

# MINNESOTA>ENVIRONMENTAL<INITIATIVE

Reinvest in Minnesota Clean Energy  
Technical Review Committee  
November 14, 2007

## Agenda

- 10:00 a.m. Welcome, Adoption of Ground Rules, Highlights from Interviews with TRC members  
*Ron Nargang, Shelley Shreffler*
- 10:30 a.m. Presentation on Productivity Index and other web-based tools under development  
*Steve Taff*
- 11:00 a.m. Discussion of Productivity Index  
*Ron Nargang*
- 12:00 p.m. Break for lunch (lunch provided)
- 12:45 p.m. TRC Small Group Work
  - Discuss questions which will inform Productivity Index development
- 1:30 p.m. TRC Small Groups Report Back  
*Ron Nargang*
- 2:00 p.m. Break
- 2:15 p.m. Work Groups Reports
  - *Bobby King*, Land Management Work Group
  - *Mark Lindquist*, Project Areas Work Group
- 2:45 p.m. TRC Small Group Work
  - Discuss questions which will inform Work Group next steps
- 3:15 p.m. TRC Small Groups Report Back  
*Ron Nargang*
- 3:45 p.m. Wrap up, next steps, preview of December 13 meeting  
*Ron Nargang*

## Attendance

Committee Chair: Ron Nargang

Committee Members: Greg Anderson, Wayne Anderson, Don Arnosti, Holly Buchanan, Paul Burns, Al Doering, Wayne Edgerton, Mary Hanks, Kelly Hogan, Matt Holland, Kurt Johnson, Bobby King, Paul Kramer, Larry Kramka, Mark Lindquist, Robin Martinek, Daryn McBeth, Mike McGrath, Linda Meschke, Craig Mold, Steve Morse, Brad Nylin, Chris Radatz, Dianne Radermacher, Brad Redlin, Lise Trudeau, Clarence Turner

Board of Soil and Water Resources: John Jaschke, Kevin Lines, Greg Larson, Kristie Mack, Aaron Spence

Minnesota Environmental Initiative: Shelley Shreffler, Ellen Gibson

University of Minnesota: Dr. Dean Current, Dr. Steve Taff

## Discussion Summary

### **Welcome, Highlights from Interviews with TRC members**

Shelley Shreffler, MEI, presented results from individual interviews she and Ron Nargang conducted with 27 of the 35 Technical Review Committee (TRC) members. TRC members were asked to describe their vision of a successful RIM-CE program, the challenges they anticipate in achieving a successful outcome, and their ideas for structuring a tiered payment system and selecting project areas.

Trends revealed by the interviews:

- 1) There is general agreement that RIM-CE is both a bioenergy and a conservation program. There is less clarity among the group as to how to strike the appropriate balance between these two priorities.
- 2) RIM-CE must be attractive to farmers/landowners in order to ensure participation (i.e. the program must be simple and workable, avoid long-term easements)
- 3) RIM-CE should be able to demonstrate early success in order to support the growing industry for biofuels; the initial program does not need to be perfect
- 4) There are a lot of unknown factors, so the program must be flexible to accommodate changes
- 5) The payments for RIM-CE should correspond with the environmental benefits provided under the program (i.e. the greater the environmental benefits, the higher the payment)
- 6) Project areas should be selected on the following criteria: proximity to a biofuel facility (market); existence of a “critical mass” of willing participants; likelihood of a project to demonstrate tangible environmental benefits

### **Approval of Ground Rules**

Members of the Technical Review Committee agreed to proceed with the ground rules as distributed.

### **Payment Structure**

Greg Larson presented an overview of the work underway by Steve Taff and his team of researchers at the University of Minnesota. Steve is developing a pricing structure (tiered system, based on a Sustainable Biomass Index (SBI)) that will weigh various factors to determine the

payments for easements under RIM-CE based on a set of criteria to be determined by the TRC. Existing data from the soils database as well as a new soils productivity data (based on soil properties calibrated against production from an indicator crop such as corn or soybeans) will be used to feed the SBI. In addition to soil productivity ratings, site location in relation to a biofuel facility will be factored into account.

Steve Taff presented the basic structure that could be used to determine RIM-CE payments. There are several key questions that must be answered and policy decisions that must be made before the pricing structure could be used with real numbers to generate actual values. The goals of the pricing structure are: 1) to bring enough land into the RIM-CE program; 2) to bring in the right types of lands; 3) keep the cost low; 4) pay more for “better” parcels of land.

The proposed basic pricing structure is as follows:

- 1) Attributes are chosen to represent program objectives (ex. soil health, productivity, habitat quality, water quality, etc.)
- 2) Scores are used to quantify attributes (0-100)
- 3) Weights are assigned to each score to make preferences explicit (total weight cannot exceed 100%)
- 4) Weighted scores are combined to generate a Sustainable Biomass Index value (0-100)
- 5) Tiers are used to translate SBI into payments (a proportion of a set “base price” is paid based on the SBI for a given parcel of land)

Steve is looking for TRC input on the following decisions:

- 1) On what criteria should we rate parcels as “good,” “better,” or “best”?
- 2) Which attributes should be included in the pricing matrix?
- 3) How should the attributes be weighted/prioritized?
- 4) How should existing prairie be treated?
- 5) What should be the base price?

### **Large-Group Discussion of Pricing Structure**

Ron Nargang facilitated a large-group discussion of the proposed pricing structure. Several key topics were addressed:

#### *1) Alternative Payment Structure proposal based on commitment to BMPs:*

Tiered payments could be structured to align with environmental outcomes by basing pricing on a landowner’s level of commitment to management practices. BMPs could be factored in to the scoring system either as a question of eligibility (yes/no (0, 1) indicator) or as a scaled level of commitment and weighted as an attribute.

#### *2) Is there a price that’s too high? Where should the payment cap be set?*

RIM-CE payments should not exceed the market value for land, yet they need to be balanced with current conservation program prices (RIM Reserve, CREP, others) in order to be competitive. RIM-CE payments could take into account the fact that the landowner can sell produce (biomass, ecotourism). Suggested pricing could be brought to the focus groups being conducted by the University to gauge landowners’ interests and comfort levels.

3) *Should project areas be targeted on “marginal” lands?*

Need clarification of terms: TRC members are uncomfortable with the language of “marginal” lands. “Marginal” lands from an agricultural productivity stance are not necessarily equivalent to “environmentally sensitive” lands. BWSR has access to alternative language that gives more specific definitions for “highly erodible” lands, etc. It may not always be accurate to assume that low or marginally productive ag land has higher potential for environmental impact (can depend on location).

There is general agreement that RIM-CE should target land with high potential for environmental benefits – the state is paying for environmental benefits, while the private market pays for biomass produced. There are many uncertainties that prevent us from knowing what lands hold the highest potential for environmental benefits. We need to strike a balance, as biomass productivity is important, but not more important than ensuring environmental impacts.

4) *Can we let market availability and demand dictate project area selection?*

Legislation dictates that project areas be linked to cooperating facilities, and this may be the best starting point for RIM-CE, since the program should leverage and jumpstart the biofuels industry early on. From a biofuel plant perspective: RIM-CE must deliver biomass at a reasonable cost, and should not limit the project areas to marginal lands since productivity is important. From a landowner perspective: farmers need revenue assurance; flexibility is the most important factor in enticing participation – farmers don’t want to be locked into a specific crop or a specific plant; other revenue options should be addressed (i.e. grazing, cash rent?).

5) *Length of easements: 20-year easements too long?*

20 years is workable. Might want to consider building a buy-out option into easement contracts if profit margin is high on biomass production.

### **Small Groups Report on Pricing Structure**

Technical Review Committee members were divided into four small groups to discuss questions that would inform the pricing structure development.

Discussion among 2 of the 4 groups addressed the following questions, and resulted in very similar conclusions:

1) *Should we pay more than the market price of land?*

No.

*Is there a price that’s too high?*

Yes (higher than market price is too high).

Cash rent could be an alternative payment method, where cash rent maximum would set the highest possible price.

2) *Should we pay for existing prairie and grassland plus restored prairie and grasslands or should we pay only for restored prairie and grasslands?*

Yes, we should pay for existing prairie, in accordance with legislation. As long as land is eligible to enter the program under the requirements of the legislation, the pricing system should accommodate it, whether or not it qualifies as existing prairie. See Legislation

Citation:

Subd. 2. Eligible land. Eligible land under this section must:

(1) be owned by the landowner, or a parent or other blood relative of the landowner, for at least one year before the date of application;

(2) be at least five acres in size;

(3) not be currently set aside, enrolled, or diverted under another federal or state government program; and

(4) have been in agricultural use, as defined in section 17.81, subdivision 4, or have been set aside, enrolled, or diverted under another federal or state program for at least two of the last five years before the date of application.

Discussion among the other two groups addressed the following questions, and resulted in very similar conclusions:

1) *Does biomass yield matter?*

Yes (broadly) – disagreement about whether or not biomass yield should be included in the pricing system considerations (or how heavily it should be weighted; inclination to weight biomass yield very low if at all).

*Should payments be increased as biomass yield increases?*

No.

*Should payments be decreased as yield increases?*

No – payments should be unrelated to levels of biomass yield.

2) *Should we pay for acres of land under particular management practices or should we pay for tons of biomass that comes off of land under particular management practices?*

We should pay for acres of land, thus rewarding management practices; the private market will pay for tons of biomass produced.

All 4 groups discussed the following questions, conclusions listed below:

1) *Which of the potential environmental benefits listed in the legislation should be included in the Pricing Structure (water quality, soil health, reduction of chemical inputs, soil carbon storage, biodiversity, wildlife habitat)?*

- All benefits listed in legislation should be included in the pricing structure, and 3 of the 4 groups proposed that they could be grouped for simplification:
  - (1) water quality and reduction of chemical inputs
  - (2) soil health and soil carbon storage
  - (3) biodiversity and wildlife habitat
- The fourth group proposed an alternative pricing structure in which all environmental benefits could be lumped together as one. A payment system based on Best Management Practices would mean minimum standards for BMPs would establish a minimum level of environmental benefits and the payment increases would be linked to improvements in management practices.

2) *What should be the relative weighting of the benefits? Are all benefits weighted equally?*

With a pricing structure based on environmental benefits:

- Biodiversity should be weighted heavily since the legislation mandates that lands planted with diverse native perennials receive the highest payment:

Subd. 7. Payments for easements. The board must develop a tiered payment system for easements partially based on the benefits of the bioenergy crop production for

water quality, soil health, reduction in chemical inputs, soil carbon storage, biodiversity, and wildlife habitat using cash rent or a similar system as may be determined by the board. The payment system must provide that the highest per-acre payment is for diverse native prairie and perennials.)

- Water quality should also be weighted heavily.
- Water quality and biodiversity are weighted more heavily than soil health in the following proportions:
  - Water quality – 40%
  - Soil health – 20%
  - Biodiversity – 40%

With a pricing structure based on BMPs:

- All benefits would be lumped together, thus weighted equally. Minimum standards for Best Management Practices would establish a minimum level of environmental benefits and the payment increases would be linked to improvements in management practices.

Other proposed considerations for weighting benefits:

- Size and location in the landscape should be factored into the pricing structure.
- Weighting of benefits might shift depending on the location of the parcel on the landscape.
- Landowner risk should also be addressed in the payment structure, to take into account new cropping systems and the emerging biofuels market.

3) *How should these benefits be measured?*

- Most groups did not have time to discuss measurement options for benefits.
- If payment structure were tied to landowners ascribing to a set of BMPs, measuring environmental benefits would be unnecessary (BMPs are established to ensure minimal environmental benefits are achieved).

Questions raised for further consideration and discussion:

- 1) Are producers required to sell biomass if they enter into the RIM-CE program?
- 2) The value of carbon storage is not currently included in the pricing structure, but is mentioned in the legislation. Should the state be able to sell the value of carbon sequestration or can farmers sell carbon credits as a commodity? Will either party be allowed to sell credits if all benefits listed in the legislation, including carbon storage, are included in an easement payment?
- 3) Does biodiversity refer to plants and/or wildlife? What type of biodiversity would be measured in RIM-CE?
- 4) Pricing structure and BMPs: Tying payments to BMPs assumes location in the landscape does not matter and that all benefits would be equally achieved by changes in management practices (i.e. BMPs match uniformly with a gradient of services). Is this true?

## **Work Group Reports**

### Land Management Work Group

Bobby King gave a brief presentation on the progress of the Land Management Work Group, which has held three meetings since the September 11 meeting of the TRC. Dean Current has begun drafting a set of Best Management Practices (BMPs). Existing BMPs from NRCS, DNR, and the University of South Dakota for different species mixes and soil types will be used to inform management guidelines for RIM-CE, however they may need to be modified somewhat since these practices are primarily crop production-oriented.

The BMPs draft matrix addresses 3 types of biofuel cropping systems: monoculture (one grass species or possibly woody perennials); mixed grass planting; mixed polyculture (grass + forb).

### Small Group Discussion of Land Management BMPs Draft

There was general agreement on the proposed tiered criteria for land management. The column headings should reflect that BMPs address “resources.” Water quality should also be included in the matrix. The proposed planting mixes should also include: perennials (grass and woody), local cultivar, native plantings; forb should expressly include legumes. Small groups agreed that the criteria need to be filled in and fleshed out further.

In terms of weighting various land management systems in the pricing structure, there was agreement that location on the landscape needs to be taken into account, and should be weighted higher than the species mix (e.g. highly erodable: 1; riparian: 1; neither: 0; both: 2). Exact location and size of plot are important factors that should be reflected in the pricing structure. The highest tier of management practices could include hydrology (runoff intercept) instead of artificial drainage, but there are concerns about involving controversial drainage practices in RIM-CE since separate drainage programs already exist.

Other questions raised for future discussion:

- 1) How do payments correspond to management tiers?
- 2) How much environmental benefit is gained from moving between tiers?

### Project Areas Work Group

Mark Lindquist gave a brief presentation on the work of the Project Areas Work Group. During the September 11 meeting of the TRC, the Project Areas Work Group proposed that a competitive allocation process based on a Request for Proposals (RFP) would be the best approach to determine project areas that would be tied to specific facility locations and linked to specific environmental benefits. The group has been working to decide how prescriptive this process should be and who should be eligible to apply. It has been decided that a wide range of potential applicants is preferred and proposals would be accepted from any organization with a capacity to lead a program of outreach to landowners. The agreed upon limitation for transporting biomass to an energy facility is a 50-mile radius, and this standard will provide the basis for determining project areas.

Applications could be ranked based on the following criteria:

- 1) Likelihood to recruit landowners

- 2) Existence of a viable market to sell biomass (level of market certainty, correlation between needs of facility and project proposal)
- 3) Measurable environmental benefits (projects more likely to yield environmental benefits would rank higher)
- 4) Ongoing monitoring must occur (to track and demonstrate benefits, and to support agronomics research) – projects that include a monitoring plan would rank higher

The RFP site selection process would also aim to achieve a scope of geographically diverse project areas throughout the state and in a range of sizes, as project area diversity will be valuable in assessing program success and making future improvements to RIM-CE. A more detailed draft of an actual RFP is still under development.

#### Small Group Discussion of Project Areas Selection Draft

The group agreed that the general application process looks reasonable and manageable. The scope/scale of the program seems acceptable, i.e. there will be enough acres relative to the current market size. Questions remain as to the functional process of service delivery, i.e. who will administer the program? SWCDs as with traditional RIM easements or some other entity? Who will write the contracts?

Question for further discussion:

- 1) Can we hold a pre-proposal application round prior to the full RFP to allow the legislature to see the level of interest during the 2008 session?

#### **Technical Review Committee Next Steps**

Straw dog proposals of a pricing structure, land management practices, and a project areas selection process will be critiqued at the next meeting of the Technical Review Committee. This is a necessary step to move to the next phase of project development.

- 1) Pricing Structure: Steve Taff will incorporate feedback into a new proposed payment system and present an interactive model to the group via email, so that members can test the proposed system and see how it works. The Payment Structure Work Group will host a Webinar to discuss. Webinar Date and Time: TBD
- 2) Land Management: Bobby King will work with Dean Current to refine the BMPs draft proposal. The draft proposal will be discussed and refined by the members of the Land Management Work Group and brought to the next meeting of the TRC.  
Meeting Date and Time: **Tuesday, December 4 – 4:00 p.m. - 5:30 p.m.**
- 3) Project Areas: Mark Lindquist will lead the Project Areas Work Group in continuing to develop a draft RFP for project area selection. This draft will be discussed during a conference call and presented at the next TRC meeting.  
Conference Call: **Thursday, December 6 – 1:00 p.m.**

#### **Future Technical Review Committee Meeting Dates**

|                             |                        |               |
|-----------------------------|------------------------|---------------|
| Thursday, December 13, 2007 | 10:00 a.m. – 4:00 p.m. | Thompson Park |
| Thursday, January 10, 2008  | 10:00 a.m. – 4:00 p.m. | Thompson Park |