. This represents the heating equivalent of 30 million tons of coal on 30.5 million acres of forest land. Another way of expressing this potential is: one acre of forest land produces the equivalent of one ton of coal per year. The forest biomass used in the forest products industry equals 5.9 million tons of coal each year. If 2 percent of the remaining growth is used to build up the growing stock, 50 percent of the excess could be used for energy production while the other 50 percent could be used for an expanding wood products industry.

TVA is, of course, no stranger to the forest or the wood lot. The Tennessee Valley is about 60 percent in forests, and TVA played no small role in converting eroding land to valuable and beautiful wooded areas. As a regional resource development and management agency, TVA has a nationally acclaimed program in managing forest resources in harmony with other environmental objectives. What's more, TVA is the only Federal agency which is in the implementation end of both the forest management and energy business.

To illustrate this point, I would like to briefly describe several of our ongoing initiatives. For the past two years, TVA has been developing a wood-energy program focused on the needs of individual homeowners. This has involved the development of wood harvesting and management projects aimed at the needs of small acreage landowners, who are typical of the Tennessee Valley and the eastern United States. It has also involved the evaluation of new generation wood-burning stoves and the transportation energy costs associated with a decentralized wood-energy program. Based on these feasibility studies, TVA recently approved a \$5.3 million loan program in conjunction with its local energy distributors to install 6,000 wood-burning stoves in homes that want to conserve electricity and save on their utility bills.

Another TVA demonstration project seeks to use wood waste from a local industry to produce energy fuels in a pyrolysis unit. The unit is designed to produce heavy oil, low Btu gas, and charcoal from dry wood residues. When operational, the unit should be able to provide most of the fuel needs for Maryville College at a net profit for the college.

In addition to these initiatives, TVA is evaluating the relationship between wood energy and transportation. At TVA's Land-Between-the-Lakes and other TVA facilities, we are using 10 percent ethyl alcohol, 90 percent gasoline mixtures to operate our vehicles. Other alternate energy sources for transportation needs which are being evaluated include charcoal, methanol, and other forest biomass derivatives. We need only survey the efforts of Japan and parts of Europe 35 years ago to realize

that these alternate fuel options deserve renewed consideration. An additional option is oleoresins derived from pine and other conifers. These compounds are already used as petroleum substitute feedstocks, and their value as motor fuels is virtually unexplored.

TVA's experience in the use of forest biomass for energy has clearly pointed out that any wood-energy legislation must take into consideration both energy and economic values. As wood becomes more valuable as either a home heating fuel or a transportation fuel, its substitute, steel or aluminum for building materials, for example, may be less costly in economic terms but more costly in energy terms. TVA feels that energy is certainly as important as economic currency in determining the relative merits of wood for energy. By stressing this point, any legislation dealing with the potential of wood for energy should contain the energy-economic balance necessary to meet the Nation's energy needs while protecting the forest ecosystem.

Let me insert one note of caution here. Wood energy is potentially an important renewable energy resource, but only if we take all the measures that must be taken to renew it. We need to claim energy but not at the expense of the forest. Overcutting and other abuses are clear dangers. Impacts on the land, water, and the aesthetics in forest areas will dictate more precautions than ever before. In our quest for eventual energy self-sufficiency, we must proceed with great care.

Rather than address each bill separately, I shall comment on several general areas of wood-energy legislation and how the various bills meet the needs of those areas. It is our feeling at TVA, based on our experience in forestry and agriculture, that any wood-energy legislation should have provisions which deal with the following areas:

1. the need for wood-energy centers to further applied research;
2. incentives and technical assistance for careful forest planning and management, especially for small landowners;
3. the need for wood collection and distribution centers;
4. integration of wood-energy programs with other biomass projects;
and
5. recognition of the regional aspects of wood-energy programs.

1. APPLIED RESEARCH (Wood Energy Centers)

Realization of the full potential of wood energy will help meet the Nation's energy needs. At the same time, we must not lose sight of the important competing interest involved--wood for non-energy uses, wildlife habitat, ecological balance, and avoidance of forest depletion by balancing wood use with new wood production. Moreover, even in this time of energy shortages, we should not forget the aesthetic value of certain trees, forests, and timber stands.

The balancing of these competing interests while trying to increase the contribution of wood to fulfill our energy needs will require further applied research, technical assistance, and demonstration projects. The supporting research and development needed to discover and refine the technology is integral to the expanded utilization of biomass energy.

H.R. 5428 would increase Federal support of technical development for biomass fuels. While listing specific areas of increased fund authorization for research and support, the bill does not centralize the research. One way to perform this basic research on an organized basis is to establish a network of wood-energy research centers. Such centers could provide a location for interested people to go for the technical and developmental knowledge needed for work with wood as an energy resource. These centers could also function as a major source of practical information to individual landowners.

H.R. 5397 would establish four Wood Energy Centers, each in a different geographic region of the United States. H.R. 5220 would authorize loans for the purpose of carrying out demonstrations and pilot projects in wood utilization. I believe such centers and pilot projects are desirable to assure that research results are applied to real world situations as soon as possible. These are the types of programs needed in order to make wood energy practical and economical because such centers and pilot projects would disseminate vital information and demonstrate new processes.

We at TVA believe research alone is insufficient. There must be active utilization of the processes developed. H.R. 5397 and H.R. 5220 both seek to assist with the commercialization and utilization of biomass energy systems in the United States. The bills propose a variety of approaches: loans, technical assistance, demonstration, guarantees, and training.

2. WOOD LOT MANAGEMENT

As more people and industries turn to wood energy to meet some of their energy needs, it is important to increase the productivity of forest land for wood energy purposes. As mentioned above, we should not lose sight of the other values and benefits which can be derived from that forest land. Programs that deal with individual forest and land management plans must be developed which recognize the need to protect the environmental quality of the resource and preserve the ecological balance of our woodlands.

One of the primary reasons private landowners are not stimulated to implement forest management plans is that most plans emphasize the cutting of wood instead of presenting the landowner with a complete package of benefits he can expect--including wildlife, recreation opportunities, and other benefits for himself and his family through implementation of a comprehensive management plan.

A forest management system that has worked well is TVA's Woodland Resource Allocation Procedure (WRAP). It attempts to peak the interest of small, private landowners by giving them a plan which produces an attractive mix of benefits and, indeed, sometimes maximizes outputs

other than wood in accordance with the landowners' own personal interest. A WRAP-produced plan, which incidentally is being used extensively by one state forestry department and is being considered and experimented with by others, could be a logical and attractive tool to be used as an incentive to encourage landowner participation in wood-energy production in the Tennessee Valley and elsewhere around the Nation. Wood for energy purposes should be maximized, but only to the degree it is consistent with the other forest uses the landowner himself wants to preserve.

TVA also has several programs directed toward private landowners and designed to help them improve management on their woodlands to produce a mixture of benefits. One of these new programs will work this way: The small, private owners will be given encouragement and technical assistance to market their cull wood, harvest residues, and perhaps some low-grade timber through local entrepreneurs. Emphasis is placed on environmentally sound harvesting. In the counties where we are promoting the use of wood stoves, we have started this new program to assist small landowners and at the same time protect the timber stands against adverse impacts.

The objectives of this program are to (1) ensure an efficient and environmentally sound harvest of otherwise unmarketable wood, (2) ensure fair compensation to the small forest owner, and (3) work for improvement of his forest stand. That latter aspect--improvement of the small forest stand--could produce very beneficial results in a few years.

These programs, along with such efforts as TVA's self-financed loan program for the purchase and installation of wood heaters in homes, and the pyrolysis unit previously mentioned illustrate the potential for increased use of forest products on a small-scale decentralized level.

Both H.R. 5397 and H.R. 5220 would provide for forest utilization.

H.R. 5397 would permit cost-sharing agreements based on individual forest management plans that would ensure the maximum development of the land for wood for energy. At present, that bill does not reflect the environmental concerns expressed above. H.R. 5220's wood-utilization program would address forest protection and management among its other activities. Its scope and authorization should be expanded and more detailed in order to ensure increased attention to forest management.

H.R. 4313, on the other hand, would provide grants to the states to employ more state foresters and would authorize actions to make forest fuel utilization training programs available to state foresters. This increased awareness by state foresters should allow the foresters to provide greater assistance and information to more woodlot owners. That could lead to more intelligent and varied use of the forest.

3. WOOD COLLECTION AND DISTRIBUTION CENTERS

The creation of a strong and reliable wood delivery system is absolutely essential if wood is going to become part of the overall energy solution. If consumers shift to wood, they have to be able to identify dependable, stable sources upon which they can rely.

Today in most communities, the "delivery system" is typified by the man with a small ad in the paper advertising a pickup truck load of wood. The buyer cannot count on consistent quality, quantity, or even supply. Likewise, the seller cannot count on a steady market which would make fuelwood harvesting a reasonably profitable and continuing enterprise. Legislation in this area must address this problem. The seller must have a dependable market for his fuelwood, and the consumer must have a source of supply large enough to be dependable and sensitive enough to marketing principles to offer consistent and measurable quality and quantity controls. Some entrepreneurs have tried to establish such centers, and in most cases the effort has failed because they were unable to find financial support for this endeavor.

H.R. 4324 would require the Secretary of the Interior to provide for the availability of timber by individuals for personal use as firewood in their personal residences. While this measure is helpful, it would not satisfy the need of those who live far away from wilderness areas. Furthermore, H.R. 4324 does not provide adequate protection for the wilderness areas against excessive or abusive cutting. H.R. 5327 would authorize loans for the establishment of fuelwood concentration and distribution centers.

4. BIOMASS

Energy from wood products should not be viewed in isolation. The use of agricultural materials for alcohol and energy production is closely

related to the use of wood for wood energy production. Both face the same general problems--the need for extensive research, the coordination of collection and distribution systems, and the management of producing lands in an environmentally and economically sound manner. Work on biomass and wood energy should be coordinated to allow for effective accumulation, cross reference, and dissemination of ideas.

This sort of coordination is already happening at TVA. In addition to its varied wood-energy projects, TVA has an effective and extensive agricultural program that has made tremendous impacts on regional and national farm resource development. Developing more effective and energy efficient fertilizer production and use systems, improving farm organization and management practices, assisting limited resource farmers, and developing agricultural production systems using power plant waste heat and solar energy are some of the major components of TVA's overall agricultural program. These continuing program activities and existing staff place TVA in a unique position to pursue the development of feasible alcohol and other agricultural fuel production systems, to document potential of these agricultural fuel sources, to establish effects on agricultural production in general, and to combine wood energy and agricultural biomass research.

It is ironic that the alcohol being used today in gasohol mixtures for the most part is ethanol from agricultural biomass. The pictures of the starving people in Cambodia are only the most recent reminder that food is in shorter supply than energy on this earth. I believe that grains

should not be used on a large scale for transportation in a world where there are millions of starving people.

I am told that forest biomass can be converted to alcohol, especially methanol, at a fairly cheap feedstock cost that could possibly make a valuable motor fuel available at little more than a dollar a gallon at the pump, which is what we are already paying. This is an example of the need for coordination between agricultural and wood biomass research in gasohol production.

The central problem of biomass resource development is how to integrate the development of these resources for energy with other uses, such as food and fiber production. H.R. 5397 addresses the integration of biomass resource development by establishing an Agricultural, Forestry, and Rural Energy Board to identify and oversee agricultural, forestry, and rural energy objectives. A major drawback is that this Board is composed entirely of U.S. Department of Agriculture personnel. Structuring the Agricultural, Forestry, and Rural Energy Board to include members from other departments and agencies involved with biomass energy, such as TVA and the Department of Energy, would provide a broadened representation of views on the subject, and thereby help ensure all interests are considered during the development of national policies on biomass resource development.

The food/fuel dilemma is a potential conflict that has very serious implications in the face of crop failures or drought. Government control

of crop surpluses and deficits, however, has been standard agricultural policy. The direction taken in H.R. 3905 by the Committee on Agriculture to amend the Agricultural Act of 1949 to provide for the sale of agricultural commodities for gasohol production and to use the set-aside feedgrain program to increase the supply of agricultural commodities for gasohol production is a policy option which can help mitigate some conflicts which may arise between food or fuel uses of grain.

Although agriculture commodities are being utilized currently in ethanol production, the by-products of fermentation, such as yeast and distiller's grains, can contain as much protein as the feedstock. Thus, by utilization of these high protein by-products of ethanol production, high quality food and feedstuffs can be obtained, and thereby, mitigate conflicts between food and biomass energy production. Another option is to promote the use of non-marketable, wasted, diseased, or contaminated agricultural commodities and forest products for alcohol production. TVA is considering ways to use the hundreds of thousands of bushels of cull sweet potatoes produced yearly in the Valley. Also, ways to use diseased or contaminated grains are currently under review. TVA expects the effective supply of agricultural commodities for alcohol production can be increased by the expanded utilization of non-marketable or otherwise wasted commodities and not influence the availability of these commodities for use as food or feed.

The intensive use of natural gas and petroleum-derived products in ethanol production must be reduced if this bio-fuel is to be a viable alternative to the U.S. for imported oil. TVA is currently investigating total solar approaches to ethanol production. The use of direct solar processes for cooking and distillation, the use of wood or agricultural resources to supply process heat for such operations, or the use of low-energy separation approaches, such as membrane separation, are avenues we feel offer the most promise for reducing the petroleum energy requirements in ethanol production.

5. REGIONAL ASPECTS

Throughout my statement, I have referred to wood as a regional or local resource and to the need for regional approaches. The types of forests, the commercial uses of those forests, the landownership patterns, terrain and other factors, as noted before, vary greatly from one region to the next. For success, we must have programs which reflect these regional differences.

Nationwide, the availability of wood for energy has not been assessed in great detail. Nevertheless, the best estimates we can now make indicate to us that we have about 530 million oven-dry tons of annual net growth in commercial forest biomass. In addition, we should have about 230 million tons of wood biomass made available each year from natural mortality and from land-clearing operations.

When we subtract approximately 200 million tons of wood that is harvested annually for conventional product uses, the potential forest biomass total for energy uses could be about 560 million tons a year, right now. That is a figure that gives us a theoretical maximum only, without considering harvesting logistics. Still it represents the energy equivalent of about 9.5 quads.

The significance rests in the fact that 9.5 quads equals almost half of our current annual imports of oil. The big difference is that wood is a renewable resource that is home-grown.

The economics of harvesting the wood resource, however, virtually dictate that the wood and wood products be utilized near the source, in the heavily forested areas of this country. A wide dispersal of production facilities on small scales would be required. Yet, we still tend to think mainly of large-scale production and delivery systems to meet energy demands. Small-scale technologies can be economical. They have the advantage of matching local resources with local initiative which I believe is a must if we are to get off our imported oil diet.

The use of biomass as a reliable and substantial source of energy, therefore, requires some re-thinking and reordering of our present manner of doing business. This is a local resource which generally must be used locally. It is a resource appropriate to some parts of the country and not others. To use it in a cost-effective, efficient manner will require flexibility and a local or regional orientation. The need to explore local technologies, to satisfy local needs, to reflect individual landowners desires, to supply local demands, and to take advantage of local resources demonstrates the necessity of flexible, regional approaches.

* * *

Legislation in this area is vital. It is our strong feeling that the long-range energy, environmental, and economic impacts of the legislation the Subcommittee is currently considering are enormous. We urge you to consider a comprehensive bill which will provide for a better use of our wood resources and also ensure the protection of those resources.

My comments are meant to suggest a comprehensive approach to legislation in the wood-energy area rather than support for any particular bill now before this Committee. I defer to the judgment of this Committee on the appropriateness of the various proposals before it.

My comments have been rather general, but the TVA staff stands ready to assist the Committee and its staff in developing any of these suggestions in greater detail.

WOOD RESIDUE UTILIZATION ACT

TUESDAY, MARCH 11, 1980

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON FORESTS OF THE
COMMITTEE ON AGRICULTURE,
Washington, D.C.

The subcommittee met, pursuant to notice, at 10:05 a.m., in room 1302, Longworth House Office Building, Hon. Jim Weaver (chairman of the Subcommittee) presiding.

Present: Representative Anthony.

Staff present: John E. Hogan, counsel; J. Robert Franks, associate counsel; Glenda L. Temple, clerk; Bernard Brenner, Peggy Thomson, and Rita DiSimone.

OPENING REMARKS OF HON. JIM WEAVER, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF OREGON

Mr. WEAVER. The Forests Subcommittee will be in session.

Yesterday I introduced a revised draft of H.R. 5220, the Wood Residue Utilization Act. As you will recall, Rex Resler of the American Forestry Association has been working with the Forestry Service and committee staff in revising the Wood Residue Utilization Act. Senator Melcher and I agreed to combine H.R. 5220, the Wood Residue Utilization Act with S. 1996, his proposal to provide a residue removal incentive through timber purchaser credits. The combination bill is the bill I introduced yesterday.

At this time I would like to thank both Rex Resler and Doug MacCleery of the National Forests Products Association who worked with Forest Service and committee staff in preparing this draft. Mr. Resler will be testifying later, and I understand that Mr. MacCleery has submitted a statement but does not wish to testify.

If there are others present who wish to testify but who have not notified the committee, I would appreciate your giving your name to the committee clerk.

The Wood Residue Utilization Act of 1980 authorizes two new approaches to enhance current National Forest System programs of wood utilization.

They are a pilot wood utilization program, formerly H.R. 5220, and a pilot residue removal credit incentive, S. 1996. Both programs are authorized for 5 years with a total authorization of \$37.5 million for the entire bill. The act will complement the wood utilization provisions of the National Forest Management Act, the Cooperative Forestry Assistance Act, and the Forest and Rangeland Renewable Resources Research Act.

The Wood Residue Utilization Act has potential for increasing wood supplies, including wood for use in producing energy and for reducing hazards from fire, insects, and diseases. It will help regenerate harvested areas to encourage thinning of overcrowded stands and lessen the need to dispose of wood residues by burning.

The primary objective of the wood utilization program is the development and evaluation of new and innovative means of wood residue utilization and it will fit closely with Department research in this area. The program would provide the means to implement the technology developed through research and determine the economic efficiency and commercial viability of these new technologies.

The program would operate in timber sales areas, reforestation, and timber stand improvement areas, fire control clearings, fire prevention cleanup areas, and other areas where wood residues have accumulated. Within these areas the program could fund National Forest System wood residue utilization demonstration areas, fuel wood concentration and distribution centers, and construction of access roads needed for wood residue removal.

The residue removal incentive would pay national forest timber purchasers for their costs in the processing and removal of wood residues from timber sale areas to a point of use for conversion to a fuel or to other wood products. Wood residues are defined as including logging slash, woody plants, down timber material, and standing live or dead trees that are presently unmerchantable. Point of use may be wood concentration or distribution centers, either Government or commercially operated, or a wood manufacturing facility.

The incentive would be a part of the contractual agreement governing the timber sale. It would be earned by the purchaser when removing wood residues and delivering them to the specified location. The earned incentive would be applied as a credit to the purchase price of the timber harvested from the sale area. The bill would prohibit requiring residue removal where it would cost more to remove than its value as fuel or wood products, except where removal is necessary for fire prevention, site preparation, or wildlife habitat improvement. The incentive would be considered as moneys received by the Government so as not to impact the payments received by State and local governments.

The purpose of the hearing today is to hear testimony on the residue removal credit incentive portion of the Wood Residue Utilization Act. Testimony in support of the pilot wood utilization program was received from the Forest Service, National Forest Products Association, National Wildlife Federation, and the American Forestry Association.

At the September and November hearings, suggestions were made that have been incorporated into the revised draft introduced yesterday. The Forest Service has also testified in support of S. 1996, before the Senate Agriculture Committee, and I look forward to Mr. Leisz's testimony today.

I would now ask Mr. Leisz to come forward and proceed with his testimony.

Before he begins, a copy of the bill H.R. 6755 will, without objection, be inserted in the record at this point, will be considered as read, and will be open to amendment at any point.

[H.R. 6755 and the report from U.S. Department of Agriculture follow:]

96TH CONGRESS
2D SESSION

H. R. 6755

To authorize a pilot program to encourage the efficient utilization of wood and wood residues, and for other purposes.

IN THE HOUSE OF REPRESENTATIVES

MARCH 10, 1980

Mr. WEAVER introduced the following bill; which was referred to the Committee on Agriculture

A BILL

To authorize a pilot program to encourage the efficient utilization of wood and wood residues, and for other purposes.

1 *Be it enacted by the Senate and House of Representa-*
2 *tives of the United States of America in Congress assembled,*

3 That this Act may be cited as the "Wood Residue Utilization
4 Act of 1980".

5 SEC. 2. The purpose of this Act is to develop, demon-
6 strate, and make available information on feasible methods
7 that have potential for commercial application to increase and
8 improve utilization of wood and wood residues resulting from
9 timber harvesting and forest protection and management ac-

1 tivities occurring on public and private forest lands, and from
2 the manufacture of forest products, including woodpulp.

3 SEC. 3. (a) The Secretary of Agriculture (hereinafter
4 called the "Secretary") is authorized to establish and operate
5 pilot projects and demonstrations to carry out the purposes of
6 this Act.

7 (b) Pilot projects and demonstrations may be established
8 under this Act in conjunction with projects, contracts, or
9 agreements entered into under any other authority which the
10 Secretary may possess: *Provided*, That nothing contained in
11 this section shall abrogate or modify provisions of existing
12 contracts or agreements, including contracts or agreements
13 for the sale of national forest timber, except to the extent
14 such changes are mutually agreed to by the parties to such
15 contracts or agreements.

16 SEC. 4. Where the Secretary identifies situations in
17 which pilot wood residue utilization projects on the National
18 Forest System can provide important information on various
19 methods and approaches to increasing the utilization of wood
20 and wood residues and where such information cannot rea-
21 sonably be obtained unless the pilot projects are done in con-
22 junction with normal national forest timber sale activities, the
23 Secretary is authorized to establish a pilot wood residue utili-
24 zation program using "residue removal incentives" to com-
25 pensate purchasers of National Forest System timber, under

1 contracts awarded prior to October 1, 1986, for costs in-
2 curred in the removal of wood residues from timber sale
3 areas to points of prospective use; such incentives shall be
4 applied as a credit against the amount payable for the timber
5 and shall represent the anticipated cost incurred in the re-
6 moval of wood residues as determined in accordance with
7 appropriate appraisal and sale procedures. The following
8 guidelines shall apply to pilot projects under this section:

9 (1) Except as otherwise provided in paragraph (2),
10 the Secretary, in making sales of National Forest
11 System timber, is authorized to require timber purchas-
12 ers to remove wood residues to points of prospective
13 use.

14 (2) Except in cases where wood residue removal
15 is determined to be necessary for fire prevention, site
16 preparation for regeneration, wildlife habitat improve-
17 ment, or other land management purposes, the Secre-
18 tary may not require wood residue removal in in-
19 stances where the anticipated cost of removal would
20 exceed the anticipated value of such residues as fuel or
21 other merchantable wood products.

22 (3) The residue removal incentives authorized by
23 this section shall not exceed the difference between the
24 value of the timber and other designated charges.

1 (4) Except for that volume designated for free use
2 disposal, wood residues shall be sold by the Secretary
3 for not less than the appraised value when a market
4 for such material exists.

5 (5) Wood residue shall be collected from a site so
6 as to avoid soil depletion or erosion giving full consid-
7 eration to the protection of wildlife habitat.

8 (6) The residue removal incentive utilized in pay-
9 ment for national forest timber and revenues from the
10 sale of wood residues, which shall be calculated on the
11 basis of the residues' anticipated value before process-
12 ing and removal, shall be considered as "moneys re-
13 ceived," within the meaning of the sixth paragraph
14 under the heading "FOREST SERVICE" in the Act of
15 May 23, 1908, as amended, section 13 of the Act of
16 March 1, 1911, as amended (35 Stat. 260, 36 Stat.
17 963, as amended; 16 U.S.C. 500).

18 SEC. 5. For purposes of this Act, the term "wood resi-
19 due" includes, but is not limited to, logging slash, down
20 timber material, woody plants, and standing live, or dead
21 trees which do not meet utilization standards because of size,
22 species, merchantable volume, or economic selection criteria
23 and which are surplus to growing stock needs.

24 SEC. 6. The Secretary shall make annual reports to the
25 Congress on the pilot wood utilization program authorized by

1 this Act. These reports shall be submitted with the reports
2 required in section 8(c) of the Forest and Rangeland Renew-
3 able Resources Planning Act of 1974 (88 Stat. 478, as
4 amended; 16 U.S.C. 1606(c)). In the first report, the Secre-
5 tary shall recommend necessary and desirable amendments to
6 existing authorities, including but not limited to the Act of
7 August 11, 1916 (39 Stat. 462, as amended; 16 U.S.C. 490).

8 SEC. 7. The Secretary shall issue such regulations as
9 the Secretary deems necessary to implement the provisions
10 of this Act.

11 SEC. 8. There is hereby authorized to be appropriated
12 such sums as may be necessary in addition to other provi-
13 sions of law to carry out the pilot projects and demonstra-
14 tions authorized by section 3 of this Act for fiscal years 1982,
15 1983, 1984, 1985, and 1986: *Provided*, That the total cost
16 of such projects and demonstrations shall not exceed
17 \$37,500,000, which sums shall remain available until
18 expended.



DEPARTMENT OF AGRICULTURE
OFFICE OF THE SECRETARY
WASHINGTON, D. C. 20250

Honorable Thomas S. Foley
Chairman, Committee on Agriculture
United States House of Representatives
Washington, D.C. 20515

APR 16 1980

Dear Mr. Chairman:

As you requested, here is our report on H.R. 6755, a bill "To authorize a pilot program to encourage the efficient utilization of wood and wood residues, and for other purposes."

The Department of Agriculture recommends enactment of H.R. 6755, if amended as recommended herein.

H.R. 6755 authorizes the Secretary of Agriculture to establish a two-part wood and wood residue utilization program. The program would be a 5-year pilot effort with the purpose of developing, demonstrating, and making available information on methods to increase the utilization of wood and wood residues that result from timber harvesting, forest management activities, and forest manufacture. The Secretary would establish pilot projects and demonstrations involving both public and private lands to carry out this purpose. These projects could be in conjunction with projects, contracts, and agreements entered into under other authorities. Thus, a wood utilization pilot project could be a part of a contract for the sale of National Forest timber, except that an existing contract could not be modified to include a project unless both the timber purchaser and the Government agreed to its addition.

The second part of the pilot wood utilization program would apply only to National Forest System lands. It would permit the Secretary to require National Forest timber purchasers to remove wood residues from the sale area to points of prospective use, such as a concentration yard or manufacturing facility. The purchaser would be compensated for costs incurred in removing the residue by earning a "residue removal incentive," which would be applied as a credit against the amount payable for the timber. Use of the incentive would be limited to those National Forest timber sales that can provide important information on methods of wood utilization and where that information cannot reasonably be obtained in another manner. Purchasers would not be required to remove residues where the cost of removal would exceed their anticipated value. The residue would be sold by the government at appraised value for further processing or for use as fuel. The bill requires that both the incentive and revenues from the sale of residues (estimated on the residues' value before removal) shall be considered as "moneys received" by the Government, so as not to adversely impact the payments received by State and local governments under provisions of the Act of May 23, 1908, and the Act of March 1, 1911.

An annual report to the Congress on the pilot program would be required and would be submitted with those reports required by section 8(c) of the Forest and Rangeland Renewable Resources Planning Act of 1974. The first report would make recommendations to amend existing authorities to encourage wood utilization. The bill authorizes an annual appropriation of such sums as may be needed for each year of the pilot program, but places an overall limit of \$37,500,000 for that period.

There is a need and opportunity to strengthen efforts to utilize currently unused wood and wood residues on public and privately owned forest lands. The opportunity is particularly apparent in the use of wood residues as an alternate energy source. It has been estimated that 150 to 250 million tons of wood and wood residues are left annually on timber harvest areas in the National Forests alone. We believe a significant portion of this material may be economically feasible to remove from the forest and further process.

The "residue removal incentive" would provide greater flexibility in the pricing of timber on the National Forests than does conventional appraisal procedure. In timber sale preparation it is difficult to estimate the volume of residues which might be generated in a sale area. Inventory and measurement are problems, but anticipation of markets also causes concern. If markets for sawtimber are strong, the purchaser may remove more of the residue material than anticipated and, therefore, deliver less residue volume to concentration yards. We encourage this allocation of wood products to their highest economic use, but under normal sale procedures the amount of compensation to the purchaser would be fixed and thus he would be over-compensated for residue removal. On the other hand, if the volume of residues actually delivered to a concentration yard exceeds estimates, under present sale procedures the purchaser would not be compensated for delivery of the additional volume. The residue removal incentives approach would allow compensation to the purchaser for the volume actually delivered.

The authority to conduct pilot projects and demonstrations would complement the residue removal incentive program and permit joint efforts involving all ownerships in a local area. A major problem facing potential users of wood residues is the logistics of accumulating adequate quantities of fiber from many scattered, often remote, areas perhaps involving several owners. The timber purchasers harvesting the solid wood products operate on harvest schedules dictated by their own particular market circumstances. This makes it difficult for the potential wood residue user to arrange dependable sources of supply. H.R. 6755 would be helpful in this regard. The testing of new approaches could examine various methods of accumulating residues at concentration yards or points of use, ways to assure a continuous supply, and various methods of marketing those residues. Of particular importance is the determination of costs associated with the removal and transport of residues.

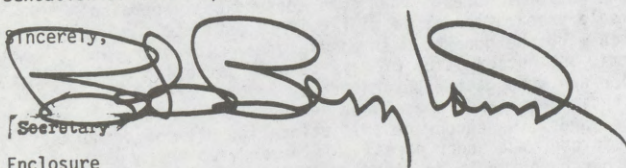
The bill's two provisions would be complementary to utilization efforts we have underway, working cooperatively with private organizations, State forestry agencies, and other Federal agencies. They would directly benefit our research program by providing the means to test promising new research technology. We would develop the pilot projects, along with applications to the National Forests, with the framework of overall national direction. A study plan would be made for each project which would identify its objectives and set forth an evaluation procedure.

We appreciate the opportunity to work with the Chairman of the Forests Subcommittee and with Committee staff in developing this legislation. We are particularly appreciative of the acceptance of several recommended amendments to this bill's predecessor, H.R. 5220, including the provision that establishes the program on a pilot basis. We continue to strongly recommend an amendment not incorporated earlier. That is, the \$37,500,000 appropriation ceiling must apply to both provisions of the bill. This means that the amount generated by the residue removal incentive be considered as a part of the annually appropriated amount and be applied against the total authorization. We also suggest that the bill clarify the term "point of use." Appropriate amendments to H.R. 6755 are shown in the enclosed supplemental statement.

We estimate that the cost of administering this program, if amended as we recommended, would be \$37,500,000 for the 5-year pilot period.

The Office of Management and Budget advises there is no objection to the presentation of this report from the standpoint of the Administration's program.

Sincerely,



Secretary

Enclosure

USDA
RECOMMENDED AMENDMENTS
H.R. 6755

1. Add an item (7) to section 4:

"(7) Point of use is to be determined in accordance with appropriate timber appraisal and sale procedures."

2. Revise section 8 as follows:

"Sec. 8. There is hereby authorized to be appropriated such sums as may be necessary, which shall be in addition to those provided under other provisions of law, for the pilot projects and demonstrations authorized by section 3 and for the 'residue removal incentives' authorized by section 4 of this act for fiscal years 1982, 1983, 1984, 1985, and 1986: Provided, That the total cost of such projects, demonstrations, and incentives shall not exceed \$37,500,000, which sums shall remain available until expended.

STATEMENT OF DOUGLAS R. LEISZ, ASSOCIATE CHIEF, U.S. FOREST SERVICE, U.S. DEPARTMENT OF AGRICULTURE

Mr. LEISZ. I am pleased to present the views of the Department of Agriculture on the chairman's bill to authorize a program to encourage the efficient utilization of wood and wood residues. We appreciate having had the opportunity to work closely with the subcommittee in developing this legislation and we are particularly appreciative of your acceptance of several recommended amendments to the bill's predecessor, H.R. 5220, including the provision that establishes the total program on a pilot basis.

As we have in three previous appearances before the subcommittee, we support efforts to improve the utilization of wood and wood residues on public and private forest lands. This bill represents further improvement in legislative direction on the subject.

The bill combines two concepts—two different approaches—into one bill. The first approach authorizes the Secretary of Agriculture to establish a 5-year program of pilot projects and demonstration projects to encourage the efficient utilization of wood and wood residues.

The pilot program would be applicable to both National Forest System lands and to private forest lands and would be carried out in cooperation with national forest timber sale purchasers and other cooperators. The objective of this pilot program is the development, evaluation, and demonstration of new and innovative means of wood utilization. Emphasis would be on the use of wood as an energy source. The bill requires pilot projects be commercially viable and economically feasible.

The second approach—and the one to which you are directing primary attention in this hearing—is designed especially to test ways to encourage the removal of wood residues from timber sale areas on the National Forests. It would be done through use of a "residue removal incentive" which is, in effect, a credit which timber purchasers would earn when they remove the residue from the sale area to a designated point of use.

The incentive would be a part of the contractual agreement and would be credited to the purchase price of the timber harvested from the sale area. Application of the incentive is limited to: One, those opportunities on the National Forests where information can be gained on methods and approaches that would increase the utilization of wood; and, two, where the information can be gained only in conjunction with normal timber sale activities.

Wood residues are defined as logging slash, down timber material, woody plants, and standing live or dead trees that are presently unmerchantable and which are surplus to growing stock needs. Point of use may be wood concentration or distribution centers, either Government or commercially operated, or a wood manufacturing facility.

The bill prescribes that the incentive would be considered as "moneys received" by the Government so as not to impact the payments received by State and local governments. The residue removal incentive could be operated in conjunction with a pilot project or a demonstration.

Mr. Chairman, the Department is cognizant of the need to increase wood utilization. This includes the recognition of wood as an alternate energy source.

It has been estimated that 150 or 250 million tons of wood and wood residue are left annually on timber harvest areas in the national forests alone. We believe a significant portion of this material may be economically feasible for utilization if we provide some incentive.

The provisions in this bill would be of great assistance to the utilization efforts we already have underway—working cooperatively with private organizations, the Department of Energy and State forestry organizations. The two provision in this bill would be especially helpful and complementary to our ongoing programs, aiding us in identifying, handling, and selling wood residues. In addition, the bill would directly complement our research program, providing the means to test promising new research technology.

The residue removal incentive would provide greater flexibility in the pricing of timber over the conventional appraisal allowance procedure. In timber sale preparation it is difficult to estimate the volume of residues which might be generated in a sale area. The incentives approach would allow compensation to the purchaser for the volume actually removed.

The bill's provisions allow for the testing of various approaches to accumulating residues at a point of use. Of particular importance in this regard is the determination of the costs associated with the removal and transport of residues. We plan to prepare a study plan for each pilot project within the framework of overall national direction. The plan would identify the test objectives and evaluate prospective markets, receipts, and costs. It would set forth the process of evaluation. Through this process we believe we can provide reasonable assurance that the pilot test objectives can be met on an economically sound basis.

We would like to emphasize again a point made in our earlier testimony. In undertaking an accelerated program of wood utilization we will recognize our responsibilities as resource managers. Intensified forest management will be carried on in an environmentally sound manner. Pressures on the forest resource, such as could occur in areas of accelerated utilization, must not be allowed to jeopardize the perpetuation of that resource.

An appropriate authorization totalling \$37,500,000 is provided to fund pilot projects and demonstrations over the 5-year period. We strongly recommend an amendment to provide that the appropriation authorization be applicable to both provisions of the bill. This means that the amount generated by the residue removal incentive—that is, the credit on timber sale purchases—would be considered a part of the annually appropriated amount and part of the overall appropriation ceiling. This change can be accomplished by making it clear that the appropriation authorization contained in section 8 is applicable to the entire bill.

In summary, Mr. Chairman, we believe this bill can be an important part of this Department's efforts to improve the utilization of wood and wood residues on public and private forest lands. Substantial

benefits for the Nation may be gained through such a program. We recommend enactment of the bill if amended as we have recommended.

That concludes my testimony, Mr. Chairman. I would be pleased to respond to your questions.

I also have with me Mr. George Leonard of our Timber Management staff in the Washington office.

Mr. WEAVER. Thank you very much, Doug.

Can Brush Disposal Acts be used to treat wood residues within a timber sale area as defined by the sale contract but which are not within the area cut over by the purchaser?

Mr. LEISZ. The act states that the deposits are to be used for the disposal of brush resulting from the purchaser's operations. This appears to us—we have interpreted it this way in the past—to restrict the use of the deposited funds to the actual timber sale area, the area where trees were felled and removed, that is, where the actual harvesting was done.

We have had a similar question with respect to the use of KV funds. It was addressed by a provision in the National Forests Management Act which amended the Knutson-Vandenberg Act. The term "sale area" was substituted for "area cut over" by the purchaser. That clarified the point for us with respect to KV funds.

We do not have that legislative clarification at present with respect to brush disposal funds.

Mr. WEAVER. The person who takes the slash out does not necessarily have to be the purchaser of the main sale. Is that correct?

Mr. LEISZ. That is correct.

Mr. WEAVER. It could be anybody.

Mr. LEISZ. Yes.

Mr. WEAVER. It might be the purchaser, or it might be anybody else you contract with.

Can Brush Disposal Act deposits be used to treat residues which were on the sale area before the purchaser's operation began? Material may be left from previous sales or may be naturally occurring debris.

Mr. LEISZ. It has been our understanding that the congressional intent was that the purchaser's responsibility extended only to the debris resulting from his own sale operations. However, we have approached the matter with a rule of reason, and where preexisting residue is interspersed with residues from the purchaser's operations, it would seem appropriate to allow the deposit to be used to remove all residues.

Residues outside the immediate area of operations could not be incorporated into the removal provisions.

Mr. WEAVER. What process might you take in making these slash sales available? Are they to be auctioned or could they be negotiated sales?

Mr. LEISZ. I think we would encourage a variety of approaches to gain experience. We believe that is the intent of going ahead with a pilot program. However, in any place that we could incorporate slash removal with purchaser operations it would be the most economically feasible thing to do. It would offer attractions because it would probably be the least costly. There are certainly opportunities to combine thinning operations which are noncommercial ventures now and in which we have to pay for thinnings to be removed, into some new

ventures for those that would be interested in collecting material that is not now utilized and taking it to a point of use.

I think we would use the full range of opportunities, Mr. Chairman.
Mr. WEAVER. Thank you.

As perhaps everyone knows, at present the chip market is extremely high. I am told it is \$95 in the dock in my area, which is an alltime record high. I am told the forests are being cleaned out pretty well by the marketplace. That might not last. We do not know if the price will fall.

As I say, the forests are being cleaned out. They are going out to get some of these pum piles that have been left, but I still have evidence of large piles of slash material in our forests that are either burned or left there. Here, we are talking about individual initiative. If someone sees one of these piles and he knows he can go to the ranger and negotiate a sale on it, he is more likely to do it. If he knows that if he goes to the ranger and says, "There is a lot of slash out there," but knows that it is going to be put up for bid, he may shrug his shoulders and go on.

Therefore, don't you think that we give strong individual incentive to a person to go out and look over the usable material that is left in the woods if we negotiate a sale?

Mr. LEISZ. I think there is certainly some merit in that. We have some of that operation going on now. We have tried to maintain a position that we think is sensible in that regard, in that if there is competitive interest in any material on the public lands we feel it is necessary to offer that under competitive bid. There are many opportunities for individual negotiated sales. We intend to look further into the matter to encourage—

Mr. WEAVER. I was going to ask you if you would encourage that among the district rangers in instances where the slash is lying out in the woods. In that case you might well encourage the rangers to put it up for negotiated sale. You might find some interest.

Mr. LEISZ. We certainly will.

Mr. WEAVER. I would appreciate that very much.

Does the gentleman from Arkansas have any questions?

Mr. ANTHONY. Thank you, Mr. Chairman.

First of all, I would like to know the main thrust behind your suggestion of an amendment in your testimony: "to provide that the appropriation authorization be applicable to both provisions of the bill."

Mr. LEISZ. There is some concern in the administration about the amount of funds that would be used for the program. The suggestion we have is that we use the \$37.5 million to embrace both parts of it, so that there is a restriction on the amount of money that is supporting the program in total. That is he only purpose.

Mr. ANTHONY. By adding the two, are you simply saying that the total is going to be \$37.5 million?

Mr. LEISZ. That is correct.

Mr. ANTHONY. How would you propose to allocate it between actual dollar outlays and residue removal credits?

Mr. LEISZ. I think that part would come from the individual proposals. We would certainly want to see money in both areas to thoroughly test both pilot programs. We have not yet identified a precise

amount that might go to either account, but we would want to have a balance for whatever amount might be necessary to carry out individual projects.

Mr. ANTHONY. How do you actually perceive the pilot projects coming into being? Would you go out and actively choose different locations, or will you leave it up to the private market to come to you and suggest areas where they might be willing to involve themselves in a pilot project?

After you get into looking at several locations to try to make a decision as to what five to go to, what criteria do you propose to use to make the decision as to where the pilot program should be located?

Mr. LEISZ. First of all, we would use both avenues. There are already areas where we know there are some very good opportunities for encouraging wood utilization. We would also be open to private parties suggesting to us areas where they think there are extraordinary fine opportunities.

As part of my testimony, I identified that we would want to have a plan for each pilot project that would be undertaken. It is in that regard that we would give some national criteria for the proposals to be tried out. They would address the economic feasibility of the project compared to others, the opportunity for market development in the particular area that would seem to be most favorable for the wood utilization. I think another criterion for us will be the private entrepreneur's interest in carrying out such projects. We need to have that to be successful.

I visualize establishing those criteria and perhaps some others. Those would, I think, be the main ones.

Mr. ANTHONY. When you mention markets—obviously you have to have a market because the bill specifically says that if you do not have a market you cannot use that area.

Have you given any thought to trying to establish an energy park concept when you look at the market area availability?

Mr. LEISZ. We have a variety of proposals that are now ongoing in the area of wood for energy. The authorities in this bill give us, I think, an expanded opportunity to incorporate some planning for energy use that we do not now have the opportunity to incorporate in those projects.

Mr. ANTHONY. Such as?

Mr. LEISZ. We have, for example, just yesterday, met with the Tennessee Valley Authority folks. They would like to look at quite an extensive approach to using wood as an energy base over a longer period of time and incorporating the ownerships that they have with the public lands and to embark on some pilot projects which would be a combination effort. That is just one approach.

We have some on the west coast that are very active in energy planning for wood utilization.

Mr. ANTHONY. Over and above direct burning in boilers to create steam and electricity, do you have any other direct energy uses now available?

Mr. LEISZ. We have some ongoing research work. In fact, there are research results that we are going to look at that will, hopefully,

give better attention to how to extract alcohol from wood. Some of that looks promising now. I am supposed to be briefed on that by the end of this week. There are some encouraging trends of that kind.

Mr. ANTHONY. Let me say this since you brought that area up. I think the State of Arkansas, through a donation of a patent process by Gulf Oil to the University of Arkansas—which I think is the leading proponent of this particular concept in the United States, although Purdue might argue with that—I think there is considerable hope in that area.

There are private concerns in my congressional district that are trying to put together about an \$18 to \$20 million commercial project that will take paper sludge, municipal waste, and possibly wood residue if it ever got to the point where it was economical to transport it out of the forests to a central location. I would challenge you to take a close look at that process.

Mr. LEISZ. We certainly want to.

Mr. ANTHONY. I think it has some great merit.

When you talk about R. & D. I would like to encourage you to take a long look at another area. That is the area of the size and transportability of the particular energy. The slash, the wood residue, and the woody products that are left in the forests are in bulk form. If some research and development could be done to compress into pellet size—and I know that there is a DOE demonstration project that is going on right now, and so far it has not proven out and they are having a lot of difficulty with it—it appears this would be important to look at.

It seems that the energy that is left in the woods is not very likely to be close to the marketplace where it will be used. In its present bulk form it will be impossible to transport, but if it could be converted into some smaller, compact, energy pellet size the transportation would be possible.

Do you have any work going on in that area in your Department?

Mr. LEISZ. We have what I think could only be described as a meager amount, but we recognize the problem of transportation. I think that is one of the very reasons we would like to embrace the bill under discussion here and get on with the opportunity for pilot projects. We do recognize that the collection of the material is one of the key issues to be dealt with in making it marketable.

Addressing the economics of both the collection and transportation of it is something that needs a lot of attention.

Mr. ANTHONY. I think, when you tie it all together and the fact that it is a renewable resource and one that is being underutilized—and I congratulate the chairman for addressing this problem, not only in this bill but in previous bills.

When you look at just one plant utilizing it, we have not done a very comprehensive job of planning. It is for that reason that I challenge you to look at the energy park concept. If we are going to utilize energy in the best way, and for the long view, and if we are truly going to get away from oil, and particularly imported oil, wood can truly replace and displace an awful lot of oil usage.

The wood products industry has already done its fair share, probably over its fair share, of converting back to wood use in its boilers and getting away from natural gas and other residual oils. If you could put a wood products plant in the woods and then capture their excess energy and put another plant right beside it and a plant beside that one to capture its excess heat or energy, you have gone a long way toward solving our energy problem.

I would challenge you to put that into your concepts in your pilot project.

Mr. Chairman, I yield back.

Mr. WEAVER. I want to thank the gentleman from Arkansas for his very cogent questions, and the ideas he espouses are some I agree with. I join him on them wholeheartedly.

We now have a commercial pellet plant in my district, and the idea of putting some of these operations right up in the woods is something we have been pushing in view of the transportation costs of raw materials. Small units right up in the woods is a good idea, although not necessarily on Government land.

Doug, I have two quick questions concerning section 4(1) of the bill. It says:

Except as otherwise provided in paragraph (2), the Secretary, in making sales of National Forest System timber, is authorized to require timber purchasers to remove wood residues to points of prospective use.

This actually bears on what Congressman Anthony said. We consider the bill to include some form of processing. Is that how you view the phrase? Would the word "remove" generally include some form of processing if desirable?

Mr. LEISZ. It certainly could.

Mr. WEAVER. Thank you. My second question is on 4(2). It states:

Except in cases where wood residue removal is determined to be necessary for fire prevention, site preparation for regeneration, wildlife habitat improvement, or other land management purposes.

Could this possibly include air quality in the concept of other land management purposes? Would that be an appropriate land management purpose?

Mr. LEISZ. That is an interesting question, Mr. Chairman. We had not considered that, but more and more we are having the question raised of the impacts on air quality from burning of slash.

Mr. WEAVER. I would assume that land management purposes could, if desired, include consideration of air quality.

Mr. LEISZ. Yes.

Mr. WEAVER. Mr. Leisz, thank you very much. I appreciate your testimony and compliment the Forest Service on the strides they have already made. I encourage you, as does Congressman Anthony, to continue. I think you are very forward looking in this and your strong utilization emphasis is just what this Nation needs. We appreciate it very much.

I call Mr. Rex Resler to the table.

Rex, we appreciate your coming. I want to say again that I compliment you on all the work you have done in working with the Forest Service in this area. It is really outstanding work.

Will you proceed.

STATEMENT OF REXFORD A. RESLER, AMERICAN FORESTRY
ASSOCIATION

Mr. RESLER. Thank you, Mr. Chairman. Good morning, Mr. Anthony. I have a very short statement to make.

My name is Rexford A. Resler. I represent the American Forestry Association, a citizens conservation organization whose primary concern is with the protection and wise use of the Nation's forests and rangelands.

AFA strongly endorses this pilot program to determine the technological and economic feasibility of using forest residues for both wood product recovery and for energy production. I commend Chairman Weaver for his diligent efforts to promote more complete wood utilization.

I believe this pilot program will provide the information needed to verify the economic feasibility and the limits of feasibility which are essential to encouraging risk capital to expand investments in wood product manufacture and in energy production from material heretofore wasted. We believe that the pilot program will define the risks and the opportunities associated with using forest residues. Once the risks are verified, I believe we will see a significant increase in the use of forest residues throughout the country on both public and private forest lands.

The Forest Service, working in concert with the forest product industry, is capable of testing the feasibility of full utilization of forest residues and through experience defining the methods of removal that are both environmentally and economically sound.

I expect to see, as an outgrowth of this pilot program, a substantial increase in recovery of solid wood products and sound fiber or chips going into pulp and panel products and the remainder converted to energy in direct substitution for fossil fuel and hydroelectric energy.

Mr. Chairman, I would like to suggest that the term "residue removal incentives" implies that a subsidy is being provided to the forest products industry when in fact the term refers to a cost allowance for services provided by the purchaser under terms of a contract. The allowance is quite parallel to road credits in which the estimated cost of roads constructed are deducted from the stumpage price which would otherwise be paid by the purchaser. I suggest that a more appropriate term would be "residue removal credit."

Mr. Chairman and Mr. Anthony, we strongly recommend prompt passage of H.R. 6755.

Mr. WEAVER. Your point concerning the terminology is an excellent one. I am glad you made it.

Mr. RESLER. I understand that there are some concerns about the approach. I would like to establish that this is not a subsidy in any sense of the word.

I would like to comment briefly, if I may, Mr. Chairman, on a point that Mr. Leisz raised having to do with the amendment that the administration proposes. I guess my concern is that it further restricts the total authorization under this bill. As I understand it, it would include the appropriations necessary for planning, for preparing, and for conducting the sales, for administering the pilot program, plus the residue

removal incentives. My concern is with the fact that—as you well recall since you commenced with a \$15 million a year authorization—if we tighten it too tightly we will not get all of the information we need.

I am apprehensive about including that amendment. However, if it is necessary to get the administration to support it, I am more concerned with getting the legislation through.

I would like to comment on your point, Mr. Anthony, as well. I think one of the real potentials that will develop in the future is the concept of reducing the cost of transportation through onsite processing or close-to-the-site processing. I am sure the Forest Service will test that thoroughly. We certainly endorse that approach.

I would like to conclude by saying that we strongly endorse the passage of this bill.

Thank you, Mr. Chairman.

Mr. WEAVER. Thank you very much, Rex.

You testified also in support of the Melcher bill, did you not?

Mr. RESLER. Yes, sir.

Mr. WEAVER. I just want to say again, Rex, that I thank you for being the driving force here in putting this together. I really appreciate it. It is what we need to do. Leadership like yours is what is going to pull this Nation out of its energy predicament. If we had in all fields people driving like you are along with the Forest Service people, we would have little trouble.

I recognize the gentleman from Arkansas.

Mr. ANTHONY. Thank you, Mr. Chairman. I think what I would like to do is make a statement rather than ask a question. It is based on the comment made in previous testimony.

Listening to the testimony, Mr. Chairman, I began to think back. I was raised in a forest family and during the summer between school terms I was required to work in the family business. My first 2 years I worked in the forests. I have fond memories of it.

I remember coming home 1 day and talking to my dad, who is now president of the company, and asking him why we left so much of the wood residue in the woods. I said I had seen limbs out there as big as my waist and I did not understand it. He gave me a quick lesson in economics: The cheap cost of natural gas, the cost of transportation. Although it was a terrible waste, and he acknowledged it as such, but it would cost money to transport that wood product and utilize it. We had gone from burning wood in our boilers and converted over to natural gas.

That was when I was 18 years old. I hate to tell you that was 24 years ago. I guess I am proud to be where I am and to be talking about a piece of legislation, albeit 24 years too late, where all of those things have change. We have gone from short logs to long logs. We have gone to machinery that can go out and dig up the stumps. We have the cost of natural gas but where it should be, not depressed because of controls.

We are going to use it as an energy source. I think the public, with the exception of the public up in the Northeast who utilizes it more than we do, fails to realize how much energy is left in the woods, energy that can truly help the rest of the country.

I applaud you for working with the chairman and this subcommittee on the bill. I hope you will use your expertise and educate other Mem-

bers of the Congress, because I found, last year as a freshman, that it is a very little understood industry. It appears to me that the environment is of great concern, and people fail to realize what the good benefits are of good legislation. I encourage you to help educate some of our colleagues on the fact that we can utilize our slash for energy.

Mr. RESLER. Mr. Anthony, I will be pleased to do what I can in that respect.

I would like to observe one other point that comes to mind concerning this legislation. It has to do with the point you are raising, namely, the identification of risk. We do not want to waste capital. That is also a waste of a scarce resource.

I think one of the real reservations that the forest products industry has in moving into some of these areas has to do with the identification of what the risks are. It seems perfectly appropriate to me to use public moneys in this regard, to help verify those risks and the opportunities, with the full expectation that the forest products industry and other entrepreneurs will move into the field much more rapidly once the risks are identified.

That is really the key concept behind this legislation, for which I applaud the chairman. I appreciate your support. Thank you very much.

Mr. WEAVER. Thanks again, Rex. I appreciate it.

It is good to have a member of this committee with a working knowledge of the forests and the forest industry.

I call Joe Dose, Chief of the Division of Forestry, Bureau of Land Management, Department of the Interior.

Joe, I remember the first time I met you about 25 years ago. I came into your office in Eugene, Oreg., and asked you how many trees there were in the Oregon and California lands. [Laughter.]

Mr. DOSE. There are more there today.

Mr. WEAVER. It is always good to see you.

Do you have any prepared testimony? I asked you to come because I have a few questions to ask you.

Mr. DOSE. No, I do not Mr. Chairman. We received this revised draft very late.

Mr. WEAVER. I understand that. I appreciate your coming.

I have just a few questions to ask. First of all, will you describe briefly any slash removal programs presently being conducted by the Bureau of Land Management.

Mr. DOSE. Yes, I would be glad to.

STATEMENT OF JOSEPH C. DOSE, CHIEF, DIVISION OF FORESTRY, BUREAU OF LAND MANAGEMENT, U.S. DEPARTMENT OF THE INTERIOR

Mr. DOSE. In June 1979 we conducted a series of meetings in western Oregon with the intention of determining how we could be more responsive to public demands in the complete utilization of residues and salvage material, primarily dead and down timber.

As a result of these efforts and the public input we developed a plan which was adopted in August 1979. There are, briefly, six components of this plan. One is the gross yarding requirements. Our timber sale

contracts will be based upon the evaluation of anticipated benefits to be derived in comparison to costs of work to be performed. Whenever subsequent utilization of gross yarded material can be anticipated, retention and protection of that material will be included in the gross yarded plans.

The idea of that is to protect and not burn it up as in normal slash material, if there are some utilization opportunities.

The second point in the plan is that the authorized officer will exercise his existing authorities to issue simultaneous use permits or contracts whenever they determine that other use in the contract area will not seriously interfere with the operations of the primary timber sale purchaser.

No. 3 is that the district will employ a controlled free use permit system for the disposal of certain timber residues to individuals for personal and home use firewood.

No. 4 is that the sales of scattered and dead and down salvage down timber will be made whenever conditions are appropriate, using either advertised or negotiated sale procedures with the objectives of recovering volumes which would otherwise be lost to decay.

The fifth part of the plan is that all sales of timber residues or salvage will be negotiated when, in the judgment of the authorized officer, a negotiated sale is in the public interest.

No. 6 is that market value for materials, such as dead and down western red cedar and timber residues, or hardwoods for commercial use firewood will be standardized for uniformity among the western Oregon districts.

This plan was implemented in August 1979. We have seen a substantial increase in the sale of this kind of material in both negotiated and advertised sales. I think we must also recognize the appropriate constraints, such as the multiple use considerations, the protection of soil and water quality, the protection of wildlife, access, and manpower and budgetary limitations in implementing this new plan.

I would be glad to answer any questions you may have.

Mr. WEAVER. I appreciate very much your coming in, Joe, and outlining this for us. I note the recent date, August 1979. In other words, the program has just begun. It is going to take time for the agency to get out there.

I will tell you that I just came back from Oregon. I met with a great number of loggers who are, frankly, frustrated in not being able to get this material out. They are going out of work. I had logger after logger tell me that they were laying off half and three-quarters of their crews, and it is going to get worse.

Because of the price of energy, they would like very much to utilize forest residues. Frankly, several of your districts out there are still not coming up with sales plans, so I encourage you very strongly to send them directives to begin to do it. They are not.

I have talked with the district managers and pleaded with them to sell the residue and they are not.

I understand you have manpower problems. I understand that. My theory is this. You know private industry has been removing residues for a number of years, and they do not have the restraints

you have. If they see some material out there worth \$1,000, even if it costs \$900 to get it out, it is still \$100 profit, so they hire somebody to do it.

Now, you have your restrictions to make it more difficult, but I encourage you to take the slash out because you are not only making, even a small, profit. You are making a profit on something that would otherwise go to waste, and you are employing people at a time when, in my area, we desperately need these opportunities for employment.

As strongly as I told Doug Leisz, I encourage negotiated sales to give the individual the opportunity to spot some of these and then have the incentive to come in and tell the local ranger or manager about it. If he knows he can get a negotiated sale he has the incentive.

I strongly urge you to let your field personnel know in no uncertain terms that you want this to happen, particularly in the coming months as our economy in the forest products industry starts on its downward trend, I fear.

I would like to ask you one specific question relative to this bill. Have you had a chance to review this bill?

Mr. DOSE. I did just briefly.

Mr. WEAVER. I would like to consider the idea of adapting the bill to include the BLM in it. Are there any problems about which you can tell me right now that would occur if we included the BLM in the bill?

Mr. DOSE. No; this is my personal judgment. I have not run the bill through the Department. We are in agreement in concept. We have testified on some of your previous legislation to that effect.

We are certainly interested in the more complete utilization of residues and salvage. I think this bill will go a long way toward accomplishing that goal.

Mr. WEAVER. I take that as your personal opinion. I understand that it has not been reviewed by your Department yet. I just wanted to see if there were any glaring situations that might make it difficult for BLM.

I recognize the gentleman from Arkansas.

Mr. ANTHONY. I have no questions, Mr. Chairman.

Mr. WEAVER. Mr. Dose, I want to thank you very much for appearing. Tell Mr. Greg hello for me.

Mr. DOSE. I would be glad to.

Mr. WEAVER. I wish you well.

Mr. DOSE. Thank you.

Mr. ANTHONY. Mr. Chairman?

Mr. WEAVER. The gentleman from Arkansas is recognized for a motion.

Mr. ANTHONY. Mr. Chairman, I move that H.R. 6755 be approved by the Subcommittee on Forests and be reported to the full Committee on Agriculture.

Mr. WEAVER. The gentleman from Arkansas has made the motion that H.R. 6755 be reported favorably to the full committee. Is there discussion?

The question is then on the motion. All those in favor, say aye.

[Chorus of ayes.]

Mr. WEAVER. Opposed?

[No response.]

Mr. WEAVER. The ayes have it. The bill is reported favorably.

The Chair would like to announce that the Chair will require every member of the subcommittee to approve the motion in writing. Therefore, the bill is reported favorably subject to additional written confirmation.

With that, the subcommittee is adjourned.

[Whereupon, at 10:55 a.m., the subcommittee was adjourned.]

[The summary of the hearings submitted follows:]

SUMMARY OF HEARINGS

The Subcommittee on Forests held public hearings on September 12 and November 15, 1979, and March 11, 1980, on legislation which related, at least in part, to the utilization of wood residues.

September 12, 1979

On September 12, 1979, the Subcommittee held a public hearing on H.R. 5220, the Wood Utilization Act of 1979. The bill, which was sponsored by Mr. Weaver, Chairman of the Subcommittee:

(1) Directed the Secretary of Agriculture (a) to make, insure and guarantee loans, under the Consolidated Farm and Rural Development Act, to enable recipients to carry out demonstrations and projects on the utilization of trees and parts thereof and forest products, and (b) to require timber purchasers to remove such materials from timber harvesting areas;

(2) authorized the Secretary to sell, concentrate or otherwise dispose of slash and other forest material for energy production, and acquire such material from governmental agencies and other public and private sources for sale or disposal for energy production;

(3) authorized the Secretary to implement the programs through contracts and agreements, subject to the requirement that non-Federal cooperators provide at least half of the cost of pilot projects; and

(4) directed the Secretary to survey the status of tree and wood residue utilization and project the volume of residues in public and private lands.

In his opening remarks, Mr. Weaver stated that his bill would accelerate existing efforts to improve wood utilization, develop alternative sources of energy, and increase timber supply.

Mr. Douglas Leisz, Associate Chief, Forest Service, Department of Agriculture, then testified. Mr. Leisz expressed support for a pilot program to determine the best ways to use the large volumes of wood residues now remaining in the forest. He pointed out that the program would have other benefits, such as increasing wood supplies, reducing hazards from fire and insects, encouraging thinning, and lessening the need to burn residues.

Mr. Leisz then recommended certain changes in the bill. Some were of a technical nature. Others were more substantive. They included:

- (1) clarification that the program authorized is a pilot program;
- (2) direction that the program be focused on economically viable opportunities for wood utilization; and
- (3) revision to make the program discretionary, rather than mandatory, with the Secretary.

He concluded with an expression of enthusiastic support of the bill, subject to the revisions he recommended. A discussion followed among Members of the Subcommittee and Mr. Leisz with respect to possible amendatory language.

Col. Kenneth Hampton testified on behalf of the National Wildlife Federation. He endorsed, in principal, the main thrust of H.R. 5220. But he stated that his organization could not support the bill unless it contained more specific language to safeguard environmental values associated with wood residues, such as enhancing wildlife habitat and restoring nutrients to the soil.

The final witness was Mr. Gene Bergoffen, Assistant Vice President for Resource Programs, National Forest Products Association. He supported the concept of putting wood residues to use for energy and other purposes.

But he voiced opposition to the provision of the bill that would make it mandatory for the Secretary to carry out the programs in question. He espoused a general approach which would employ mutual agreement between the Secretary and timber purchasers. He urged that there be no disturbance of current Forest Service policy, which does not impose residue utilization standards so exacting as to reduce the total value of timber sales.

November 15, 1979

On November 15, 1979, the Subcommittee held a public hearing on H.R. 5220, as well as H.R. 5397, the Agriculture, Forestry and Rural Energy Act; H.R. 5428, the Biomass Research and Development Authorization Act of 1979; and H.R. 4313, the Forest Fuel Utilization Act of 1979.

H.R. 5397, sponsored by Representative Fithian, was a comprehensive bill requiring the Secretary of Agriculture to implement an agricultural, forestry, and rural energy production, use and conservation program. The bill provided for, among other things, Wood Energy Centers which would perform research, provide technical assistance and operate demonstration projects relating to wood energy production and use. It also authorized a pilot loan program to support forestry management practices, and a grant program to aid the States in providing technical assistance to landowners in producing wood for energy.

H.R. 5428, also sponsored by Mr. Fithian, provided for additional biomass research and development activities within the Department of Energy, which were to include applications using agricultural and forest residues. The bill also provided for additional biomass research and development activities within the Department of Agriculture, which were to include comprehensive commercialization activity involving forest residues, among other material.

Mr. Fithian, who is a Member of the Committee on Agriculture, testified on his bills. He referred to the goal outlined by Secretary Bergland of net energy self-sufficiency by 1990 in forestry production, and to the President's goal of achieving 20 percent of the country's energy needs from solar and renewable resources, including biomass, by the year 2000. He observed that energy biomass research, development and demonstration had received low emphasis at USDA; and that USDA-DOE coordination in such matters has not been adequate. He stated that his bill, H.R. 5428, addresses these concerns.

Mr. Fithian explained that his bills assume that (1) biomass is a major, ongoing energy supply option, (2) a Federal investment in biomass research and development is perhaps the best energy investment that can be made, and (3) most of biomass' near-term potential rests in the use of agricultural and forest residues and wood. He summarized the role he envisioned for the Forest Service under his bills, including research on all aspects of wood as an energy source, formulation of programs for collection and utilization of forest biomass and residues, and cooperation with governmental agencies and the private sector in furthering the efficient use of wood for energy.

Mr. Fithian concluded by emphasizing the opportunity presented to "match up" parts of H.R. 5220 and his bills, along with other biomass energy legislation being considered by the Committee.

H.R. 4313, which was also a subject of the hearing, was discussed by Representative D'Amours, its sponsor. His bill would authorize the Secretary to make grants to the States for the employment of additional State foresters. It would also direct the Secretary to determine the number of woodlot owners in each State, and authorize him to make forest fuel utilization training programs available to State foresters. Finally,

the bill would direct the Secretary of Energy and the Small Business Administration to take steps to increase information services to the Forest Service and woodlot owners.

Mr. D'Amours stated that the New England Energy Congress found that, by the 1990's, wood could supply energy equal to that in 80 million barrels of oil, or 12 percent of New England's total energy consumption. He suggested that other areas have equally vast untapped resources in wood. But he asserted that, to enhance utilization of the resource, governmental assistance is needed to inform landowners about the economics of the fuel-wood and timber markets and the technologies available for harvesting the resource. Public foresters are essential for fulfilling these needs, he stated. Mr. D'Amours also expressed the need for updated information on the number of woodlot owners in each State.

Dr. Rupert Cutler, Assistant Secretary for Natural Resources and Environment, USDA, Dr. Weldon Barton, Director, Office of Energy, USDA, and Douglas Leisz, Deputy Chief, Forest Service, USDA, also testified. Dr. Cutler testified how wood utilization efforts would fit into the overall forest research and management program, while Dr. Barton described how the legislation under consideration would fit into the Department's program.

Dr. Cutler said that the opportunity to increase wood supplies through wood residue utilization was also an opportunity to accelerate forest management at reduced costs. He said 500 million dry tons of wood could be utilized for energy generation and other purposes. The wood is both logging residue and excess timber growth in the form of small, non-commercial trees. He related that the Department was already taking actions which would be coordinated with the wood residue utilization program. They include silvicultural and genetic means to increasing biomass production

and accurate measures of the relationship of biomass to soil loss and nutrient depletion. He stated that the Department supports the Subcommittee's efforts. He added, however, that the Department has several concerns with H.R. 5220. He stated that a key concern was an amendment clearly indicating that the wood utilization program is a pilot effort of specified duration. He recommended deletion of the loan program, and suggested that mandatory provisions of the bill be made discretionary.

With respect to H.R. 4313, Dr. Cutler indicated that authority to carry out the purpose of the bill is available under existing legislation. He submitted that the bill is not needed. He added that the value of wood for energy was 1/36th of the value of wood for lumber. He observed that technology transfer through State and private foresters to landowners under existing authorities to provide block grants was also important.

Dr. Cutler agreed, as to H.R. 5397, that the production of energy from renewable resources has an important role in the Nation's energy future. But he stated that the Department had several fundamental disagreements with the bill.

Dr. Barton described the USDA activities in the biomass fuels area, and stated that H.R. 5220 was consistent with the Department's approach of building upon existing authorities, in this case the timber appraisal and sales procedures.

Mr. Leisz responded to Mr. Weaver's questions about existing authority to remove logging residue under the Brush Disposal Act. Dr. Cutler said the Administration had no position on the use of brush disposal funds for residue removal.

March 11, 1980

On March 11, 1980, the Subcommittee held a public hearing on H.R. 6755, the Wood Utilization Act of 1980. Mr. Weaver, Chairman of the Subcommittee and sponsor of the bill, stated that it was a combination of H.R. 5220 and S. 1996, a bill which had been introduced in the Senate by Senator Melcher.

The bill would--

(1) Authorize the Secretary of Agriculture to establish pilot wood residue utilization projects and demonstrations to carry out the purposes of the bill. Projects would be operated by the Secretary or carried out in conjunction with other contracts and agreements entered into by the Secretary under other provisions of law, provided that existing contracts or agreements may be modified only to the extent that changes are agreed to by the parties.

(2) Authorize the Secretary to require purchasers of National Forest System timber to remove wood residues not purchased by them to points of prospective use. Timber purchasers would be compensated for the costs of removal through residue removal incentives which would be applied against the purchase price for timber. The incentives program would be authorized where projects in the National Forest System can provide important information on residue utilization which cannot reasonably be obtained unless the projects are done in connection with National Forest timber sales activities. The pilot incentives program could not be utilized when the anticipated cost of removal of the residues exceeds their anticipated value unless removal is necessary for various forestry management purposes. The residue removal incentives could not exceed the difference between the value of the timber less other designated charges. Except for the volume designated for free use disposal, wood

residues would be sold by the Secretary for not less than their appraised value. The residues would have to be collected from a site so as to avoid soil depletion or erosion, giving full consideration to the protection of wildlife habitat. The residue removal incentive and the revenue from the sale of the residues, calculated on the basis of the anticipated value of the residue prior to removal, would be considered "moneys received" for the purposes of the statute requiring that the States be paid 25 percent of the moneys received from the national forests.

(3) Define the term "wood residues" as including, but not limited to, logging slash, down timber material, woody plants, and standing live, or dead trees which do not meet utilization standards because of size, species, merchantable volume, or economic selection criteria and which are surplus to growing stock needs.

(4) Require the Secretary to make annual reports to Congress on the pilot wood utilization program, the first of which shall include the Secretary's recommendations for necessary and desirable amendments to existing authorities.

(5) Require the Secretary to issue regulations deemed necessary to implement the provisions of the bill.

(6) Authorize appropriation of such sums as may be necessary to carry out the pilot residue utilization projects and demonstrations for the fiscal years 1982 through 1986, subject to a limitation of \$37.5 million over such five-year period.

Mr. Douglas Leisz, Associate Chief, Forest Service, Department of Agriculture, testified in support of the pilot wood utilization program and the residue removal incentives program. He said the bill would be of great assistance to the residue utilization efforts already under way in

cooperation with private organizations, State forestry organizations, and other Federal agencies. He stated that the bill would directly complement the Forest Service research program and aid in identifying, handling, and selling wood residues. He explained that the acceleration of wood residue utilization would be done in a manner which would not reduce the productivity of the forest resource and would enhance forest management. He strongly recommended, however, that the residue removal incentive be made subject to the appropriation limitation of the bill.

Mr. Rexford A. Resler of the American Forestry Association strongly endorsed and recommended prompt passage of the Wood Residue Utilization Act. He said the pilot program will define the risks and opportunities associated with forest residues and will encourage investments for the use of residues for wood product manufacture and energy production.

Mr. Weaver agreed with Mr. Resler's recommendation that the term "residue removal incentive" in the bill should be changed to "residue removal credit". The word "incentive" implies a subsidy to the timber purchaser, he reasoned, when in fact what is contemplated is a cost allowance for services provided by the purchaser. The removal credit, he explained, would be similar to road credits which are deducted from the stumpage price of timber and represent the estimated cost of roads required by the Forest Service under the specifications of the timber sale.

Mr. Resler expressed apprehension about the Administration's proposal to include the residue removal credit in the \$37.5 million authorization limitation. He recalled that the original bill in the 95th Congress proposed \$75 million for the pilot projects and demonstrations alone.

Mr. Joseph C. Dose, Chief, Division of Forestry, Bureau of Land Management (BLM), Department of the Interior, described a BLM plan to be

more responsive to public demands to salvage dead and down timber and completely utilize forest residues. Since August of 1979 when the plan was implemented, he said, there has been a substantial increase in the sale of wood residue from BLM lands. Mr. Weaver encouraged Mr. Dose to direct field personnel to negotiate timber sales with loggers who want to buy dead, dying, or down timber.

Mr. Dose responded to Mr. Weaver's questions concerning the desirability of including the BLM in the bill. Mr. Dose said that the Department of the Interior agreed in concept with the bill. He offered his personal opinion that the Wood Residue Utilization Act would go a long way toward complete utilization of residues and salvage, a goal in which his Department is interested.

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