PO BOX 201706
Helena, MT 59620-1706
(406) 444-3064
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Energy and Telecommunications Interim Committee

61st Montana Legislature

August 27, 2010

TO: Interested parties
FR: Sonja Nowakowski, ETIC staff
RE: August public comment

ETIC members,

At the July meeting, ETIC members directed staff to put four potential bill drafts and a letter to the Federal Communications Commission out for public comment. Attached is the public comment received on the documents. The four bill drafts and draft letter were out for public comment from August 4 to August 25.

The drafts and letter are included in your mailing packets. They include:

- LC 6001: Revise Energy Policy Review Process
- LC 6002: Increase Montana's Renewable Portfolio Standard
- LC 6003: Revise Definition of "Eligible Renewable Resource" to Include Hydroelectric Facility Expansions
- LC 6004: Extend the Sunset for Wireless 9-1-1 Funding
- FCC Letter

At the ETIC members' request the public comment has been posted online at www.leg.mt.gov/etic under the September 10 meeting date "Meeting Schedule and Materials" link. Unless requested, hardcopies of the comments will not be included in the meeting mailing.

Additional comment is expected after the mailing deadline. Staff will include any additional comments received in your September meeting folders.

Sonja Nowakowski

Nowakowski, Sonja

From: Sonja Nowakowski [snowakowski@mt.gov]
Sent: Wednesday, August 04, 2010 9:36 AM
To: Nowakowski, Sonja
Subject: Energy and Telecommunications Interim Committee seeking public comment

The Energy and Telecommunications Interim Committee is seeking public comment through **Aug. 25** on four draft bills that it's thinking of taking to the 2011 session.

The bipartisan committee also would like public comment on a draft letter that it's considering sending to the Federal Communications Committee. The letter addresses proposed federal reforms that the committee believes may put investments in rural broadband telecommunications services at risk.

Copies of the bill drafts and the letter are available on the committee Web site at www.leg.mt.gov/etic. Click on the Sept. 10 meeting date under "Meeting Schedule and Materials."

The four legislative proposals are:

- LC 6001: Revise Energy Policy Review Process
- LC 6002: Increase Montana's Renewable Portfolio Standard
- LC 6003: Revise Definition of "Eligible Renewable Resource" to Include Hydroelectric Facility Expansions
- LC 6004: Extend the Sunset for Wireless 9-1-1 Funding

Please email your comments to Sonja Nowakowski, ETIC staff at snowakowski@mt.gov (put the LC number or letter in the subject line) or send hard copies to Legislative Services Division, Attn. Sonja Nowakowski, P.O. Box 201704, Helena, MT 59620-1704.

The committee will meet Sept. 10 in Helena to review the feedback it gets and take additional public comment. Members will decide at the meeting whether to move forward with the four bill drafts and whether to send the letter.

Nowakowski, Sonja

From: Phil Maxwell [phil.maxwell@3rivers.coop]
Sent: Wednesday, September 08, 2010 9:07 AM
To: Nowakowski, Sonja
Cc: '"mailto:Goodwind.duane"@gmail.com'; '"mailto:tbelcourt"@hotmail.com'; '"mailto:rdriscoll"@peoplepc.com'; '"mailto:klock"@mtintouch.net'; '"mailto:blacks"@3rivers.net'; '"mailto:Ron.senate"@gmail.com'; '"mailto:cliff"@larsenusa.com'; '"mailto:vjack"@centurytel.net'
Subject: Energy and Telecommunications Interim Committee letter to FCC

Montana State Legislature's Energy and Telecommunications Interim Committee

3 Rivers Telephone Cooperative located in Fairfield Montana would like to encourage the Montana State Legislature's Energy and Telecommunications Interim Committee to write a letter to the FCC concerning the Commission's proposed universal service reforms and how the proposed changes will have a negative effect on investment and economic development in Montana.

3 Rivers has used universal service funds to build and maintain one of the most advanced telecommunications networks in Montana, and plans to continue to provide services to the areas we serve. In order for 3 Rivers to continue to provide these services and to grow to serve the needs of our subscribers into the future the FCC needs to preserve the statutory mandates of "comparable service, comparable rates", and "sufficient, and predictable universal service support" for high cost areas in Montana.

The Commission's proposed universal service reforms threaten to put both current and future investment in broadband facilities at risk. Even today before any changes have been made, lenders we depend on are becoming nervous and reluctant to loan funds because of the uncertainty of sufficient support in the future to meet loan obligations.

A reduction in universal support will not only affect the viability of companies like 3 Rivers but the viability of the communities we serve and live in, and economic future of the State of Montana.

Please contact me if you have any questions concerning this issue.

Phil Maxwell | 3 Rivers Communications
Regulatory Affairs Specialist
800.796.4567 x 4134 | cell 399.6299 | phil.maxwell@3rivers.coop
3 RIVERS COMMUNICATIONS

Nowakowski, Sonja

From: Larry Mason [lmason@smtel.com]
Sent: Tuesday, September 07, 2010 1:49 PM
To: Nowakowski, Sonja
Cc: Feiss, Geoff
Subject: FCC Draft Letter Support

Sonja:

I just wanted to take a minute to express my support for ETICs draft letter expressing concerns with the FCCs proposed USF reform. As a small rural Montana telecom provider, Southern Montana Telephone Company (SMTC) encourages the Committee to send the letter as drafted.

SMTC agrees with the Committee's position that reform, as proposed, will threaten SMTCs ability to continue to build out a robust broadband network. In 2007 SMTC embarked on a complete upgrade of its facilities to accommodate faster broadband speeds. By the end of 2011 over half of our customers will have Fiber-to-the-Premises (FttP). The long-term plan is to build FttP to 100% of our customers. Making the cutting edge broadband alluded to in the FCCs National Broadband Plan available to our customers has not come cheap – by the end of 2011 SMTC will have invested nearly $17,000,000 in RUS borrowed funds to upgrade. As ETICs draft letter mentions, if SMTCs USF support is reduced drastically without a corresponding revenue increase elsewhere, we will not be able to service that debt, much less justify continued investment in broadband facilities.

Not only will the FCCs proposed plan curtail SMTCs continued investment in broadband facilities but, based on Universal Service projections, our local rates would have to increase well beyond the realm of reason. If USF support were eliminated SMTC local rates would have to increase as follows just to support the network currently in place:

HCL goes away:	Increase of $195.89/month to $211.14 residential rate
ICLS goes away:	Increase of $15.91/month to $31.16 residential rate
LSS goes away:	Increase of $13.25/month to $28.50 residential rate
All Support goes away:	Increase of $225.05/month to $240.30 residential rate

Without doing any market research whatsoever it is safe to say that none of 1,000 customers, mostly ranches and ranch-supported customers, can afford $240.30/month for dial tone – nearly a 16-fold increase. Besides my ranching and ranching-supported customers, the Federal Government (Forest Service, Post Office, Battlefield National Park, etc) is one of our larger customers with some 30 lines. Doing the math, the federal government's telephone service budget (without SLC) goes from about $562.50/month to $7,209/month. And this is only the Universal Service support impact; I haven't even begun to quantify the impact of moving away from the proven rate-of-return methodology.

I am cautiously optimistic that the FCCs proposed Connect America Fund will, in the end, recognize the merits of ubiquitous communications service for all as promulgated in section 254 of the Communications Act of 1934 as alluded to in ETICs draft letter. However, the uncertainty in not knowing the mechanics of how such a fund would work puts a damper on SMTCs continued investment and the Montana employment created by such construction. Accordingly, Southern Montana Telephone Company wholeheartedly supports the content of ETICs draft letter.

Larry Mason
Southern Montana Telephone Company
(406) 689-3333 (Office)
(406) 689-3232 (Direct)

Nowakowski, Sonja

From: ClimateProtection [ClimateProtection@BOZEMAN.NET]
Sent: Friday, September 03, 2010 9:39 AM
To: Nowakowski, Sonja
Cc: Anders Lewendal; Chris Naumann; County Comissioner Murdoch; Daryl Nourse; Dawn Smith; Jeff Butler; Jeff Krauss; John Vincent; Kaaren Jacobson; Kevin Barre; Lee Hazelbaker; LeRoy Wilson; Mary Cloud Ammons; melvin.kotur@northwestern.com; Natalie Meyer; otto@ottopohl.com; Rebecca Piersol; scott@emountainworks.com; Stevenson, Daniel
Subject: SB290

Dear Energy and Telecommunications Committee:

We are writing with comments on SB290 as a group of Montanans interested in issues of energy and climate change. We are the members of the Bozeman Mayor's Community Climate Task Force working to help Bozeman meet its commitments to reduce greenhouse gas emissions under the Mayors' Climate Protection Agreement, which our then Mayor Krauss signed in 2006.

We have read an undated markup of SB0290 and have the following comments:

We have a concern that this bill makes the Energy and Telecommunications Interim Committee solely responsible for establishing
energy policy for the state. We are unclear, but reading between the lines we wonder if this bill effectively removes Montana's energy policy from
government staffers who are heavily vested in our state's energy policy and opportunities, and instead puts it in the hands of-and at the changing whim of-elected officials and the lobbyists influencing them. We believe the legislature has a role in oversight but not in creation of our energy policy. We request that the legislature be kept in an advisory/review capacity, not be put in the role of the creator and sole arbiter of Montana's energy policy.

In Section 1 change 2(b) to say add the words in <>: "review this energy policy statement and any future changes pursuant to 90-4-1003 so that
> Montana's energy strategy will provide for a **balance between a sustainable environment and a viable economy** <recognizing that the latter cannot ultimately exist without the former>; and

In Section 2

In 2(b)(i) add section shown in <>: "increasing the supply of low-cost<, low carbon emission> electricity with coal-fired generation;"
In 2(b)(ii) add section shown in <>: "rebuilding and extending electrical transmission lines <, focused on servicing both renewable and
fossil fuel resources>;"
In 2(b)(iii): add section shown in <>: "maximizing state land use for <renewable> energy generation"

Delete section 2(b)(viii)

Add 2(b)(x): "When comparing different forms of energy, the committee shall consider both the direct and indirect costs (including, for example,
such items as mercury pollution, human health issues, and similar) for each fuel source."

We would also like to see included:

- All low-cost coal power development should incorporate all technically and economically feasible mitigation of its environmental impacts
- Provide incentives for community based renewable energy projects
- Create opportunities for public/private partnership between utility and municipalities in administering USB funds

- Increase supply of wind production

Thank you for considering our comments,

Bozeman Mayors' Community Climate Task Force

Nowakowski, Sonja

From: Harold Blattie [hblattie@mtcounties.org]
Sent: Friday, August 27, 2010 9:29 AM
To: Nowakowski, Sonja
Cc: Sheryl Wood; Berger, Becky
Subject: RE: Energy and Telecommunications Interim Committee September 10 meeting

Sonja,

We have a mandatory staff meeting on September 10th so we will not be able to attend the committee meeting but would like to express our **support for advancing LC6004** – Extend Sunset on Wireless Funding. If we were there, we would suggest that the sunset be eliminated, rather than extended. The 84% - 16% split was done in recognition of the fact that it takes a certain amount of funding in order to provide even a base level of service. Without this split that shifts a portion of the allocation to the smaller counties, some of the smaller jurisdictions would have great difficulties or find it impossible to provide base services.

While it is easy to surmise that the larger areas would resist this shift, our membership has been a solid supporter of the 84% -16% split in the past. Our larger counties recognize that the residents of the larger areas travel through the less populated areas and that those travelers have an expectation of the same level of service received at "home". The 9-1-1 "system" does need to assist all areas of the state in providing basic levels of service. That premise will not change with time. Rural areas will continue to be rural areas and urban areas will continue to be urban areas, thus the suggestion that the sunset just be repealed.

Thank you,

Harold

L Harold Blattie, Executive Director
Montana Association of Counties
2715 Skyway Drive
Helena, MT 59602
(406) 449-4360 Office **(Please note this is a new phone number)**
(406) 442-5238 Fax
hblattie@mtcounties.org
www.maco.cog.mt.us

NOTE: My email address has changed to: hblattie@mtcounties.org

Please update this information in your address book.

From: Sonja Nowakowski [mailto:snowakowski@mt.gov]
Sent: Friday, August 27, 2010 9:13 AM
To: Harold Blattie
Subject: Energy and Telecommunications Interim Committee September 10 meeting

DEPARTMENT OF NATURAL RESOURCES AND CONSERVATION

BRIAN SCHWEITZER, GOVERNOR

1625 ELEVENTH AVENUE

STATE OF MONTANA

DIRECTOR'S OFFICE (406) 444-2074
FAX: (406) 444-2684

PO BOX201601
HELENA, MONTANA 59620-1601

August 24, 2010

Legislative Services Division
Attn: Sonja Nowakowski
P.O. Box 201704
Helena, MT 59620-1704

RE: LC 6003 – REVISE THE DEFINITION OF "ELIGIBLE RENEWABLE RESOURCE" TO INCLUDE HYDROELECTRIC FACILITY EXPANSIONS

Dear Energy and Telecommunications Interim Committee,

would like to take this opportunity to comment on the above referenced proposed legislative action pertaining to utilization of woody biomass for bioenergy.
In order for utilities to meet current or a proposed expanded renewable energy portfolio standard; access to eligible renewable resources is critical. One of the most promising sources of firm renewable power is bioenergy, of which woody biomass has proven potential to utilize existing technologies to generate heat and electricity.

Total live and standing dead (above-ground) woody biomass on Montana's 20 million acres of non-reserved timberlands exceeds 850 million dry tons (MDT). Consumption of woody biomass is 2.2 to 2.7 MDT annually. Therefore; it is important that biomass, as an "eligible renewable resource", is not identified as "low-emission, nontoxic biomass based on dedicated energy crops..."

I propose the following language be inserted in the draft to read: *Section 1 69-3-2003, (10), (iii), (g)*
"renewable biomass means – (A) materials, pre-commercial thinnings, or invasive species that –

(i) are byproducts of preventive treatments that are removed –
  (I) to reduce hazardous fuels;
  (II) to reduce or contain disease or insect infestations;
  (III) to restore ecosystem health; or
  (IV) to improve or maintain forest conditions;
(ii) would not otherwise be used for higher-value products; and
(iii) are harvested in accordance with –
  (I) applicable law and land management plans

In addition to recognizing the various sources of woody biomass supply, it is equally important for *"Montana's Energy Policy Review"* to accurately reflect Montana's opportunity to utilize woody biomass as a renewable bioenergy and/or biofuels source.
Thank- you for this opportunity to comment. I look forward to working with the Energy and Telecommunications Interim Committee on renewable energy issues in the future.

Sincerely,

Mary Sexton, Director

Horizon Wind Energy
An EDP Renewables Company

53 SW Yamhill Street
Portland, OR 97204

503.222.9400 phone
503.222.9404 fax

August 25, 2010

Legislative Services Division
ATTN: Energy and Telecommunications Interim Committee
PO Box 201706
Helena, MT 59620-1706

Support LC 6002

To the Members of the Energy and Telecommunications Interim Committee:

I am writing in response to the Energy and Telecommunications Interim Committee's (ETIC) request for public comment on draft legislative proposals and to express support of LC 6002. Thank you for this opportunity and for the ETIC's ongoing promotion of alternative energy generation in Montana.

Horizon Wind Energy develops, constructs, owns, and operates wind farms throughout the United States. Horizon is the 3rd largest owner of wind power generation facilities in the United States. Horizon has developed more than 3,400 MW and operates over 2,800 MW at 22 wind farms across the nation. Recently, Horizon's parent company, EDP Renováveis S.A. (EDPR), committed to investing $4 billion to building new wind farms in the United States through 2012. Horizon has a long-term commitment to renewable energy development in Montana with over 700 MW of wind capacity in the State in our pipeline.

With its abundance of renewable resources, Montana would see significant benefits from the continued development of a clean-energy economy. Increasing the amount of renewable energy that Montana electric utilities must supply their customers to 20 percent by 2020 and 25 percent by 2025 will help establish the policies necessary to create a clean-energy economy for the 21st century – one that will bring the benefits of rural economic development and job creation, stabilized energy prices, reduction in the country's dependence on foreign sources of energy, increased home-grown clean energy and diversified energy supply.

Regulation that requires the increased production of energy from renewable energy sources has proven effective at stimulating new renewable energy capacity in the United States. Increasing the Montana Renewable Portfolio Standard (RPS) would send a clear signal to the renewable energy industry that Montana has a long-term commitment to the growth of a state-wide clean energy economy and bring continued investment from development companies like Horizon Wind Energy.

Support for Montana's renewable energy development is the kind of policy that spurred our company to invest $4 billion over the next three years. Continuing this kind of policy is good business for Montana. We appreciate your ongoing initiatives to bring additional renewable generation development to the State of Montana. I urge you to introduce the legislative proposal LC 6002.

Sincerely,

Ann Siqveland
Project Manager

Horizon Wind Energy
An EDP Renewables Company

53 SW Yamhill Street
Portland, OR 97204

503.222.9400 phone
503.222.9404 fax

August 25, 2010

Legislative Services Division
ATTN: Energy and Telecommunications Interim Committee
PO Box 201706
Helena, MT 59620-1706

Oppose LC 6003

To the Members of the Energy and Telecommunications Interim Committee:

I am writing in response to the Energy and Telecommunications Interim Committee's (ETIC) request for public comment on draft legislative proposals and to oppose LC 6003. Thank you for this opportunity and for the ETIC's ongoing promotion of alternative energy generation in Montana.

Horizon Wind Energy develops, constructs, owns, and operates wind farms throughout the United States. Horizon is the 3rd largest owner of wind power generation facilities in the United States. Horizon has developed more than 3,400 MW and operates over 2,800 MW at 22 wind farms across the nation. Recently, Horizon's parent company, EDP Renováveis S.A. (EDPR), committed to investing $4 billion to building new wind farms in the United States through 2012. Horizon has a long-term commitment to renewable energy development in Montana with over 700 MW of wind capacity in the State in our pipeline.

I respectfully urge you not to introduce the legislative proposal LC 6003, which would revise Montana's definition of eligible renewable resource to include expansion of existing hydroelectric power plants. If enacted into law, this legislative proposal would undermine Montana's Renewable Portfolio Standard (RPS) and impair the development of new capacity from renewable resources in the State.

Renewable resource development investment decisions are based on the existence of a favorable business climate that aligns governmental policy with institutional and public support. If enacted, LC 6003 would flood the Montana market with renewable energy credits and remove incentive for new renewable projects to be built to meet the Montana RPS. By allowing hydro generation capacity resultant of hydroelectric project expansion to the scope of Montana's renewable energy law will reduce demand for new renewable energy capacity and push renewable energy development out of the State to more favorable markets.

With its abundance of renewable resources, Montana would see significant benefits from the continued development of a clean-energy economy. Maintaining the focus of the State RPS on new renewable energy development will keep the policies in place that are necessary to create a clean-energy economy for the 21st century – one that will bring the benefits of rural economic development and job creation, stabilized energy prices, reduction in the country's dependence on foreign sources of energy, increased home-grown clean energy and diversified energy supply.

Regulation that requires the increased production of energy from renewable energy sources has proven effective at stimulating new renewable energy capacity in the United States. Weakening Montana's RPS by including expansion of existing hydroelectric power plants in Montana's definition of an eligible renewable resource does not inspire confidence that the State is committed to long-term renewable resource development.

Again, your record of support for Montana's renewable energy development is to be commended and we appreciate your ongoing initiatives to bring additional renewable generation development to the State of Montana. I am writing to oppose the legislative proposal LC 6003.

Sincerely,

Ann Siqveland
Project Manager

Nowakowski, Sonja

From: Jim Brown [JBrown@doneylaw.com]
Sent: Wednesday, August 25, 2010 2:57 PM
To: Nowakowski, Sonja
Subject: comments on LC 6002 and 6003

Comments on draft bill No: 6002 and draft bill No. 6003
By the Montana Small Independent Renewable Generators ("MSIRG")
Before the Energy and Telecommunications Interim Committee
Contact: Mike Uda or Jim Brown at (406) 443-2211.

MSIRG consists of small wind and hydropower developers in Montana, namely Hydrodynamics, Inc. and Two Dot Wind, LLC. MSIRG's members all own or operate certified Qualifying Facilities (or "QFs") or have proposed QFs waiting to be developed. They are therefore all subject to the protection and rights granted by the federal Public Utilities and Regulatory Policy Act ("PURPA"), which has been incorporated into Montana law, and which is designed to encourage renewable energy development.

As an initial matter, MSIRG's members support strongly Montana's statutory graduated renewable energy standard. Our goal for Montana, like Governor Brian Schweitzer's goal, is to have a diversified, reliable energy portfolio. In order for Montana to have a diverse portfolio, the legislature must encourage small renewable projects, like ours. To do that, the legislature should oppose proposed legislation that would make it more difficult for renewable energy projects to take root and grow.

PROPOSED BILL NO. 6002:

As to proposed bill LC6002, MSIRG's members support the sections of the bill that provide a step process for public utilities and competitive electricity suppliers to acquire a certain percentage of its retail sales of electricity from eligible renewable resources. In other words, MSIRG's members support the 25% by the year 2025 goal.

However, we are deeply troubled by the attempt to eliminate the current statutory requirement that a certain percentage of renewable energy purchases come from community renewables.

As demonstrated by Section 1, paragraphs 3(b) and 4(b), as part of their compliance with Montana's renewable resource standard, public utilities and competitive electricity suppliers must purchase a certain amount of electricity through community renewable energy projects. The amended bill would end that requirement starting January 1, 2020.

Under the proposed bill, starting January 1, 2020, public utilities and competitive electricity suppliers are still required to procure electricity from eligible renewable resources. However, purchase from community renewable energy projects is no longer required. There is no explanation given for this change, although it is a significant change in current state policy – which is directed toward promoting small renewable Montana energy projects in order that our State is better able to respond and adapt to fluctuating market conditions and to protect the environment.

With the above in mind, MSIRG's members suggest humbly that if the Committee desires to make this a Committee bill, that it will strengthen the bill by relinking the purchase requirement from community renewable energy projects with the purchase from eligible renewable resources requirement for each compliance year after January 1, 2020. MSIRG's members cannot support this legislation without the community renewable energy project purchase requirement; and, in fact, will strongly oppose this bill if it comes before the 2011 legislature in its present form.

PROPOSED BILL NO. 6003:

While MSIRG's members generally support efforts to promote hydroelectric power in Montana, MSIRG's members opposed legislation similar to draft bill No. 6003 during the 2009 legislative session. Namely, MSIRG's members opposed SB 257 because the bill would have included large hydroelectric projects as an "eligible renewable resources" and would have applied that definition retroactively.

MSIRG's members are pleased to see that the current version of SB 257 has omitted the retroactive application provision. This, in and of itself, makes the bill more palatable. However, MSIRG's members remain concerned that the proposed PPL language (which would, for the first time, classify large hydroelectric projects as eligible renewable resources) will swallow up the rest of the other forms of authorized eligible renewable resources. As the Committee will note, water power already appears to qualify as an eligible renewable resource so long as the capacity is limited to 15 megawatts or less. *See*, section 10(d)(i)-(ii). MSIRG's members recommend this proposed bill could be strengthened by revising to limit the amount eligible under proposed section 10(d)(iiii) to 15 megawatts or less to make it consistent with the other authorized forms of hydroelectric projects.

Further, MSIRG's members recommend that Section 69-3-2003(4)(b) be struck. This language allows public utilities to operate community renewable energy projects. This provision was added during the 2009 legislature and seriously undermines the intent of the legislature's original intent in creating community renewable energy projects – which was to encourage small energy projects to be developed in Montana outside the control of existing utilities. If the legislature truly desires to have a diversified energy portfolio in Montana, it should not authorize large utilities, such as NorthWestern Energy, to own and operate projects that qualify for Montana's 25 by 25 renewable energy/goal standard. MSIRG requests that Draft Bill No. 6002 be amended to strike the language set forth in 69-3-2003(4)(b) such that (4) reads: "Community renewable energy project" means an eligible renewable resource that is interconnected on the utility side of the meter in which local owners have a controlling interest and that is less than or equal to 25 megawatts in total calculated nameplate capacity".

James E. Brown

Associate Attorney

DONEY | CROWLEY | BLOOMQUIST | PAYNE | UDA P.C.

P.O. Box 1185

Helena, MT 59624-1185

(406) 443-2211 ; 406 683 8795 fax: (406) 449-8443

jbrown@doneylaw.com

Nowakowski, Sonja

From: Charlene Woodcock [charlene@woodynet.net]
Sent: Friday, July 30, 2010 11:50 AM
To: Nowakowski, Sonja
Cc: rdriscoll@peoplepc.com
Subject: Energy and Telecommunications Interim Committee

Dear Ms. Snowakowski,

May I ask you to pass on to the Commission members how very disturbing it is to learn that half of them are treating Montana's future as if we can continue to burn fossil fuels, and the global climate change that is resulting from our excessive and shortighted development of coal, oil, and methane gas will just have to be the problem of our children and grandchildren. It is grossly irresponsible of our elected members of the legislature on this commission to put oil and gas company profits before their obligation to their constituents to preserve Montana's clean air and water and work for sustainable, clean energy sources such as wind, solar, and methane gas from farm waste.
Many farms and ranches could become energy self-sufficient if assisted with investment in a methane digester, and save the atmosphere from the methane gas that otherwise contributes to long-term climate change.

We've got to wake up and recognize that the status quo in energy policy will make life much more difficult for future generations. We are already seeing the dramatic weather effects in ever hotter weather; more, and more violent, storms; too-rapidly depleting groundwater, with senseless waste of clean water in coal and coalbed methane development. Developing wind energy in Montana could provide landowners a steady royalty without destroying their land for ranching and farming.
Developing solar energy could provides hundreds of new jobs across the state. Especially central and eastern Montana have many months of good sun. Families, businesses, and ranches could all benefit from providing their own clean energy.

Sincerely,

Charlene M. Woodcock
37 W Main Street
Bozeman 59715

Nowakowski, Sonja

From: AART DOLMAN [aart-dolman@bresnan.net]
Sent: Saturday, July 31, 2010 11:39 AM
To: Ann Hedges; Arlo Skari; Beltrone, Peggy; Bennett, Dan ; Bernard, Joann; Betty Coon; Boyd, Arleen; Buckley, Jay; Charles Bocock; Cheryl Reichert; Dennis Tighe; Dickenson, Rep. Sue; DIRK VAN HYNING; Ed McKnight; Gerry Jennings; Gessaman; Jeff Monheim; Lewin, Stuart; Mark Good; Mary Jones; Matt Leow; Price, Jean; Rezentes, Larry; Richard Liebert; Schmidt, Trudi; Nowakowski, Sonja
Subject: Fwd: Thank Legislators for Leadership on Clean Energy!
Attachments: Thank Legislators for Leadership on Clean Energy!

Dear friends, I have sent the following message to our MT. Representatives thanking them for voting in favor of clean energy. Would you do the same? And thanks for doing so. It is a huge step forward. Aart

Dear Representative: thank you for your vote in favor of a policy that puts Montana on a path towards a clean and safe energy future.

I am an elderly Korean War veteran and I was last week in Washington D.C. with more than 300 veterans from 33 states lobbying for an “America Clean Energy Now.” I was honored to be among many, many younger veterans who had fought in Afghanistan and Iraq and together we informed our congressional delegations that we must change our dependence on fossil fuels. This is not only expensive financially but more important we must stop the loss of life of our sons and daughters on the active battle fields.

Even the Defense Department is planning for a future without dependence of fossil fuels for our national security. So would you please continue to vote for clean energy when the interim committee meets again in September?

Sincerely Aart Dolman

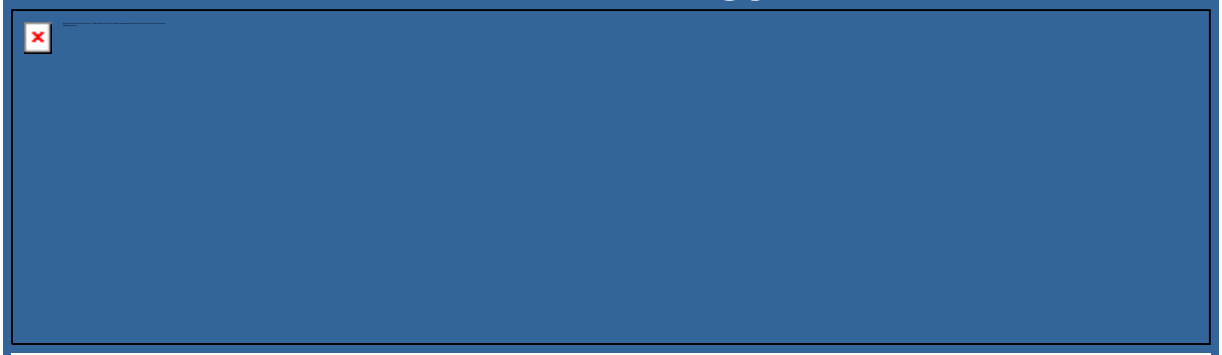
--- the forwarded message follows ---

Nowakowski, Sonja

From: MEIC [MEIC@mail.vresp.com]
Sent: Friday, July 30, 2010 4:54 PM
To: aart-dolman@bresnan.net
Subject: Thank Legislators for Leadership on Clean Energy!

Click to view this email in a browser

Thank Legislators for their Leadership on Clean Energy!



Yesterday, four members of the Legislature's Energy Interim Committee showed true leadership. They voted in favor of a "State Energy Policy" that supported clean energy, sustainable jobs, and increased reliance on energy efficiency and renewable resources.

Unfortunately the four Republicans on the committee refused to vote in favor of a State Energy Policy that looked toward a more sustainable energy future. They wanted a policy based on increased reliance on dirty nonrenewable resources like coal and oil and gas. These four legislators refused to support an energy policy that even mentioned the term "climate change."

Please send a thank you to the following committee members for supporting a clean, innovative, and sustainable energy future. It is not easy to stand up to "Big Coal" and "Big Oil" interests. But they did. And they voted for a policy that puts Montana on a path towards a clean and safe energy future! Encourage them to continue to vote for clean energy when the interim committee meets again in September.

Representative Robin Driscoll (Chair) (*D- Billings)* rdriscoll@peoplepc.com
Representative Tony Belcourt (*D-Box Elder)* tbelcourt@hotmail.com
Senator Ron Erickson (*D-Missoula)* ron.senate@gmail.com
Senator Cliff Larsen (*D-Missoula)* cliff@larsenusa.com

Questions on the State Energy Policy? Contact Kyla Wiens at MEIC 406-443-2520.

Nowakowski, Sonja

From: wwranch@3rivers.net
Sent: Wednesday, August 04, 2010 10:20 AM
To: Nowakowski, Sonja
Subject: Re: Energy and Telecommunications Interim Committee seeking public comment

On behalf of CCE, we'd endorse increasing green energy requirements in LC6002, and that's for the record Sonja. I'll send a formal letter as we get a chance, and still in Ag harvest mode now...thanks!

Richard Liebert

>
>
>
> The Energy and Telecommunications Interim Committee is seeking public
> comment through Aug. 25 on four draft bills that it’s thinking of
> taking to the 2011 session.
> The bipartisan committee also would like public comment on a draft
> letter that it’s considering sending to the Federal Communications
> Committee. The letter addresses proposed federal reforms that the
> committee believes may put investments in rural broadband telecommunications services at risk.
> Copies of the bill drafts and the letter are available on the
> committee Web site at www.leg.mt.gov/etic. Click on the Sept. 10
> meeting date under "Meeting Schedule and Materials."
> The four legislative proposals are: LC 6001: Revise
> Energy Policy Review Process LC 6002: Increase Montana's
> Renewable Portfolio Standard LC 6003: Revise Definition of
> "Eligible Renewable Resource" to Include Hydroelectric Facility Expansions
> LC 6004: Extend the Sunset for Wireless 9-1-1 Funding
> Please email your comments to Sonja Nowakowski, ETIC staff at
> snowakowski@mt.gov (put the LC number or letter in the subject line)
> or send hard copies to Legislative Services Division, Attn. Sonja
> Nowakowski, P.O. Box 201704, Helena, MT 59620-1704.
> The committee will meet Sept. 10 in Helena to review the feedback it
> gets and take additional public comment. Members will decide at the
> meeting whether to move forward with the four bill drafts and whether
> to send the letter.
>
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> ---------
> To Unsubscribe please visit this web site:
> http://leg.mt.gov/css/email_logon.asp. Thank you.
>

Nowakowski, Sonja

From: Carolyn and Brian Bielser [bcbielser@wildblue.net]
Sent: Monday, August 09, 2010 6:30 PM
To: Nowakowski, Sonja
Subject: MSTI

August 8, 2010

I recently attended a public forum on the MSTI project. I have been following information that has been put out about this project for a while now, and appreciated the opportunity to hear first hand the opinions as well as the facts about it.

I have lived in Dillon for over 30 years. People represented at that meeting seemed to fall into two groups, those whose families have lived in this county for generations, or those who chose to move here and have made this their home. In common to both groups was the appreciation of the grandeur of the outdoors of this area of southwest Montana. Many I am sure, are like myself, having sacrificed more opportunity and higher compensation in place of waking up each morning and going to bed each night, or traveling the roads and highways, all placing a high value on the beauty of this part of the country. Never have I had a visitor say to me "you are so lucky to live here and make so little money", but anyone I have ever had visit inevitably says "you are so lucky to live here, it is just so beautiful".

I believe the MSTI project is born of greed and short sightedness and supported by poor energy policy and legislation. It is unimaginable to me that Northwest Energy would be allowed to proceed with this project. I heard of absolutely no way that anyone except Northwest Energy and their shareholders would benefit from this project, and I heard of family after family that would suffer the negative impact of it, including Northwest Energy threatening the use of eminent domain, a practice called into question and challenged more and more today. At the very least, eminent domain is supposed to be used "for the good of the public". This project is being proposed to ship Montana wind energy (which will have to be subsidized with coal or natural gas) 1,500 miles away to Arizona and Nevada, wasting over 70% of it along the way. There will be no use of the wind power for Montanans, no benefit to their energy rates - only Montana taxpayers will pay, not only in taxes but a decline in the quality of their everyday lives, reduced property values, unknown health risks, unknown risks to wildlife and domestic livestock .. it is evident the scales are tipped the wrong way here.

There were several elected officials at this meeting. None of them stood up to let us know then what their stand is on this project. I would hope that after hearing from residents for over two hours, these elected officials would step up and begin representing the people for a change and fight MSTI.
If not, let the people know your stand and reap the consequence during the next election season.

I believe if the path of this project had to pass through Helena, Bozeman or Big Sky, it would have stopped before it had ever gotten started. Could you honestly tell me otherwise ?

I urge you to get behind the peoples' movement to stop this project. Unlike mining today, where scars upon the land may eventually be able to be reclaimed, this is a mistake that will be the legacy of Northwest Energy and those that allow it to happen for generations to come.

Carolyn Bielser

2175 Bond Road

Dillon, Montana

Nowakowski, Sonja

From: Mel and Sandy Rice [smr@bresnan.net]
Sent: Wednesday, August 11, 2010 3:21 PM
To: Nowakowski, Sonja
Subject: energy policy

Ms. Sonja Nowakowski:

I am a resident of Beaverhead County and I am totally against the MSTI project as proposed. Not only will it deface our county but it will ruin the agricultural ground of many of our ranchers. From the information received at the August 5th meeting here in Dillon, it is clear that the disadvantages to this project far outweigh the advantages. Montana taxes should not pay for energy being sent out of state to put millions of dollars in the pockets of Northwestern Energy. Please do whatever you can to stop the MSTI project for the good of Montana.

Sandra Rice
P.O. Box 1071
Dillon, MT 59725

Nowakowski, Sonja

From: wwranch@3rivers.net
Sent: Friday, August 27, 2010 2:42 PM
To: Nowakowski, Sonja
Cc: neiltaylor@bresnan.net; kkmithornton@msn.com; aart-dolman@bresnan.net
Subject: Re: Energy and Telecommunications Interim Committee September 10 meeting

Sonja, NET METERING needs to be added please, so farmers, ranchers, Rural Montanans can invest and get real value from helping put energy INTO the grid, not give it away, and Rocky Mountain Power in Idaho does it.

This is what Citizens for Clean Energy, Inc. supports and please provide to ETIC.

Lt. Col (Ret) Richard D. Liebert
Chair

>
>
> The Energy and Telecommunications Interim Committee (ETIC) meets for
> the final time this interim on September 10.
> The ETIC will meet at 8 a.m., Friday, September 10 in Room 172 of the
> State Capitol. During the meeting, members will review four bill
> drafts requested by the committee in July and related public comment
> and determine whether or not to take those proposals before the 2011 session.
> The committee also will decide whether to send a letter to the Federal
> Communications Commission addressing proposed federal reforms.
> During the September meeting the committee will complete its energy
> policy review process. At the July ETIC meeting, members did not reach
> a consensus on a revised energy policy for Montana and decided not to
> pursue revisions to the existing policy. At the September meeting, the
> committee may revisit its decision.
> You can find links to the agenda, as well as background information,
> on the Web site. If you have any questions, please contact Sonja
> Nowakowski, lead staff for the committee, at 406-444-3078 or via e-mail at
> snowakowski@mt.gov. Thank you. September 10 Meeting
> Materials (includes agenda and background reports) Energy and
> Telecommunications Interim Committee Home Page
>
>
> ---------
> To Unsubscribe please visit this web site:
> http://leg.mt.gov/css/email_logon.asp. Thank you.
>

Nowakowski, Sonja

From: wwranch@3rivers.net
Sent: Sunday, August 15, 2010 12:45 AM
To: Nowakowski, Sonja
Cc: Jergeson, Greg; kkmithornton@msn.com; fishdoc@bresnan.net; 1kfalcon@gmail.com; neiltaylor@bresnan.net
Subject: Citzens for Clean Energy urges Net-Metering fairness
Attachments: nwe Rule No 16 Electric Net Metering.pdf

Hello Sonja,

I've attached the NWE rule that inhibits citizens - especially farmers and ranchers - from getting seriously invested in renewables, especially when NWE offers nothing for electricity the consumer didn't use, and NWE gets a big 'freebie'.....that's wrong. The co-ops also need to get serious and embrace net-metering more seriously, not just pay lip service and deride it as 'too hard' to implement. That's ridiculous.

Idaho and Rocky Mountain Power seems to be able to offer attractive rates for all energy that small producers add to the grid, so why not us in MT?

Please pass along our concerns to the ETIC and we strongly urge that the legislature please take this up at the coming session.

Thanks Sonja,

Lt. Col (Ret, Army) Richard D. Liebert
Chair, Citizens for Clean Energy, Inc.
3417 4th Ave. S.
Great Falls, MT 59405

Rule No. 16

ELECTRIC NET METERING

APPLICABILITY: This schedule is applicable to any residential, commercial, industrial and irrigation customer who uses a solar, hydropower or wind turbine electric generation facility, or a hybrid consisting of any combination of these renewable energy sources, with a capacity of not more than 50 kilowatts (kW), that is located on the customer's premises, is connected and operates in parallel with the utility's distribution systems, and is intended primarily to offset part or all of the customer's requirements for electricity (hereinafter "eligible customer-generator" or "customer").

PURPOSE: The purpose of this Rule is to specify the rates and applicable terms and conditions applicable to the utility's Net Metering Program.

INTERCONNECTION AGREEMENT: Prior to connecting a renewable energy system to operate in parallel with the utility, the eligible customer-generator must execute and comply with the utility's applicable "Interconnection Agreement for Customer-Owned, Grid-connected Electric Generating Facilities of 50 Kilowatts or Less Peak Generating Capacity". The customer shall, at the customer's own expense, meet all applicable safety and performance standards established by the National Electric Code, the Institute of Electrical and Electronics Engineers, and accredited testing laboratories such as Underwriters Laboratories. Upon inspection and approval of the renewable energy system by the appropriate State or Local government electrical inspector, the utility will supply and install the necessary metering.

TERMS AND CONDITIONS: An eligible customer served under this schedule is responsible for all charges for its applicable rate schedule including distribution service charges, transmission and distribution charges, energy and demand charges, USBC charges, CTC-QF charges, and seasonal customer charges.

If during the applicable billing period, the electricity (kWh) supplied by the utility exceeds the electricity generated by the customer, the charges for the net energy (kWh) consumed will be in accordance with the customer's applicable metered rate schedule.

If during the applicable monthly billing period, the electricity generated by the customer exceeds the electricity supplied by the utility, the customer shall be billed for the applicable distribution service charges, and the balance of the electricity generated shall be carried into the following billing period and appear as a credit on the customer's account, until the customer's consumption offsets the credit or the end of the designated 12-month billing period, which ever is earlier. At the end of the 12-month period, any unused energy (kWh) credit accumulated during the previous 12 months will be granted to the utility, with no compensation to the customer. The customer shall designate the start date of the 12-month billing period as January 1, April 1, July 1, or October 1.

(continued)

Rule No. 16

ELECTRIC NET METERING

DEFINITIONS:

1. Net Energy: Net energy is the difference between electricity supplied through the electric grid to the customer and electricity generated by the customer and fed back to the electric grid over the applicable billing period.

2. Parallel Operation: The operation of on-site generation by a customer while the customer is connected to the utility's distribution system.

SERVICE AND RATES SUBJECT TO COMMISSION JURISDICTION: All rates and service conditions under this Rate Schedule are governed by the rules and regulations of the Public Service Commission of Montana and are subject to revision as the Commission may duly authorize in the exercise of its jurisdiction.

Nowakowski, Sonja

From: wwranch@3rivers.net
Sent: Monday, August 16, 2010 11:16 PM
To: nathan_taylor@tester.senate.gov; jacob_cowgill@tester.senate.gov
Cc: John_Malia@baucus.senate.gov; camelinaguy@juno.com; alkurki@msn.com; nestor.soriano@msun.edu; neiltaylor@bresnan.net; aart-dolman@bresnan.net; lmsgrain@mtintouch.net; alkurki@msn.com; Kaiserski, Tom; Gray, Andy; Webb, Bill; kwiens@meic.org; Nowakowski, Sonja; Murdo, Patricia; wwranch@3rivers.net; richard.liebert@us.army.mil; joel.cusker@us.army.mil; wcrouch@montana.edu; pbeltrone@co.cascade.mt.us; scourtnage@montanafarmersunion.com; 1kfalcon@gmail.com
Subject: Letter to Senator Tester on SBP, Camelina and fuel from our farmers to our pilots!
Attachments: Senator Tester, SBP, 17 Aug 2010.doc; Camelina, Dr. Johnson 2007.pdf; growing_americas_fuels.pdf

FYI to all and initial working group for tomorrow where we'll tackle DOD, USDA, DOE goals, CRP, Camelina and other oilseed properties, challenges and oppportunities and establish follow-on gathering, milestones, etc, identify the 'stakeholders' (federal, state, commericial, academic, etc.) and make it happen...
We're going the 'charge this hill' again and nothing ventured, nothing gained.

The focus is on DOD, USDA and DOE here, and how to best navigate the often arcane 'obstacles' and 'twists', but I'm confident it can be done, and it will take time, but we've got to start. as the Air Force, Navy and Boeing have done with successful camelina/biofuel trials, and I've got more documentation, info from DOD coming.

"Believe passionately, act boldly, proceed strategically."
Teddy Roosevelt

The Honorable Jon Tester 17 August 2010
United States Senate
Washington, DC

Dear Senator Tester,

On behalf of Citizens for Clean Energy, we thank you for providing an opportunity to address a Strategic Biofuel Program (SBP) with your staffers Nathan Taylor and Jacob Cowgill. This effort has the potential to bring more DOD activity to Malmstrom AFB, and many other active/reserve military facilities which could refine and store biofuels such as Camelina for dedication military aviation utilization that will benefit DOD and taxpayers alike and provide attractive opportunities for farmers to grow Camelina and other oilseeds for our STRATEGIC military needs and missions, and that also includes our MT Guard aviation.

As you noted on ‘Face the State’ last Sunday morning with Heath Heggem of KRTV, Camelina and other oilseeds have tremendous potential to revitalize Rural America, especially in regards to how we can follow CRP with a program to grow oilseeds for biofuel, an idea supported by Montana Farmers Union and CCE. There have been many pioneers in this field such as Dr. Duane Johnson of MSU, Leonard Stone (a grower and with MT Farmers Union), Al Kurki, Bob Quinn and many others who’ve ‘carried the ball’ tirelessly and Dr. Nestor Soriano at MSU-Northern is doing great work with help from you on appropriations.

Camelina also needs to get bona-fide crop insurance and you rightly noted that farmers need assurances and I suggest that the DOD/USDA contracts can provide the stimulus for Camelina production and other strategic oilseed

applications. President Obama has established a Strategic Biofuels Roadmap and has a working group at the White House, and we can make it happen here in Montana by getting the DOE, USDA and DOD to cooperate, and utilize our military installations to help collect, refine, store and transport biofuels initially for military aviation first.

Oilseeds also have qualities that enhance crop rotations and may help counter sawfly infestations, provide valuable feed by-products for livestock and high-value Omega 3 oils, etc.
SBP could also help us transition away from CRP and revive our farm and ranch communities.

It's time to pay America's farmer the valued premiums for homeland biofuels instead of to foreign princes and dictators. This enhances our economy, revives Rural America (something USDA/DOE pledged to do), provides DOD with homeland fuel, offers clean energy with reduced GHG emissions and shows America CAN lead again. Let's get these biofuels from our stoic farmers to our brave military pilots now!

Sincerely,

Richard D. Liebert
Lt. Colonel (retired, Army)
richard.liebert@us.army.mil/wwranch@3rivers.net 736-5791 Chair, CCE, Inc. , farmer/rancher, member, MFU and Purdue University 'Aggie'!

Citizens for Clean Energy, Inc.
3417 4th Avenue South, Great Falls, MT 59405 406-453-0725
e-mail: cce-mt@bresnan.net www.cce-mt.org

WIND, WATER AND FUTURE

The Honorable Jon Tester
United States Senate
Washington, DC

11 June 2010

Dear Senator Tester,

On behalf of Citizens for Clean Energy, we thank for providing an opportunity to address a Strategic Biofuel Program (SBP) with your staffers Nathan Taylor and Jacob Cowgill. This effort has the potential to bring more DOD activity to **Malmstrom AFB**, and many other active/reserve military facilities which could refine and store biofuels such as Camelina for dedication military aviation utilization that will benefit DOD and taxpayers alike and provide attractive opportunities for farmers to grow Camelina and other oilseeds for our STRATEGIC military needs and missions, and that also includes our MT Guard aviation.

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Sincerely,

Richard D. Liebert
Lt. Colonel (retired, Army) richard.liebert@us.army.mil/wwranch@3rivers.net 736-5791
Chair, CCE, Inc. , farmer/rancher, member, MFU and Purdue University 'Aggie'!

Reprinted from: Issues in new crops and new uses. 2007. J. Janick
and A. Whipkey (eds.). ASHS Press, Alexandria, VA.

Camelina sativa, A Montana Omega-3 and Fuel Crop*

Alice L. Pilgeram, David C. Sands, Darrin Boss, Nick Dale, David Wichman, Peggy Lamb, Chaofu Lu, Rick Barrows, Mathew Kirkpatrick, Brian Thompson, and Duane L. Johnson

Camelina sativa (L.) Crantz, (Brassicaceae), commonly known as false flax, leindotter and gold of pleasure, is a fall or spring planted annual oilcrop species (Putman et al. 1993). This versatile crop has been cultivated in Europe since the Bronze Age. Camelina seed was found in the stomach of Tollund man, a 4th century BCE mummy recovered from a peat bog in Denmark (Glob 1969). Anthropologists postulate that the man's last meal had been a soup made from vegetables and seeds including barley, linseed, camelina, knotweed, bristle grass, and chamomile. The Romans used camelina oil as massage oil, lamp fuel, and cooking oil, as well as the meal for food or feed. Camelina, like many *Brassicaceae*, germinates and emerges in the early spring, well before most cereal grains. Early emergence has several advantages for dryland production including efficient utilization of spring moisture and competitiveness with common weeds.

In response to the resurgent interest in oil crops for sustainable biofuel production, the Montana State University (MSU) Agricultural Research Centers have conducted a multi-year, multi-specie oilseed trial. This trial included nine different oilseed crops (sunflower, safflower, soybean, rapeseed, mustard, flax, crambe, canola, and camelina). *Camelina sativa* emerged from this trial as a promising oilseed crop for production across Montana and the Northern Great Plains. Evaluation parameters included input costs, production costs, harvest costs, and yield. *Camelina sativa* was not always the highest yielding oilseed crop but it was the most economical crop to produce due to minimal input requirements.

GREAT NORTHERN GROWER COOPERATIVE

MSU worked with Montana Producers to establish a grower cooperative to produce, process, and distribute camelina. As a result of this collaboration camelina production in Montana rapidly escalated from 0 commercial hectares in 2004 to approximately 4,050 ha in 2006. Production in 2007 is estimated at 20,250 ha.

VALUE-ADDED CAMELINA PRODUCTS

Camelina oil can be used for production of biodiesel. However the omega-3 fatty acid (α-linolenic acid) and gamma-tocopherol content of the oil may preclude its use as biofuel feedstock because of its high value in food and feed. Camelina seed contains 30%–40% oil. The linolenic acid or omega-3 fatty acid (C18:3) makes up about 35%–39% of the total oil content, with the remaining fatty acids being oleic (15%–20%), linoleic (20%–25%), gondoic (5%–10%) and erucic (4%–5%). The cold pressed meal still contains 10%–14% oil by weight, with a protein content of about 40%, allowing it to compete with soybean meal as an animal feed. The glucosinolate levels in the meal are lower than in other brassicaceous species, making it more desirable as an animal feed.

A previous review by Vollmann et al. (1996) suggested that camelina oil had considerable agronomic potential as an industrial oilseed crop. In Montana, camelina is emerging as a high-value, multi-use crop with applications in food, feed, and industry (Fig. 1).

A diversity of start-up industries and government entities are in the process of sorting out the different uses for this crop. The multiple possible uses suggest to these authors that there may be a stable market demand for farm gate seed.

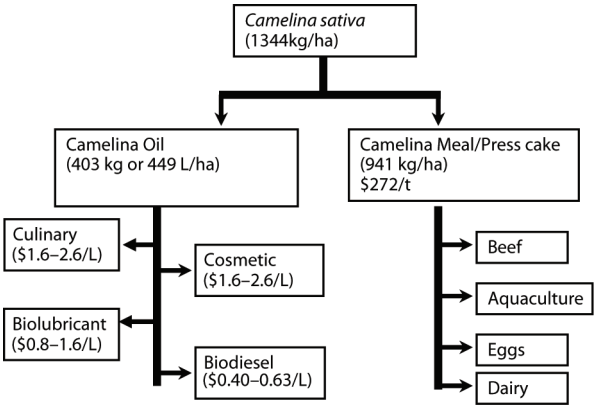

Fig. 1. Potential markets for camelina oil and meal.

* Research Funding from USDA CSREES (MSU Biobased Institute), USDA SBIR, Montana Board of Research and Commercialization, and US Egg and Poultry Association has enabled expansion of this unique Montana crop and development of value-added applications.

AGRONOMICS

Camelina is well-suited for production in Montana. A distinct advantage with this crop over almost any other is the very low seeding rate (2.5 kg/ha). A new cultivar can be increased at a rate of 500–1000 fold in a single cropping year. This low seeding rate is a key factor of the low input cost. A second factor is the true competitiveness of camelina in terms of weed control. The crop seems to be well suited to planting early, even fall planting. It is suited for dryland cropping systems when early planted to maximize the soil moisture and rainfall in the cool months of April, May and the first weeks of June. Harvest is by direct cutting, or swathing and field drying to avoid shattering. Some use of duct tape on certain key locations of a combine is necessary to prevent seed loss. Several herbicides appear promising in station trials although none are registered for use at this time. The palatability of the crop when green is not lost on grazing animals including antelope in Montana.

Selection of Montana Cultivars of *Camelina sativa*

Selection criteria for breeding programs are always more convoluted for crops of a multiuse nature. In this crop, selection can be made for oil properties to favor biofuel use (diesel and fuel cell uses), lubricant use (hydroxyl acids), nutrition (high omega-3 content), antioxidants to avoid oil oxidation and rancidity (gamma-tocopherol content), and lower erucic acid and gondoic acid content. These features are most assuredly at cross purposes, and one might need to breed and select for certain of these with the concomitant exclusion of others. Additional selection parameters include low glucosinolate content, high value protein in the meal, and gum content. Agronomic characters for selection include shattering, seed size, herbicide resistance, and resistance to downy mildew. As with other oil crops the ratios of the different unsaturated fatty acids can be influenced by day and night time temperatures, with the plant compensating for differences in geographic location.

Like many crops of ancient times, camelina has small seeds. Breeding programs in several European countries have not changed this aspect to a very noticeable extent, possibly because there is an inverse correlation of seed size with oil content. Genetically, camelina is probably the closest crop plant to that famous and completely sequenced cousin *Arabidopsis thaliana* (Flannery et al. 2006). This genetic proximity is of great value in marker assisted breeding, in identification of specific enzymes and their coded regions, the use of RNA inhibition techniques, and in the ease of genetic transformation using the *Agrobacterium tumefaciens* plasmid transformation systems (Lu, pers. commun.).

Duane Johnson has established a camelina breeding program at the MSU Northwestern Agricultural Research Center (Creston, Montana). The goal of the program is to develop camelina cultivars that are adapted to Montana and the Northern Great Plains. Selection parameters include yield, oil content, oil composition, and disease resistance. Over 50 accessions from the USDA and world collections of camelina have been evaluated. Three lines (MT-1, MT-3 and MT-5) have been selected for future development as Montana cultivars (Fig. 2, 3).

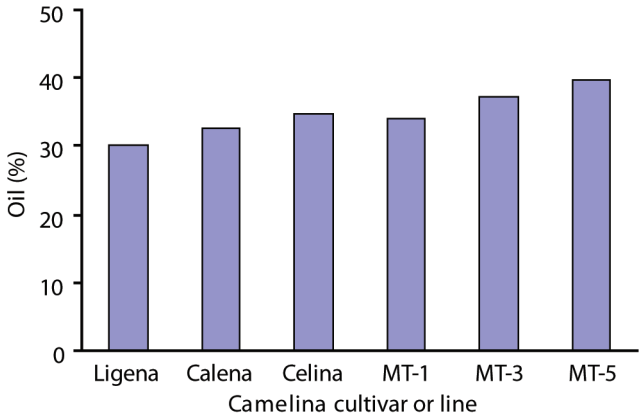

Fig. 2. Oil Composition of European camelina cultivars [‘Celine’ (France), ‘Calena’ (Austria), and ‘Ligena’ (Germany)] and 3 Montana breeding lines (MT-1, MT-3, and MT-5).

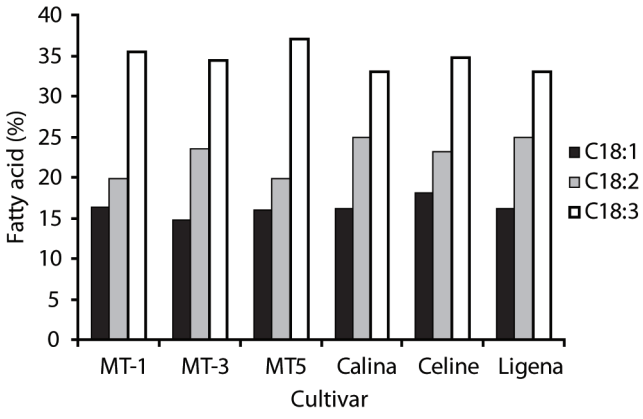

Fig. 3. Fatty acid profile of 3 European camelina cultivars [‘Celine’ (France), ‘Calena’ (Austria), and ‘Ligena’ (Germany)] and 3 Montana selections (MT-1, MT-3, and MT-5). Fatty acid profile was determined using GC-MS.

CAMELINA MEAL

Camelina meal, the extruded product remaining after cold extraction of the oil generally contains 10%–12% oil (approximately 5% omega-3 fatty acid) and 40% protein. Camelina meal and oil are also being evaluated as a source of omega-3 in feeds for fish, beef, poultry, and dairy production.

Poultry

Camelina meal was analyzed as an ingredient for production of omega-3 rich eggs. This study was done in collaboration with Nick Dale at the University of Georgia. Poultry readily consumed feeds containing up to 15% camelina meal. There were not adverse effects on chicken health or egg production. The fatty acid profile of yolks from eggs from chickens fed different levels of camelina (0%, 5%, 10%, 15%) were analyzed for omega-3 (C18:3) content. The content of omega-3 in the egg increased with increasing camelina content in the feed (Fig. 4). Currently, camelina meal is being fed to nearly 40,000 laying hens in Montana. The camelina eggs contain enriched levels of linolenic acid (Fig. 4). The increase in the omega-3 content is relative to the percentage of camelina meal in the feed.

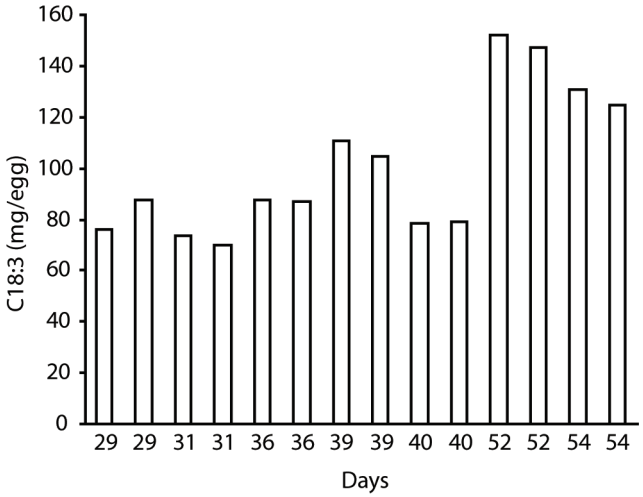

Fig. 4. Linolenic acid (omega-3) content of yolks from chickens fed 12% camelina meal.

Dairy

Camelina meal has been evaluated for production of omega-3 enriched goat milk. Similar to poultry, milk from camelina-fed goats contained increased concentrations of linolenic acid. Researchers at the University of Idaho and Idaho Ag Experiment Station will evaluate camelina meal as a feed ingredient in dairy cattle in 2007.

Beef

Darrin Boss conducted a study to evaluate camelina meal in beef finishing feeds. Cattle were fed formulations containing soy meal or camelina meal. There were no statistical differences in the feed efficiency or average daily gain of beef fed soy-based or camelina-based feeds. No detrimental effects on health were reported throughout the feed study or at harvest. The fatty acid profiles of the muscle and fat tissue are currently being evaluated.

SUMMARY

Camelina sativa is a new crop with a variety of uses. It is relatively easy to breed, and easy to grow with low input costs. Its meal is valuable as animal feed, and its oil has an important nutritional components (alpha linolenic acid and gamma-tocopherol). The industrial potential of this crop, given the current fuel crisis, is rather large.

REFERENCES

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Vollmann, J., A. Damboeck, A. Eckl, H. Schrems, and P. Ruckenbauer. 1996. Improvement of *Camelina sativa*, an underexploited oilseed. p. 357–362. In: J. Janick (ed.), Progress in new crops. ASHS Press, Alexandria, VA.

Growing America's Fuel

An Innovation Approach to Achieving the President's Biofuels Target

Vision. New jobs and greater economic vitality in rural America, increased energy independence, reduced economic vulnerability to volatile oil prices and uncertain supplies, technological and industrial leadership in renewable biofuels, and reduced global warming pollution – all will be achieved by fulfilling the President's commitment to meeting Congressional biofuels goals.

Strategy. Supporting the existing biofuels industry, while accelerating the commercial and sustainable establishment of the advanced biofuels industry, by using the best skill and knowledge across many Federal departments, as well as public-private partnerships.

The Existing Situation.

- **The U.S. is producing 12 billion gallons per year of biofuels, mostly from corn grain ethanol, but we are not on a trajectory to reach the Congressional 36 billion gallons per year goal by 2022 or to meet the 100 million gallons cellulosic biofuels target in 2010.**
    - The recession has raised significant barriers to private sector capital financing and investment in new biofuels production.
    - First-generation corn grain ethanol is a critically important renewable fuel source that is lowering our reliance on foreign petroleum dependent fuels, and cellulosic ethanol will soon be contributing as well.
    - Advanced next generation biofuels will be one of the nation's most important industries in the 21st century.
    - Many next generation biofuels feedstock and process technologies that are promising at bench scale are just beginning to be developed through the scale-up process.
    - Challenges exist in matching existing petroleum fuel distribution infrastructure and current generation biofuels, but cost-effective solutions must be found.
- **Hundreds of projects have been funded, but stronger, more robust supply chains would emerge if there were integration of effort across government agencies.**
    - There has been minimal active management to achieve targets across the federal government or private sector.
    - Significant gaps in the biofuels supply chain need to be addressed. Some key policy tools, such as DOE and USDA project loan guarantees and research programs, could be targeted more effectively to support the emerging industry and to deliver outcome-driven results.

A New Approach – An Outcome-Driven, Re-engineered System.

- **Strong management for results using a regional supply chain systems approach that ensures all fuels produced are compatible with the U.S. transportation fuel infrastructure.**
    - Manage by a small centrally-located team accountable to the President's Biofuels Interagency Working Group that has clearly defined roles and deliverables for all participating federal department, private sector, tribal, and international partners.
    - Establish Lead-Agency responsibility for each supply chain segment – discovery science, sustainable feedstock development and production, feedstock logistics, pilot scale feedstock conversion to biofuels, commercial-scale feedstock conversion, regulatory, education-extension, and workforce development. This effort will be driven by clearly defined deliverables and milestones, with the understanding that sustainable commercial options will emerge and be rapidly deployed.

      Create a collaborative process for delivery of Federal investments to assure a user-friendly, effective and efficient delivery of programs and services offered.
    - Present quarterly reviews to the President's Interagency Working Group, Secretary(s) of DOE and USDA and EPA Administrator.
- **Continue support on development of first- and second-generation biofuels with additional strong focus on accelerating third generation (drop-in) biofuels development – gasoline, diesel (for transportation, home and industrial use), aviation fuels, and industrial biofeedstocks (such as biobased crude).**
    - Improve current delivery programs to support current generation and advanced biofuels technologies.
    - Streamline strategies that move technology research and development rapidly to pilot-demonstration phase and to full-scale commercial production facility construction for next generation technologies and systems.
    - Comprehensive analysis that addresses up-front the elements of feasibility and sustainability for all existing and new technologies (environmental, technical, management, economic, market, financial) to build confidence for creating markets, investments, and credit to sustain long-term biofuels production.
    - Develop new technologies and alternative processes to improve economic and conversion efficiencies for biofuels production. Multiple conversion routes are researched in parallel, including: biochemical, thermochemical, and hybrid designs.
    - Support development of new uses and markets using existing ethanol infrastructure (e.g., green ethylene and biobutanol) and other vertically produced value-added bio co-products (e.g., biochar, dried distillers grains, synthesis gas) with shortened supply chains to enhance long-term rural wealth creation within regions.

- **Support feedstock research and demonstration to ensure sustainable supply chain development that minimizes transaction costs and creates wealth for farms and rural communities.**
    - The President's FY2011 Budget will develop five USDA regional feedstock research and demonstration centers with robust partnerships with land grant and other universities, industry, and other federal and state agencies, tribal nations, and internationals.
    - Identify economic, environmental, and social issues up-front for all supply chain segments to build confidence for creating markets, investments, and credit that help provide long-term sustainable biofuels production supply chains.
    - Develop the needed sustainable production and logistic systems that are suited to regional conditions and biofuels refinery specifications.
    - Develop superior genetic biofuels feedstocks for perennial grasses, energy cane, biomass sorghum, oil seeds crops and algae, and woody biomass.
    - Coordinate efforts with research conducted by the DOE Biomass Program's Regional Feedstock Partnership, the Integrated Biorefinery projects, USDA's biomass and research activities, and the DOE Office of Science's Bioenergy Research Centers.

The Existing Situation. The Energy Independence and Security Act of 2007 (EISA) established a goal of 36 billion gallons of biofuels by 2022 to power our cars, trucks, jets, ships, and tractors. This is a substantial goal, but one that the U.S. can meet or beat. However, past performance and business as usual will not get us there. Today, only 12 billion gallons of biofuels are produced annually. EIA's Reference Case for the 2010 Annual Outlook projects that most of the growth in liquid fuel supply will be met by biofuels – yet EIA also projects that we are not on track to meet Congress' 2022 goal of 36 billion gallons.

Why is this so? In part, it is because hundreds of projects have been funded, but there has not been an explicit USG management plan for achieving our targets. Also, significant parts of the needed supply chain have received little attention, including varieties of dedicated biomass crops suited to different growing environments across the country, sustainable production systems to produce the needed biomass, production of biofuels compatible with the existing transportation fuels infrastructure, and support for development and demonstration projects that bridge the gap between promising research and commercial deployment. If we are to reach our targets, we will need a more strategic approach that in a new way unleashes the creativity and skills of people in government, in college laboratories, in the garages of aspiring entrepreneurs, and in the R&D facilities of the private sector. This plan calls for 36 billion gallons of biofuels in twelve years. If we are to meet this target, we will have work in a new way and set much more aggressive internal benchmarks for progress.

American farmers know how to efficiently produce corn, and the technology for producing corn-based ethanol is well established. This helps account for the remarkable growth in the agricultural-based ethanol biofuels industry that grew from 1% of the U.S. fuel supply in 2000 to 7% in 2008. However, the Renewable Fuel Standard in the EISA has effectively placed a 15 billion gallon cap on ethanol production from corn starch as part of a new 36 billion gallon target for 2022. The remainder of the target is to be met with advanced biofuels, including cellulosic ethanol, biobutanol,

biomass-based diesel, and other biofuels that are a direct replacement for petroleum-based fuels. Also, as a greater portion of the Nation's fuel supply is met with ethanol, technological barriers to using greater amounts of ethanol in gasoline blends will be approached. EPA could allow higher percentage alcohol blends for use in motor vehicles, if the DOE testing program validates the suitability of E15 or E20 in light duty vehicles. However, there are challenges for higher concentration ethanol blends in the existing transportation fuel distribution and utilization infrastructure, which will likely require investment in different storage, transportation, and distribution infrastructure. Also, other significant users of liquid fuels, such as the air transportation industry and the military, have needs that cannot be fully met today by ethanol or electric power sources. Therefore, expansion of the biofuels industry should focus on advanced biofuels and direct substitute fuels that can leverage the existing American multitrillion-dollar liquid fuels infrastructure.

To reach and exceed our biofuels targets, we will need to take a new strategic approach that continues to support the existing biofuels industry and accelerates the creation and rapid commercial deployment of new technologies so our Nation's efforts to establish an advanced biofuels industry are met. Success in meeting these targets would bring many benefits to the United States: new jobs and greater economic vitality in rural America, increased energy independence, reduced economic vulnerability to volatile oil prices and uncertain supplies, technological and industrial leadership in renewable biofuels, and reduced global warming pollution. In short, America will be in firmer control of its energy future. As we have in the past, when facing significant national challenges, we have a rare opportunity to galvanize our country and its talent.

A New Approach – An Outcome-Driven, Re-engineered System.

A highly focused supply chain approach is used that assures all phases of development (research, pilot-scale demonstration, commercialization, and distribution to customers) complement each other, optimizes government investments, and leads to commercially viable farms and companies that sustainably produce supplies of biofuels. The new approach requires strong management for results using a regional supply chain systems approach.

Key features of the approach are:

- Integrated management approach. Create an overall project management structure through the Biomass Board that builds on the core competencies of all contributors, and integrates all Federal-funded project activities across all supply chain elements. Those agencies that are not leading will participate in any of the segments where appropriate, and partners will be welcomed to contribute in any segment. Provide guidance to the existing Biomass R&D Board co-chaired by DOE and USDA.
- Science and technology deliverables defined by timelines, with coordination among the USDA and DOE Offices of Science, and Energy Efficiency and Renewable Energy. Set outcome timelines for development and discovery science.
- Robust partnerships. Federal leadership is used to developed strategic partnerships among private sector, academic institutions, state and local governments and international partners on all segments of the supply chain. Up-front shared intellectual property rights will establish guiding principles on protection, ownership and dissemination of intellectual property. Innovative public-private partnerships will facilitate rapid adoption of research and technology by private sector companies for the commercial production of goods and services.

- Pre-established market outlets. Secure lead customer purchase commitments to stimulate production of feedstocks and biofuels with a concerted effort directed to our military and airline industry.
- Expanded government use of biofuels. To the extent possible, the U.S. Government will work to utilize greater quantities of biofuels in its cars and trucks with flex fuel vehicles, particularly in the urban areas of the upper Midwest states. Encourage state and local governments to do so as well.
    - Performance-based milestones. Establish interim milestones that are widely shared within and outside the Federal Government that show a pathway to results in achieving outcomes.
    - Regular reviews of progress. Create a Quarterly Progress Review by Under Secretary of USDA and DOE and Deputy Administrator of EPA, and recommend mid-course changes as needed.

Manage the effort by a centrally-located small team. The President's May 5, 2009, memorandum formed the Biofuels Interagency Working Group (IWG) with high-level USDA, DOE, and EPA participation and specific charges. This plan builds on that directive by creating a small, centrally-located Management Team that reports to the IWG. The Team helps establish lead agency responsibilities for each supply chain segment; sees to it that clearly defined roles and deliverables are defined for all participating federal department, private sector, tribal, and international partners; monitors progress and results; works with the private sector and international partners; helps lead corrective actions when efforts get off track; and reports progress. This Management Team will oversee the coordination of efforts between IWG and the Biomass Board.

Establish Lead Agency responsibilities for each supply chain segment. The responsibilities for each segment of the supply chain are based on the core competencies and resources of participating federal departments:

- Discovery Science – DOE (Office of Science). Provide discovery science inquiry that focuses on longer-term, advanced biofuels breakthroughs .
- Feedstock Development – USDA (Research, Economics and Education (REE) and Forest Service (FS)). Focus will be on five classes of feedstocks: perennial grasses such as switchgrass, Miscanthus, and mixed native grasses; energy cane, a biomass form of sugarcane; biomass sorghum; oil seed crops and algae, including canola and camelina oil seeds; and woody biomass from fast-growth trees and wood residues. USDA will coordinate with DOE to enhance work underway through DOE's Regional Feedstock Partnerships and the Bioenergy Research Centers.
- Feedstock Production Systems – USDA (REE and FS). Sustainable feedstock production and harvest systems designed for continued high performance across a range of geographies that will provide opportunities for contributions from both farm and forestlands, and diversify economic benefits to many rural areas across the country. Economic and environmental issues are addressed up-front and evaluated to ensure sustainable biofuels production.

- Pilot-scale Conversion and Biorefinery facilities – DOE Energy Efficiency and Renewable Energy (EERE), USDA (REE and FS). Integrated pilot and ten percent of full-scale conversion facilities will be financed to determine suitable technologies for full-scale commercial deployment.
- Full-scale and Widespread Deployment of Commercial Facilities – USDA (Rural Development (RD) and FS) and DOE. Financing is provided for innovative first time commercial technologies (DOE), the continuation of 1st generation facilities and the development of first-of-a-kind, scaled-up commercial and multiple-commercial deployed 2nd and 3rd generation conversion facilities (USDA).
- Regulatory compliance – EPA and USDA. Provide environmental quality monitoring and regulatory compliance to ensure compliance with regulatory statutes to assess the impact of the industry on air and water. EPA and USDA will be responsible as appropriate for oversight, compliance and licensing protocols for biotechnology crops and organisms
- Sustainability – EPA and USDA. EPA will provide expertise and leadership in assessing the environmental impacts of development and implementation of feedstock and production options. USDA will assess the impacts on the agricultural economy in the development and implementation of feedstock and production options.
- Policy support – All departments and agencies.
- Dissemination of Best Practices and Technical Assistance – USDA/State/Local Extension Offices and partners. New information/technology transfer structures will be developed to target all supply chain components to help ensure new technologies are rapidly utilized. In addition, technical assistance to accessing federal grants and loan programs should be readily and easily available. The DOE Clean Cities program has significant dissemination and outreach capabilities, so it could support infrastructure and end-use deployment.
- Feedstock Supply Chain Workforce Development – USDA (REE, FS, and RD) and universities. New vocational and higher education programs will be developed to ensure the next generations of crop developers, producers, processors, technicians, engineers, analysts, and economists are available.
- The Departments of Labor, Commerce, Defense, Transportation and other federal partners can also play important roles in each of these sectors.

Work back from targets. This effort will be driven by clearly defined deliverables and milestones. Since technology development and deployment usually takes longer than expected, the 2022 target should be aggressively managed to meet or beat the targets. Each supply chain component will have specific goals that are informed by the rest of the supply chain. For example, a feedstock development team will need to deliver commercially robust crops that can be produced and delivered to commercial conversion facilities to produce biofuels so this goal can be achieved. At the same time, a feedstock production team will need to identify and ensure that the necessary feedstocks are available in the required timeframe. To ensure continued management focus, there will be quarterly reporting to the President's Interagency Working Group, the Secretaries of DOE and USDA, and the Administrator of EPA.

Continue support on development of first- and second-generation biofuels with additional strong focus on accelerating third generation (drop-in) biofuels development – gasoline, diesel, aviation fuels, and industrial feedstocks.

Improve current delivery program processes. Create a collaborative process for delivery of Federal investments to assure a user-friendly and efficient delivery of the programs and services offered in support of all current and advanced biofuels technologies. Program services can be improved by possible joint solicitations, combined agency marketing and outreach programs, leveraged financial and technical resources, and streamlined application processes for grant and payment applicants and loan guarantees. Also, strategies can be put in place to help move promising new technologies more quickly through the research and development phase rapidly through pilot-demonstration phase to full-scale commercial production facility construction.

Comprehensive analysis of facility feasibility. If aggressive goals are to be met, strategic implementation plans must comprehensively cover all aspects of potential facility feasibility and viability. A dedicated biomass commodity sector and next generation biofuels conversion systems are not well understood, so it will be necessary to develop an understanding of all elements of commercial feasibility so viable facilities and predictable markets can be developed. To do this, the elements of feasibility for existing and new technologies must be addressed up-front to build confidence for creating markets, investments, and credit to sustain long-term biofuels production. The elements of feasibility include:

- Technical feasibility. Technical feasibility will need to be demonstrated for the multitude of new conversion and processing technologies that will be created and tested.
- Management feasibility. A wide variety of talents will be needed for the new technologies that are developed in order to demonstrate operability and access the needed people with skills.
- Economic feasibility. The existing corn based ethanol system is mature and widely understood with several metrics that allow predictability. Advanced fuel systems are less well understood, so there are information and modeling needs that will have to be developed to predict the success of new projects.
- Market feasibility. As with any other new product, new companies will have to be assured that they have buyers for their product. Acquiring capital for facility construction costs hinges on committed contracts to buy products at prices adequate to support plant operation costs.
- Financial feasibility. Capital must be brought together with technology before a new project can be financed, and this will depend upon all of the previous elements of feasibility being met.
- Environmental Feasibility. Development and implementation of new feedstock and production systems will need to be addressed to ensure that our investments provide sustainable solutions to the nation's energy needs.

Technology improvement and new technology discovery. A multitude of new technologies and processes will need to be created and tested to improve the economics and conversion efficiencies of biofuels production. The existing first-generation corn-based ethanol, biodiesel and renewable diesel systems are widely understood and predictable in their performance. Yet, there are opportunities to develop new markets for corn-based ethanol that can provide improved economic stability, increased rural wealth and reduced use of petroleum based

feedstocks. To accelerate advanced biofuels supply chains, it will be necessary to develop information from models to demonstrate which technologies and strategies have the greatest opportunities for success. Once promising new technologies are identified, streamlined implementation strategies will need to be developed and deployed to move technically feasible conversion technologies from the research and development phase rapidly through the pilot-scale demonstration phase to full-scale deployment of commercial production facilities. Advanced biofuels will be produced and used where appropriate as defined by the state of technology, economic viability, natural resource quality, policy and regulatory supporting them. Research and development will also support development of new uses and markets using existing ethanol infrastructure, including the production of green ethylene and biobutanol. Multiple conversion routes are researched in parallel, including biochemical, thermochemical, and hybrid designs. In addition, value-added bio co-products (e.g., biochar, dried distiller grains, synthesis gas) will be added to diversify product options and diversify risk.

Support feedstock research and demonstration to ensure sustainable supply chain development that minimizes transaction costs and creates wealth for farms and rural communities.

USDA Regional Feedstock Centers. The President's FY2011 Budget proposes developing five USDA Regional Feedstock Research Centers. Regionalized biofuels feedstock production and conversion systems need to be developed to minimize transaction costs and create new rural wealth. The existing multibillion-dollar national USDA science and research infrastructure will be used to support the establishment of USDA Regional Feedstock Research Centers along with robust partnerships with land grant and other universities, industry, and other federal and state agencies. The centers will develop sustainable supply chain strategies and science-based implementation plans designed to accelerate biofuels feedstock production and reduce transaction costs to feedstock producers and biorefineries. The centers will be responsible for planning and developing regional supply chain systems that link feedstock development, production, logistics, conversion, co-product production, and distribution. USDA will coordinate with DOE to enhance work underway through DOE's Regional Feedstock Partnerships and the Bioenergy Research Centers

Address economic, environmental, and social issues up-front. Expanding the biofuels industry to achieve the 36 billion gallons target by 2022 will require the development of an expanded agricultural and wood fiber commodity sector, and presents many opportunities and challenges. Rural land use is constantly changing, but there are limits to the extent to which existing land uses can change without disrupting existing food, feed, and fiber markets. One strategy for integrating biofuels feedstocks into existing agricultural production systems is to replace higher-risk, less productive crops or abandoned lands with lower-risk and more productive cellulosic feedstock crops. Also, more intensive, multiple-year management strategies could be used to get greater production from the same amount of land, and thus reduce pressure to expand production onto environmentally sensitive or marginally viable lands.

Economic, environmental, and social issues will be addressed up-front for all supply chain components to build confidence for creating new markets, investments, and credit to sustain long-term biofuels production and ensure that soil, water, air and other natural resources are protected. As more farms and forests are utilized for biofuels production, careful consideration of feedstock production practices and location of biomass conversion plants will be required to

avoid serious impacts on existing food, feed, and fiber markets and the quality of natural resources upon which we all depend on for clean air and water.

A large and rapid expansion of U.S. biofuels production affects virtually every aspect of agriculture, ranging from domestic demand and exports to prices and the allocation of acreage among crops. Many aspects of the livestock sector are affected as well. As a consequence of these commodity market impacts, farm income, government payments, and food prices also change. Adjustments in the agricultural sector are already underway and will continue for many years as interest grows in these new markets. Careful monitoring of the development of the structure, conduct and performance of the new markets can help alleviate conflicts and smooth the transition to the new bioeconomy.

The implementation of sustainability management plans for biorefineries and their surrounding landscapes can be accomplished by using decision tools that mimic biophysical and economic conditions throughout the supply chain so planning for sustained production can be done by those who participate in both the supply and market sides of this sector. These new crops will need to be more profitable and as predictable as existing enterprises before operators change what they produce. Contracts between energy crop producers and conversion facility operators can help reduce or shift risk, or build capacity to deal with risk. Lower risk makes farmers more likely to grow energy crops because they will have assured markets for their crops. With contracts, processors can make sure they have uninterrupted supplies of feedstock delivered for biofuels production, which could lead to additional investment in processing facilities. Because this plan is developed around a diverse regional strategy, the benefits of economic development are spread across many rural areas, and the risks of interrupted biofuels supplies due to natural disasters can be appropriately considered.

Attention to regional implementation will optimize a variety of liquid fuels, based on conversion facilities that are supplied with adapted dedicated feedstocks that do not disrupt existing food and fiber production systems, and which can utilize the existing fuel distribution infrastructure. For example, ethanol could form the backbone of the regional E85 strategy in the upper Midwest, while advanced fuels produced from energy cane could be the basis for a new biofuels industry in the Southeast. Having such regional strategies will allow logistics and transportation systems to be optimized, as well as expand new supply chain opportunities across Rural America. Also, significant new markets are emerging for ethanol used in bio-based or green products replacing crude oil, so these opportunities should also be pursued. Even though there is a diversity of regional strategies that will be combined to achieve our targets, all fuels produced must be compatible with the U.S. transportation fuel infrastructure to allow Americans to travel anywhere and be able to fill up their cars, planes, and trucks.

Specialized strategies will be developed to take advantage of opportunities to utilize existing resources within regions. Municipal and farm waste and agricultural and forest residues will be encouraged to be addressed locally or regionally to minimize transportation costs, but the greatest predictable potential for biofuels production will come from dedicated crops.

No one kind of dedicated bioenergy crop or particular region in the U.S. will be able to provide all of the required amounts of feedstocks to produce the needed volumes of biofuels. A diversified suite of dedicated biofuels feedstocks must be adapted to a range of conditions across the country where production will be most economical. A diversity of feedstocks also reduces resource pressure on any one location and provides greater resilience to drought, pests, and other production risks. This strategy focuses on a suite of regionally adapted feedstock types that

are matched to different regions of the U.S, and allows us to take advantage of geographically diverse natural, business, and workforce resources within different regions. To ensure continued productivity from the same land area, utilization of genetic diversity and genetic improvement for adaptation to different environmental conditions will be used to increase resilience of crops to climatic extremes and disease and insect pest challenges. Lessons learned from the past have shown that increased skill in management practices can have as great an effect on increased productivity as genetic improvement does, so improved varieties will be developed to enhance sustainable production and minimize natural resources use. Conventional breeding and advanced genetic methods can also be used to enhance feedstock quality to meet the specifications of the biorefineries, and to enhance the production of value-added co-products in feedstocks that are then recovered as part of the bioconversion process. These courses of action can make feedstocks more valuable to biofuels refineries, so higher prices can be paid to farmers that can make feedstock crop more competitive with other land uses.

Summary. The President's and Congress's mandated biofuels goals will be met by supporting the existing biofuels industry, while accelerating the commercial establishment of advanced biofuels, by increasing communication and having a strategic plan across the U.S. Government, and by employing strategic public-private partnerships. This plan builds upon the President's May 5, 2009, memorandum forming the Biofuels Interagency Working Group (IWG) with high-level USDA, DOE, and EPA participation. We will innovate, grow fuel and create new jobs in America with this plan.

Nowakowski, Sonja

From: wwranch@3rivers.net
Sent: Monday, August 16, 2010 9:46 PM
To: nestor.soriano@msun.edu
Cc: nathan_taylor@bresnan.net; neiltaylor@bresnan.net; scourtnage@montanafarmersunion.com; 1kfalcon@gmail.com; wcrouch@montana.edu; boettrae@ttc-mcc.net; kaiserski@mt.gov; Webb, Bill; Nowakowski, Sonja; Murdo, Patricia; jacob_cowgill@tester.senate.gov; nathan_taylor@bresnan.net
Subject: Strategic Biofuel Program, CRP fade-out and biofuels from our farmers to our pilots!
Attachments: untitled-[2]

fyi Dr. John, a pleasure talking with you on behalf of Citizens for Clean Energy, Inc. and Montana Farmers Union, which does have a policy supporting CRP to oilseed production, etc.

America's strategic biofuels, from the farmers to our brave military and naval pilots!!!

Let's pay America's farmers the good premiums for homeland biofuels, NOT to foreign princes and dictators!

Le'ts move CRP and transition to Strategic Biofuel Program, that promotes and stimulates biofuel production for our military first via DOD/USDA coordination on contracts like CRP model, etc.

Lt. Col (Ret, Army)Richard D. Liebert
Montana Farmers Union member, 25 x 25
Chair, Citizens for Clean Energy, Inc.
Purdue Aggie!
American Legion
289 Boston Coulee Road
Great Falls, MT 59405
406-736-5791

---------- Original Message ----------
Subject: Strategic Biofuel Program, transition end to CRP.....
From: wwranch@3rivers.net
Date: Mon, August 16, 2010 10:54 am
To: tjburnham@farmprogress.com
Cc: wwranch@3rivers.net

Greetings TJ,

great article from you on CRP's effect on Rural America....I'm retired Army Lt. Col and own/operate a natural beef ranch and read Farm Progress and great articles, and I'm a Purude Aggie by the way.

Montana's US Senator and farmer, Jon Tester, keen on biodiesels, Camelina crop insurance, revive Rural America, and more, stimulate our economy and deal with CRP's mixed blessings......

threads below address what we MUST do, we can use Camelina and other oilseeds for STRATEGIC BIOFUELS for military aviation, have exclusive DOD contracts to assure farmers and process locally, and have refinery capabilities set up at active/reserve installations with bulk storage and most installations have aviation. Local Guard units with aviation can be LOCALLY fueled, what's better than that?

The F-18 Hornet flight by the Navy and A-10 Warthog by the Air Force have PROVEN Camelina as a fuel, and it's value as meal, source of Omega 3 a great plus.

I don't have CRP, and it's been sore point with folks, when ranchers without it 'grunt' and I've cut if for hay in drought-ridden Montana here in Great Falls, and farmers get those 'checks' in the mailbox....

Time for CRP to become SBP, Strategic Biofuel acres, and take the crop from the FARMERS TO THE PILOTS...

Let's start paying America's farmers a premium for homeland biofuel, not SQUANDER our fuel dollars on foreign princes and dictators!

Any thoughts, comments and suggestions welcome.

Sincerely,

Lt. Colonel (R) Richard D. Liebert
Eden RR
Great Falls, MT 59405
406-736-5791

---------- Original Message ----------
Subject: [Fwd: Camelina: Biofuel Future in Asia, before US get's off its butt!!!!??]
From: wwranch@3rivers.net
Date: Sun, August 15, 2010 10:45 pm
To: joel.cusker@us.army.mil
Cc: kaiserski@mt.gov
  wwranch@3rivers.net

Joel, for consideration and pass along to BG Livingston please...I think MT Guard could help lead the way on strategic biofuels DEDICATED to military aviation first, get DOD to help do bulk purchases to stimulate this new oilseed industry, a jumpstart for strategic biofuel and homeland energy security........

Imagine our chinooks, F-15/C-27 and Malmstrom helicopters flying on our OWN Montana camelina biofuel!!?

Rich

---------- Original Message ----------
Subject: Camelina: Biofuel Future in Asia, before US get's off its butt!!!!??
From: wwranch@3rivers.net
Date: Sun, August 15, 2010 10:41 pm
To: camelinaguy@juno.com
jacob_cowgill@tester.senate.gov
kaiserski@mt.gov
wcrouch@montana.edu
lmsgrain@mtintouch.net
scourtnage@montanafarmersunion.com
angray@mt.gov
Cc: richard.liebert@us.army.mil

Time for the USA/MT to get off it's A.... and move now, get DOD as the big 'spark' to spur on biofuel production on active/reserve military facilities from the Farmers to the Pilots, part of a Strategic Biofuel Program contract similar to CRP and establish between USDA and DOD, and DOD does the contracting with exisitng oilseed companies to help manage the contracts, but UNCLE SAM offers FIRM, reliable contracts to our farmers to help reduce the risk (We need Camelina crop insurance now, enough dithering), and get folks - young folks -FARMING again and we use the meal locally, etc.

Lt. Col (Ret, Army) Richard Liebert

ps - AND we can use strategic HOMELAN biofuels for our loca Air and Army Guard aviation units as well.....

We've done plenty of 'studies' and time for ACTION.....

---------- Original Message ----------
Subject: Camelina: Biofuel Future in Asia?
From: "Gessaman" <rkkgessaman@gmail.com>
Date: Sun, August 15, 2010 8:52 pm
To: "Richard Liebert" <wwranch@3rivers.net>
Cc: "Kathy Gessaman" <1kfalcon@gmail.com>
"Jerry Taylor" <neiltaylor1@mac.com>

The money people suggest that it won't be US investors who develop camelina as a viable biofuel, but Asians. Ron

Camelina Plant Offers Intriguing New Biofuel Published on: Wednesday, November 25, 2009
Written by: OilPrice.com
http://www.nuwireinvestor.com/articles/camelina-plant-offers-

intriguing-new-biofuel-54139.aspx

Camelina, an indigenous plant to both Europe and Central Asia , is being explored as a potentially strong source of biofuels. A Japanese test flight demonstrated that camelina oil can be used for commercial flights, and central asia provides an ideal location for growing the camelina plant. See the following article from OilPrice.com for more on this.

camelina biofuel
The recent revelations of a International Energy Administration whistleblower that the IEA may have distorted key oil projections under intense U.S. pressure is, if true (and whistleblowers rarely come forward to advance their careers), a slow-burning thermonuclear explosion on future global oil production. The Bush administration's actions in pressuring the IEA to underplay the rate of decline from existing oil fields while overplaying the chances of finding new reserves have the potential to throw governments' long-term planning into chaos.

Whatever the reality, rising long term global demands seem certain to outstrip production in the next decade, especially given the high and rising costs of developing new super-fields such as Kazakhstan 's offshore Kashagan and Brazil's southern Atlantic Jupiter and Carioca fields, which will require billions in investments before their first barrels of oil are produced.

In such a scenario, additives and substitutes such as biofuels will play an ever-increasing role by stretching beleaguered production quotas. As market forces and rising prices drive this technology to the forefront, one of the richest potential production areas has been totally overlooked by investors up to now – Central Asia. Formerly the USSR's cotton "plantation," the region is poised to become a major player in the production of biofuels if sufficient foreign investment can be procured. Unlike Brazil, where biofuel is manufactured largely from sugarcane, or the United States, where it is primarily distilled from corn, Central Asia's ace resource is an indigenous plant, Camelina sativa.

Of the former Soviet Caucasian and Central Asian republics, those clustered around the shores of the Caspian, Azerbaijan and Kazakhstan have seen their economies boom because of record-high energy prices, while Turkmenistan is waiting in the wings as a rising producer of natural gas .

Farther to the east, in Uzbekistan , Kyrgyzstan and Tajikistan , geographical isolation and relatively scant hydrocarbon resources relative to their Western Caspian neighbors have largely inhibited their ability to cash in on rising global energy demands up to now. Mountainous Kyrgyzstan and Tajikistan remain largely dependent for their electrical needs on their Soviet-era hydroelectric infrastructure, but their heightened need to generate winter electricity has led to autumnal and winter water discharges, in turn severely impacting the agriculture of their western downstream neighbors Uzbekistan, Kazakhstan and Turkmenistan.

What these three downstream countries do have however is a Soviet-era legacy of agricultural production, which in Uzbekistan's and Turkmenistan case was largely directed towards cotton production, while Kazakhstan, beginning in the 1950s with Khrushchev's "Virgin Lands" programs, has become a major producer of wheat. Based on my discussions with Central Asian government officials, given the thirsty demands of cotton monoculture, foreign proposals to diversify agrarian production towards biofuel would have great appeal in Astana, Ashgabat and Tashkent and to a lesser extent Astana for those hardy investors willing to bet on the future, especially as a plant indigenous to the region has already proven itself in trials.

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As an alternative energy source, camelina has much to recommend it. It has a high oil content low in saturated fat. In contrast to Central Asia's thirsty "king cotton," camelina is drought-resistant and immune to spring freezing, requires less fertilizer and herbicides , and can be used as a rotation crop with wheat, which would make it of particular interest in Kazakhstan, now Central Asia's major wheat exporter. Another bonus of camelina is its tolerance of poorer, less fertile conditions. An acre sown with camelina can produce up to 100 gallons of oil and when planted in rotation with wheat, camelina can increase wheat production by 15 percent. A ton (1000 kg) of camelina will contain 350 kg of oil, of which pressing can extract 250 kg.
Nothing in camelina production is wasted as after processing, the plant's debris can be used for livestock silage. Camelina silage has a particularly attractive concentration of omega-3 fatty acids that make it a particularly fine livestock feed candidate that is just now gaining recognition in the U.S. and Canada. Camelina is fast growing, produces its own natural herbicide (allelopathy) and competes well against weeds when an even crop is established. According to Britain's Bangor University's Centre for Alternative Land Use, "Camelina could be an ideal low-input crop suitable for bio-diesel production, due to its lower requirements for nitrogen fertilizer than oilseed rape ."

Camelina, a branch of the mustard family, is indigenous to both Europe and Central Asia and hardly a new crop on the scene: archaeological evidence indicates it has been cultivated in Europe for at least three millennia to produce both vegetable oil and animal fodder.

Field trials of production in Montana, currently the center of U.S.
camelina research, showed a wide range of results of 330-1,700 lbs of seed per acre, with oil content varying between 29 and 40%. Optimal seeding rates have been determined to be in the 6-8 lb per acre range, as the seeds' small size of 400,000 seeds per lb can create problems in germination to achieve an optimal plant density of around 9 plants per sq. ft.

Camelina's potential could allow Uzbekistan to begin breaking out of its most dolorous legacy, the imposition of a cotton monoculture that has warped the country's attempts at agrarian reform since achieving independence in 1991. Beginning in the late 19th century, the Russian government determined that Central Asia would become its cotton plantation to feed Moscow's growing textile industry. The process was accelerated under the Soviets. While Azerbaijan, Kazakhstan, Tajikistan and Turkmenistan were also ordered by Moscow to sow cotton, Uzbekistan in particular was singled out to produce "white gold."

By the end of the 1930s the Soviet Union had become self-sufficient in cotton; five decades later it had become a major exporter of cotton, producing more than one-fifth of the world's production, concentrated in Uzbekistan, which produced 70 percent of the Soviet Union's output.

Try as it might to diversify, in the absence of alternatives Tashkent remains wedded to cotton, producing about 3.6 million tons annually, which brings in more than $1 billion while constituting approximately 60 percent of the country's hard currency income.

Beginning in the mid-1960s the Soviet government's directives for Central Asian cotton production largely bankrupted the region's scarcest resource, water. Cotton uses about 3.5 acre feet of water per acre of plants, leading Soviet planners to divert ever-increasing volumes of water from the region's two primary rivers, the Amu Darya and Syr Darya, into inefficient irrigation canals, resulting in the dramatic shrinkage of the rivers' final destination, the Aral Sea . The Aral, once the world's fourth-largest inland sea with an area

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And now, the dollars and cents. Dr. Bill Schillinger at Washington State University recently described camelina's business model to Capital Press as: "At 1,400 pounds per acre at 16 cents a pound, camelina would bring in $224 per acre; 28-bushel white wheat at $8.23 per bushel would garner $230."

Central Asia has the land, the farms, the irrigation infrastructure and a modest wage scale in comparison to America or Europe – all that's missing is the foreign investment. U.S. investors have the cash and access to the expertise of America's land grant universities. What is certain is that biofuel's market share will grow over time; less certain is who will reap the benefits of establishing it as a viable concern in Central Asia.

If the recent past is anything to go by it is unlikely to be American and European investors, fixated as they are on Caspian oil and gas.

But while the Japanese flight experiments indicate Asian interest, American investors have the academic expertise, if they are willing to follow the Silk Road into developing a new market. Certainly anything that lessens water usage and pesticides, diversifies crop production and improves the lot of their agrarian population will receive most careful consideration from Central Asia's governments, and farming and vegetable oil processing plants are not only much cheaper than pipelines, they can be built more quickly.
Camelina Plant Offers Intriguing New Biofuel Published on:
Wednesday, November 25, 2009
Written by:
OilPrice.com

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Camelina, an indigenous plant to both Europe and Central Asia , is being explored as a potentially strong source of biofuels. A Japanese test flight demonstrated that camelina oil can be used for commercial flights, and central asia provides an ideal location for growing the camelina plant. See the following article from OilPrice.com for more on this.

camelina biofuel
The recent revelations of a International Energy Administration whistleblower that the IEA may have distorted key oil projections under intense U.S. pressure is, if true (and whistleblowers rarely come forward to advance their careers), a slow-burning thermonuclear explosion on future global oil production. The Bush administration's actions in pressuring the IEA to underplay the rate of decline from existing oil fields while overplaying the chances of finding new reserves have the potential to throw governments' long-term planning into chaos.

Whatever the reality, rising long term global demands seem certain to outstrip production in the next decade, especially given the high and rising costs of developing new super-fields such as Kazakhstan 's offshore Kashagan and Brazil's southern Atlantic Jupiter and Carioca fields, which will require billions in investments before their first barrels of oil are produced.

In such a scenario, additives and substitutes such as biofuels will play an ever-increasing role by stretching beleaguered production quotas. As market forces and rising prices drive this technology to the forefront, one of the richest potential production areas has been totally overlooked by investors up to now – Central Asia. Formerly the USSR's cotton "plantation," the region is poised to become a major player in the production of biofuels if sufficient foreign investment can be procured. Unlike Brazil, where biofuel is manufactured largely from sugarcane, or the United States, where it is primarily distilled from corn, Central Asia's ace resource is an indigenous plant, Camelina sativa.

Of the former Soviet Caucasian and Central Asian republics, those clustered around the shores of the Caspian, Azerbaijan and Kazakhstan have seen their economies boom because of record-high energy prices, while Turkmenistan is waiting in the wings as a rising producer of natural gas .

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