

Summary:

**Biomass Research & Development
Technical Advisory Committee
Meeting**

June 27, 2002

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SUMMARY OF OPENING PRESENTATIONS

A. PURPOSE

On June 27, 2002 a Biomass Research and Development Technical Advisory Committee (Committee) meeting was held at the U.S. Department of Energy (DOE) Forrestal building in Washington, D.C. The Committee was established by the Biomass R&D Act of 2000 (R&D Act). The Committee's mandates under the R&D Act include advising the Secretary of Energy and the Secretary of Agriculture, facilitating consultations and partnerships, and evaluating and performing strategic planning.

This meeting was the first Committee meeting held during the 2002 calendar year. The Committee members came to the meeting to discuss their plans for developing a Vision and Roadmap for the biomass industry. The meeting was organized by the DOE, Office of Energy Efficiency and Renewable Energy (EERE), National Biomass Coordination Office in conjunction with the U.S. Department of Agriculture. This document provides a summary of the meeting's discussions.

A list of the Biomass Research and Development Technical Advisory Committee members is located in Attachment 1 of this document. Attachment 2 contains a list of the meeting attendees. An agenda for the meeting is located in Attachment 3.

B. WELCOME

Douglas Kaempf, Designated Federal Officer of the Committee, welcomed everyone to the meeting. Mr. Kaempf explained that, as the Designated Federal Officer, he is to ensure that the Committee makes the best use of its time. He works closely with the Committee chairs, DOE, and the USDA. DOE is the secretary of this Committee, which means that they handle the finances for the Committee and reporting.

C. RECOGNITION OF JACK HUTTNER'S CONTRIBUTION AS CO-CHAIR AND INTRODUCTION OF NEW CO-CHAIR, TOM EWING

Douglas Kaempf introduced David Garman, Assistant Secretary for EERE, who welcomed and thanked the Committee for its work on behalf of DOE and USDA. Mr. Garman stated that he looked forward to hearing their candid recommendations.

Mr. Garman recognized Jack Huttner, former Committee co-chair, for his expertise and his dedication to the Committee. Mr. Huttner will stay on as a member of the Committee.

Mr. Garman introduced the Committee's new Co-chair, Mr. Tom Ewing. Mr. Ewing thanked Mr. Huttner as well and stated that he would work hard to fulfill his obligation as co-chair.

Mr. Garman also recognized: Tom Dorr, the Presidential nominee for Under Secretary for Rural Development in USDA; Merlin Bartz, Special Assistant to Mark Rey, Under

Secretary for Natural Resources and Environment in USDA; Richard Moorer, the new Deputy Assistant Secretary (DAS) for Technology Development under the reorganization at DOE; Doug Faulkner, principal DAS to David Garman. Mr. Garman thanked all these individuals for being present and especially thanked Mr. Faulkner for his continuing support and expertise in the area of biomass.

Glenn English, Committee Co-chair, pointed out that this is an independent Committee that is represented by different sectors of this industry, some of which may have conflicting opinions; however, the key to the Committee is to ensure that the investments the government is making are significant, tax dollars are wisely spent, and that the end product of the Committee's efforts will benefit the country. He stressed that the Committee must meet its schedule and move quickly to answer questions regarding the future direction of biomass technologies and biomass R&D.

D. RESPONSE TO COMMITTEE'S DECEMBER 2001 RECOMMENDATIONS

Mr. Garman stated that he was appreciative of the Committee's recommendations from last year, and he believes that DOE has begun to put several of the recommendations into action. The first step was to better integrate DOE's own biomass-related research. In the former DOE organization, biomass research had been spread throughout EERE in the Office of Industrial Technologies, the Office of Power Technologies, and the Office of Transportation Technologies. Because it was spread throughout, there was not enough coordination and it would have been difficult to achieve the Committee's 2001 recommendations.

In FY2002, DOE was heavily earmarked in its biomass programs. Earmarks represented about 42% of EERE's biomass budget. In response to the Committee's 2001 recommendations, DOE took a fresh look at how it could best use remaining R&D funds to achieve key biomass R&D goals, particularly on R&D that will contribute to the integrated bio-refinery concept. The DOE/EERE *Strategic Program Review*, which was completed before the recommendations, also stated that DOE's Biomass program needed to focus more on biobased products and cellulosic conversion. EERE has since pooled its funding into a new integrated biomass solicitation that will focus on biobased products and cellulosic conversion.

With the creation of the new organization, there is a delayering of levels to focus on results. Now instead of five DASs, there will be two. Instead of five associate DASs, there will be zero. The organization is streamlined to achieve better results with the dollars that it is given. In the old organization, many people were responsible for biomass because it was spread throughout EERE. Now, there is one specific program devoted to biomass – the Office of the Biomass Program of which Douglas Kaempf is the program manager. In response to the *President's Management Agenda*, EERE is reorganizing to be more effective. The Biomass Vision and Roadmap will contribute to this effectiveness providing guidance and a benchmark for evaluating program activities.

E. 2002 FARM BILL AND DOE/USDA PLANS FOR IMPLEMENTATION

Keith Collins, Chief Economist of USDA, was introduced by Mr. Garman. On behalf of USDA, Mr. Collins welcomed everyone. He thinks there is an enormous opportunity, and the time has come for biobased products to be utilized even further. There is an enthusiasm now, which is proven by the Farm Bill.

The Farm Bill is a tremendously complicated piece of legislature that is 410 pages, cutting across ten titles and affecting Americans in almost every way. It provides funding for programs that will spend \$450 billion over ten separate titles. USDA is working to implement the bill on a day-to-day basis through its Farm Bill implementation work group. The work group will:

- Ensure that every line of the Bill is assigned to a person who will carry it out
- Delegate assignments and responsibilities
- Create action items of these assignments and responsibilities

Also, this is the first Farm Bill to include an Energy Title (Title 9). This gives added importance and value to the coordination taking place between DOE and USDA in response to the Biomass R&D Act and through the work with the Advisory Committee.

Title 9 includes various sections including: Federal Procurement of Biobased Products; Biorefinery Development Grants; a Biodiesel Fuel Education Program; and Biomass Research and Development. Mr. Collins stated that USDA is trying to implement all of these sections and that the enthusiasm is overwhelming. He also looks forward to hearing advice from the Committee on how to use additional funds.

F. OPEN DISCUSSION

The floor was opened to the Committee for questions and discussion. These included:

- Committee members requested a status on USDA and DOE coordination - DOE and USDA explained that coordination has been difficult due to the absence of a point of contact for USDA, but that important progress has been made nonetheless. For example: USDA staff involved in the biomass and bioproducts areas has attended all-day workshops to identify critically important key issues. In addition, USDA and DOE staff have held meetings to identify key issues and areas of joint work.
- The Committee requested a status of federal Biomass R&D Board meetings - The Board has not met this year but a meeting is planned for Fall 2002.
- The Committee requested a brief overview on the different implementation approaches of DOE and USDA - The two Departments have very different cultures: DOE is technology based and makes significant use of national laboratories and R&D contracts. USDA has people on the ground, in every state, and every city working for them. In implementing the Biomass R&D Act, they

plan to maximize the unique strengths of each Agency. For example, Denise Swink of EERE suggested using the county-level USDA offices for grassroots technology transfer.

- The Committee asked how industry can obtain information on R&D opportunities available at DOE and USDA - Information on the DOE organization and R&D solicitations is available on the DOE Web site. USDA solicitations are posted on the USDA Web site. The solicitations may be accessed by going to www.usda.gov and clicking on the icon for energy.
- The Committee asked why DOE and USDA have not tapped into the resources of the land grant universities - There is currently some interaction, and all of the land grant universities can compete for R&D. There are opportunities, however, to improve communications.

COMMITTEE PRIORITIES AND DELIVERABLES FOR 2002

The remainder of the meeting focused on the Committee's priorities and required deliverables for 2002 and the activities the Committee would perform over the next several months to meet these responsibilities.

A. VISION AND ROADMAP

Although the Biomass R&D Act indicates benefits of biomass and identifies broad areas of R&D, there are no natural goals in the Act. Nor does it provide R&D pathways.

Several documents have been developed in draft form to establish long-term goals and R&D pathways for elements of biomass R&D. These include the draft *Biobased Products and Bioenergy Vision*, draft *Biobased Products and Bioenergy Roadmap*. In addition, a Strategic Plan was completed by the Biomass R&D Board. However, a new Vision and Roadmap are needed. These should be developed by the Committee and represent national-level goals for biomass technologies that could be obtained by a federal-wide portfolio of biomass R&D. Moreover, the Secretaries of DOE and USDA requested that the Committee develop a Vision and a Roadmap for biomass technologies. The federal government will facilitate the development of these guidance documents.

A Vision will provide the broad goals needed to effectively implement the Biomass R&D Act. A Roadmap will allow the federal R&D Board to develop action plans and multi-year program plans. These documents can provide guidance for planning the federal portfolio of biomass R&D. They will also provide a baseline in measuring the progress of federal biomass R&D. The benefit of these documents being developed by the Technical Advisory Committee is that they will be independent documents, based upon expert input. Moreover, by communicating to the Congress that the federal agencies are implementing the Biomass R&D Act and are using the expert, independent guidance of the Advisory Committee there may be greater opportunity to develop a balanced biomass R&D program with fewer earmarks.

The Committee discussed the possibility of adopting one of the prior documents (draft Vision, draft Roadmap, Strategic Plan) as its new Vision, however, after a thorough discussion, it was determined that none of these documents are adequate .

A new Vision is needed to provide goals for the federal government and industry to work toward. Similarly, a new Roadmap is needed to outline biomass R&D pathways that can be implemented federal-wide to achieve those goals. Moreover, both of these documents will provide the federal agencies and the Advisory Committee with a baseline for measuring the progress of federal biomass R&D. Committee members and federal participants discussed characteristics and key elements for the new Vision and Roadmap. These included:

- The Vision and Roadmap need to include broad goals and priorities for industry and the country.
- The Vision and Roadmap should not outline specifically how funding should be allocated.
- The Co-chairs explained that the Vision should focus on where attention should be placed over the next 5, 10, and 15 years in order to receive the largest return. That guidance will provide the basis for future funding decisions and plans.
- Several Committee members expressed that Vision goals should be those that could be achieved in the private-sector, by the federal government, or in a combination of the two. From there, these goals can be broken down into the short term, mid term, and long term and then further broken down into different sectors including biopower, bioenergy, and bioproducts.

Committee members made several comments and suggestions specifically regarding new goals. Several of these comments included:

- R&D should lead to biomass becoming at least 10% of the heat input in co-firing applications.
- Biomass R&D is severely underfunded. There is a need to identify the potential economic benefits of biomass resources/technologies to justify additional funding. Data on the potential benefits (economic, energy, and environmental) must come from an unbiased and trusted data source such as the federal government.
- One option for goal/objective statements re: biodiesel and other biofuels could address the potential quantities of fossil fuel-based resources offset with bio-based resources.
- The “3X by 2010” goal outlined in previous documents is not sensible for all biomass technologies. In the case of fuels, this goal is most likely too low. In the case of power, this goal is too high.
- The new Vision goals should communicate a sense of the large opportunity available from biomass technologies.
- The goals should communicate environmental sustainability and environmental improvement opportunities available through biomass technologies.

In developing the new Vision and Roadmap, the Committee agreed that it should review the draft Vision and Roadmap as well as the Strategic Plan. There is useful information in each of these documents that could contribute to the new Vision and Roadmap. In addition, committee members should refer to the National Energy Policy, and the Biomass R&D Act for further guidance. Mr. Huttner framed the recommendations from the Committee by saying that the Committee’s Vision would be all encompassing but would use the Strategic Plan developed by the Biomass R&D Board as the starting point. He suggested that the Committee adopt the Strategic Plan as the base document and revise it to include other documents and pertinent issues. The Committee suggested that the following items would need to be integrated into the new Vision:

1. Issues raised in the Committee’s recommendations from last year
2. Energy Title of the Farm Bill (Title 9)

3. Issues concerning environmental sustainability/benefits
4. Cross-cutting themes
5. Clarification or removal of the tripling of biomass goal
6. Policy issues
7. Genomics

The motion to adopt the Strategic Plan by the Biomass R&D Board as the basis document and integrate other important documents and issues to form a new Vision document was adopted by the Committee.

B. ADDITIONAL DISCUSSION

Several Committee members requested information on the appropriations process and schedule, and how funding allocation decisions are made. They inquired about how the new Vision and Roadmap could influence funding decisions in FY03 and FY04.

Department of Energy participants explained that the FY03 appropriations will probably already have been made by the time the Committee completes its Roadmap; however, there still may be an opportunity to direct funding towards roadmap priorities. This will depend in large part to the extent of earmarks in the FY03 budget. The Roadmap recommendations can have a much greater impact on federal R&D planning and spending in the FY04 and FY05 budgets.

Co-chair Glenn English wanted to ensure that the Committee was completely aware of its duties. Mr. English read from Section 306 from the Agriculture Risk Protection Act of 2000: ~~The Advisory Committee shall:~~

1. Advise the points of contact with respect to the Initiative,
2. Evaluate whether, and make recommendation in writing to the Board to ensure that
 - (a) funds authorized for the Initiative are distributed and used in a manner that is consistent with the goals of the Initiative
 - (b) the points of contact are funding proposals under this Title that are selected on the basis of merit, as determined by an independent panel of scientific and technical peers; and
 - (c) activities under this Title are carried out in accordance with this Title.

A Committee member stated that by the letter of the law, the Committee has nothing to do because there are no expenditures. Mr. English stated that our duties call for the Committee to advise points of contact with respect to the Initiative. What Mr. English said he did not know is, if there are funds available, to what extent they will be allocated in accordance with the advice of the Committee. Mr. English asked that the Committee's duties be touched upon in the Vision.

DOE participants reiterated that the Committee will be making recommendations to the Secretaries at DOE and USDA and evaluating how they have spent and should spend their money.

In 2001, the Committee developed a strong document with specific R&D recommendations for biofuels, biopower, and bioproducts as well as crosscutting R&D recommendations. Committee members expressed the importance of this document and that it should continue to be used by USDA and DOE for planning purposes.

C. VISION/ROADMAP TIMELINE

In order to have any possibility of influencing budget decisions for FY03, the Vision and Roadmap will need to be completed by the end of the 2002 calendar year. The activities to complete the Vision and Roadmap are as follows:

- DOE will develop a draft ~~table~~ "table of contents" drawing upon the goals and objectives found in the federal R&D Board Strategic Plan.
- Where relevant, annotations from the draft Vision and Roadmap will be integrated.
- This structure will be provided to the Committee electronically for their response.
- In 10 days to 2 weeks, each member will have read all the documents that will be included and provide comments.
- Committee comments will be integrated into a new draft Vision to be presented to the full Committee at an Advisory Committee meeting on August 1.
- The August 1 meeting will be used to make revisions, additions, deletions to the Vision. (A Committee member suggested that the next meeting be very time specific so that subjects and chapters are discussed in specific time increments.)
- A third Advisory Committee meeting will be held on September 4th to ensure that all comments are addressed and to adopt the new Vision.

Following the development of the new Vision, a new Roadmap will be developed.

There was a discussion as to whether the Vision needed to be sent out to stakeholders or for public review. The Committee concluded that further review would delay the completion of the Vision. However, if there are any individuals that Committee members would like to have review the Vision, they can have them do so.

SCHEDULED PUBLIC COMMENTS

Public comments that were submitted in writing can be found in Attachment 4.

1. The first public comment was given by Cornelius Murphy, President State University of New York, College of Environmental Science and Forestry & SUNY Center for Sustainable and Renewable Energy to the Biomass Research and Development Technical Advisory Committee. Mr. Murphy thanked the Committee for its support and explained that the Center for Sustainable and Renewable Energy has three key foci:
 1. Biofuels and Sustainable Industrial Chemicals
 2. Biomass Combined Heat and Power
 3. Transgenics Research to extend SALIX (Willow) and other energy crop yields to enhance feedstock value.

SUNY-ESF and the SUNY Center for Sustainable and Renewable Energy are seeking congressional and agency support to install a gasifier able to gasify SALIX and forest products industry residue to create a synthetic gas to fuel the Molten Carbonate Cell. The result is a demonstrated CO₂ neutral production of combined heat and power exportable anywhere as a proven model.

2. The second public comment was given by Mike Erker from the United Soybean Board. Mr. Erker thanked the Committee for its support. Mr. Erker stated that there are many products in the market that are made from soy and 400-600 companies make products from soy. There are a lot of opportunities for soy. The United Soybean Board is working with DOE, USDA, and the National Corn Growers Association, and the United Soybean Board is putting together a meeting (shooting for the second week in October) to talk to industry, governmental leaders, and decision makers for a day and a half session to talk about market opportunities, issues, and working together.

MEETING ADJOURNED AT 3:40 PM.

ATTACHMENT 1

Biomass Research and Development Technical Advisory Committee List of Members

<u>Name</u>	<u>Organization</u>
Roger Beachy	Donald Danforth Science Center
Robert Boeding	National Corn Growers Association
Dale Bryk	Natural Resources Defense Council
Robert Dorsch	Dupont
Glenn English, Jr.	National Rural Electric Cooperative Association
Thomas W. Ewing	Davis and Harman, LLP
Carolyn Fritz	Dow Chemical Company
Stephen Gatto	BC International
Brian Griffin	Oklahoma Secretary of Environment
Pat Gruber	Cargill Dow LLC
William Guyker	Allegheny Power Systems
John S. Hickman	John Deere Technology Center
Walter Hill	Tuskegee University
William Horan	Horan Brothers Agricultural Enterprises
Jack Huttner	Genencor International, Inc.
F. Terry Jaffoni	Cargill, Inc.
Michael Ladisch	Purdue University
David Morris	Institute for Local Self Reliance
William Nicholson	Potlatch Corporation
Edan Prabhu	Reflective Energies
William Richards	Richards Farms, Inc.
Philip Shane	Illinois Corn Marketing Board
Larry Walker	Cornell University
John Wootten	Peabody Energy
Michael Yost	Yost Farm, Inc.
Holly Youngbear-Tibbetts	College of Menominee Nation

ATTACHMENT 2

BIOMASS RESEARCH AND DEVELOPMENT TECHNICAL ADVISORY COMMITTEE MEETING June 27, 2002

ATTENDEES

Committee Members Present

Glenn English
Thomas Ewing
Robert Boeding
Dale Bryk
Robert Dorsch
Carolyn Fritz
Stephen Gatto
Patrick Gruber
William Guyker
John Hickman
Bill Horan

Jack Huttner
F. Terry Jaffoni
Michael Ladisch
David Morris
William Nicholson
Bill Richards
Larry Walker
John Wootten
Michael Yost
Holly Youngbear-Tibbetts

Committee Members Not Present

Roger Beachy
Brian Griffin
Walter Hill

Edan Prabhu
Phillip Shane

Federal Employees Present

Mike Kossey USDA
Merlin Bartz USDA
Keith Collins USDA
Tom Dorr USDA
Frank Flora USDA
Marvin Duncan USDA
Roger Conway USDA
Hank Zygmunt EPA
Kurt Roos EPA
Jean Schwab EPA
Robin Dunkins EPA
Donn Viviani EPA
Jean Mari Peltier EPA

Bob Gemmer DOE
Sam Tagore DOE
Don Richardson DOE
Sam Baldwin DOE
Mark Decot DOE
David Garman DOE
Doug Faulkner DOE
Richard Moorer DOE
Mark Paster DOE
Denise Swink DOE
Amy Manheim DOE
Robert Sandoli OMB
Lloyd Ritter US Congress

Total Public Attendees: 22

Total Attendees: 69

ATTACHMENT 3

BIOMASS RESEARCH AND DEVELOPMENT TECHNICAL ADVISORY COMMITTEE MEETING

June 27, 2002

AGENDA

- 8:10 am Preliminary Ethics Session for New Members
Gloria Sulton, General Counsel
- 8:30 am Refreshments
- 8:55 am Welcome and Agenda
Douglas Kaempf, Designated Federal Officer
- 9:00 am Recognition of Jack Huttner's contribution as Co-chair and introduction of
new Co-chair, Tom Ewing.
David Garman, Assistant Secretary for Energy Efficiency and Renewable
Energy, Department of Energy
- 9:15 am Response to Committee's FY2002 Recommendations and Committee
Involvement in the Vision and Roadmap Documents
David Garman, Assistant Secretary for Energy Efficiency and Renewable
Energy, Department of Energy
- 9:40 am 2002 Farm Bill and DOE/USDA Plans for Implementation
Keith Collins, Chief Economist, US Department of Agriculture
- 10:00 am Self-Introduction of Committee Members
- 10:25 am Break
- 10:40 am Committee Priorities and Deliverables for 2002
Discussion led by Glenn English, Co-chair
- 11:20 am Work Plan and Committee Structure for 2002
Discussion led by Glenn English, Co-chair
- 12:00 pm Lunch – Commons Restaurant, Smithsonian Castle
- 1:30 pm Schedule and Next Steps for R&D Guidance Document for Biomass
Discussion led by Thomas Ewing, Co-chair
- 3:30 pm Scheduled Public Comment:
- 3:30 – 3:35 Mike Erker, United Soybean Board
- 3:35 – 3:40 Cornelius Murphy, SUNY College of Environmental
Science and Forestry
- 3:40 pm Adjourn

ATTACHMENT 4

BIOMASS RESEARCH AND DEVELOPMENT TECHNICAL ADVISORY COMMITTEE MEETING

June 27, 2002

Public Comments

Public Comment A-1

REMARKS BY Dr. Cornelius B. Murphy, President State University of New York, College of Environmental Science and Forestry & SUNY Center for Sustainable and Renewable Energy to the Biomass Research and Development Technical Advisory Committee, USDOE (EE&RE)

June 27, 2002

Mr. Chairman – Thank you for the opportunity to make some remarks. My name is Cornelius B. Murphy and I am President of the State University of New York, College of Environmental Science and Forestry in Syracuse, New York. I received my PhD in Chemistry from Syracuse University and before joining SUNY-ESF; I was President, CEO and Chairman of the Board of Directors of O'Brien & Gere Engineers Inc., a multinational engineering firm. SUNY-ESF is the host campus for the State University of New York Center for Sustainable and Renewable Energy representing and coordinating the sustainable and renewable energy research and development efforts of all 64 SUNY campuses.

Presently, the Center for Sustainable and Renewable Energy has three key foci. First, Biofuels and Sustainable Industrial Chemicals, our BASIC Program, Biomass Combined Heat and Power, and Transgenics Research to extend SALIX (Willow) and other energy crop yields to enhance feedstock value.

I will address these foci in reverse order because each is inextricably linked to the other.

SUNY-ESF in partnership with DOE and USDA has been conducting successful **SALIX research** for nearly 20-years. Yields from our 1,000 acres of transgenic willows are exceeding 10-dry tons per acre, we believe through continued transgenic research yields can grow to **17 tons per acre**.

Recently, the 2002 Farm Bill included energy crops like **SALIX as a commodity crop**. The SUNY Center for Sustainable and Renewable Energy considers it imperative that the "torch" not be dropped as transgenic feedstock research and development is passed from DOE to USDA.

Woody biomass transgenic research must have a place at the front of the line because as an energy crop it holds one of the best hopes for gasification, production of levulinic acid, and sustainable and renewables-based biofuels and industrial and specialty chemicals.

Recently in conjunction with the **New York Power Authority and the New York State Energy Research and Development Authority, SUNY-ESF and the SUNY Center for Sustainable and Renewable Energy secured a \$3.5 Million award** to install a **molten carbonate fuel cell** to power solid state lighting and other associated power integrations at SUNY-ESF's Baker Laboratory which is presently undergoing a multimillion dollar service-life extension renovation. Simultaneously, and in addition to the **spectacular research and teaching opportunities** afforded by this "cutting edge"

fuel cell, **cold college water shall be pumped through the fuel cell, heated and used in the Baker Lab heating system.**

But this is just the first step! SUNY-ESF and the SUNY Center for Sustainable and Renewable Energy are seeking congressional and agency support to **install a gasifier able to gasify SALIX and forest products industry residue** to create a synthetic gas (Syngas) to fuel the Molten Carbonate Cell. The result is a demonstrated **CO₂ neutral production of combined heat and power** exportable anywhere as a proven model. We most strongly urge a **dedicated focus and funding for applications for woody biomass gasification to fuel cells and micro-gas turbines for “green power” production.**

Finally, SUNY-ESF and the SUNY Center for Sustainable and Renewable Energy most strongly endorse **innovative commercial applications of forest product industry residuals and energy crops for biofuels and sustainable industrial chemicals.** This includes **biopulping** using organisms and enzymes to reduce the lignin content of woody biomass in paper mills nationwide with prospects of energy savings greater than 35%, as well as, **oxygen and catalytic based, sulfur free pulping** to isolate the cellulose and lignin fractions using less energy and fewer chemicals, cellulose use including **nanocrystals, fibrils, films and fibers** and **conversion to glucose**, ethanol and hydroxymethyl furfural; hemicellulose use including **polymers**, water-soluble **xylan acetate films and gels**; Sulfur-free lignin use to yield **carbon black materials** with enhanced electrical conductivity, production of **biodegradable plastics**; and thermodepolymerization to produce **BTU fuel gas** and **chemical feedstocks**. All “green” with virtually **zero negative environmental footprints.**

Along a parallel path is the **commercial application of lignocellulosics into levulinic acid** and equally exciting opportunities for biofuels and sustainable industrial chemicals. SUNY-ESF and the SUNY Center for Sustainable and Renewable Energy envisions an energy future full of opportunities fuelled by cost-effective, commercial sustainable and renewable “green” lignocellulosic feedstocks converted to **syngas powering fuel cells and micro-turbines** and producing **plastics and liquid fuels** able to extend and eventually replace petro-supplies. Now is the time to give this groundbreaking lignocellulosic research and development a first-tier priority for funding.

What does this mean to SUNY-ESF? It means that New York State’s and the national **forest products industry can develop high-value added products** using the **residues of paper mills and furniture manufacturing plants** and lessen the effect of petro-carbon related “greenhouse gas” emission with **CO₂ neutral “green power.”** This mean **more good paying jobs** in the Northeast and New York State’s forest product industry...which is our state’s 5th largest manufacturing industry. Finally, it means **reliable, secure and abundant renewable energy** without reliance on foreign petroleum...and eventually without reliance any petroleum at all.

Thank you for an opportunity to comment at this meeting.

Public Comment A-2

Renewable Fuels Foundation

Mr. Doug Kaempf
Co-Director National Biomass Coordination Office
U.S. Department of Energy
Room 1E-245
1000 Independence Avenue, SW
Washington, DC 20585-0121

Re: Recommendation To Create an Ethanol Education Program within the Biomass Research & Development Initiative.

Dear Co-Director Kaempf and Members of the Biomass Research and Development Technical Advisory Committee:

Ethanol has been used commercially for more than twenty-years and is the only viable renewable fuel in the marketplace today. Nevertheless, ethanol, its environmental benefits, and uses as a motor gasoline additive are relatively unknown to consumers and technicians across the country. At the same time, the United States Congress is pursuing legislation that will create a national fuels program requiring an increased use of ethanol and other renewable fuels.

The Renewable Fuels Foundation (“RFF”) is the only national coordinating body for ethanol research, development, and education in the United States and we urge the Biomass Research and Development Technical Advisory Committee to recommend to the Secretaries of Energy and Agriculture and their designated “Points of Contacts” to prioritize funding from the Biomass Research and Development Initiative on a “National Ethanol Education Program” through the Renewable Fuels Foundation.

A “National Ethanol Education Program,” organized by the Renewable Fuels Foundation would implement a comprehensive national communication program to educate major stakeholders and the public about ethanol. Outreach efforts would be undertaken to educate consumers, technicians, environmental groups, transportation organizations, highway user groups, federal fuel purchasing managers, and in some cases the petroleum industry, among others, through instructional sessions at key conferences, meetings, and other national forums such as the National Clean Cities Coalitions. Educational workshops would be given in targeted regions and ethanol informational materials would be developed and integrated into existing industry and organizational channels of communication.

Already the RFF is well established in the education of auto technicians through its series of “*Changes in Gasoline*” manuals. The *Changes in Gasoline* manuals focus on fuel related areas of greatest interest to automobile service technicians (more than 500,000 publications have been circulated).

The extent to which ethanol can be successfully integrated into the existing national petroleum infrastructure, is the extent to which it will be successful. Concerted outreach efforts will be continued to educate petroleum industry stakeholders about the opportunities to profitably integrate ethanol into their operations nationwide. Under a “National Ethanol Education Program” the Renewable Fuels Foundation would work to further develop partnerships between the ethanol industry and the petroleum industry, for the purpose of facilitating more efficient and cost effective nationwide distribution networks.

Finally, under this program the Renewable Fuels Foundation would continue to build private and public coalitions to implement ongoing cooperative implementation plans for new uses of ethanol, among auto, engine, and equipment manufacturers, feedstock and fuel producers, distribution and retail interests, and end users.

Attached are the highlights of a plan the Renewable Fuels Foundation would implement to make this nationwide program successful. We look forward to working with you on this recommendation. If you have any questions or comments, please contact me at 202-289-3835.

Sincerely,

A handwritten signature in black ink, appearing to read "Bob Dinneen". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

Bob Dinneen
President
Renewable Fuels Foundation

Enclosure: National Ethanol Education Plan

National Ethanol Education Plan

The Renewable Fuels Foundation

- The Renewable Fuels Foundation (“RFF”) is the only national coordinating body for ethanol research, development, and education in the United States.
- The RFF is well established as an education foundation. Recently, the RFF has assisted in the education of auto technicians through its series of “*Changes in Gasoline*” manuals. The *Change in Gasoline* manuals focus on fuel related areas of greatest interest to automobile service technicians (more than 500,000 publications have been circulated).
- The Renewable Fuels Foundation is a national non-profit entity organized as an education foundation under the Internal Revenue Code section 501(c)(3).

Awareness & Education

- The Renewable Fuels Foundation will implement a comprehensive national communication program to educate major stakeholders and the public about ethanol.
- Outreach efforts will be undertaken to educate consumers, environmental groups, transportation organizations, highway user groups, federal fuel purchasing managers, and in some cases the petroleum industry, among others, through instructional sessions at key conferences, meetings, and other national forums such as the National Clean Cities Coalitions.
- Educational workshops will be given in targeted regions. Ethanol informational materials will be developed and integrated into existing industry and organizational channels of communication.
- **The RFF will target consumers and users of transportation fuels who may not be familiar with the many benefits of ethanol as an additive to gasoline and will implement a meaningful education program consistent with the following prioritized objectives:**
 - (1) ethanol is one of the few reliable renewable fuels in the marketplace today;
 - (2) ethanol is a clean burning fuel additive that enhances air quality;
 - (3) ethanol has no ill affects on health, air quality, and water resources;
 - (4) ethanol is a safe biodegradable fuel that does not harm drinking water resources;
 - (5) ethanol fuel use enhances energy security by displacing gasoline consumption;
 - (6) ethanol use as a motor fuel will increase across the United States;

- (7) ethanol and its use as a fuel additive is misunderstood by a majority of individuals in the United States;
 - (8) consumers in the United States would benefit if educational information on ethanol were created and made available to the consumer.
- **The RFF will use modern methods of communication and create a website to assist in the education program.**
 - The Renewable Fuels Foundation will continue to build private and public coalitions to implement ongoing cooperative implementation plans for new uses of ethanol, among auto, engine, and equipment manufacturers, feedstock and fuel producers, distribution and retail interests, and end users.

Public Comment A-3

Biomass Appropriations Fiscal Year 2003

The American Bioenergy Association (ABA) firmly believes that biomass technologies hold great promise for this nation's balance of energy security, diversity of energy supply, environmental stewardship (both climate mitigation and ecosystem health), and industrial and rural development. By moving toward a bioeconomy this nation can provide sustainable and home-grown energy solutions.

Reorganization

ABA strongly supports the proposed Department of Energy reorganization of the renewable energy research and development programs. The biomass program should greatly benefit from the combining of the fuels, transportation, and industrial biomass programs. The housing of these programs under one leader should enable these R&D initiatives to function in a more efficient, coordinated way. Our industry members agree that they should be able to work more effectively with the Department of Energy as a result. We commend the efforts of Assistant Secretary Garman for taking the steps necessary to improve these programs.

Funding

While ABA worked to ensure that aggressive biomass R&D authorization levels were included in both House and Senate versions of the energy bills, the proposed funding levels for power and fuels for fiscal year 2003 should be sufficient to continue most industry-supported initiatives. ABA agrees on the R&D emphasis placed on biorefineries and gasification. ABA supports a robust allocation for a worthy biorefinery solicitation to continue DOE's endeavors with industry to help jump-start commercialization. In order that many of the policies being considered under the energy bills be successfully implemented (for example, the renewable portfolio standard and the production tax credit), regional biomass projects should continue to be strongly supported, as authorized in Title IX of the 2002 Farm Bill.

The ABA represents companies, suppliers, utilities, private firms, and universities who support the development of new technologies in biomass power, biofuels, and biochemicals. We work to build support throughout the federal government for the biomass industry through tax incentives, increased biomass research and development budgets, regulations and other policy initiatives.

Questions? Call Katherine Hamilton (703-516-4444) or Megan Smith (202-467-6540).