MEETING SUMMARY
IOWA CLIMATE CHANGE ADVISORY COUNCIL
Agriculture, Forestry and Waste Subcommittee
Call #8, May 15, 2008

Attendance:
Subcommittee members: Dave Miller, Peter Thorne, Karey Claghorn, Dawn Snyder, Richard Cruse, Duane Sand
Center for Climate Strategies: Joe Pryor, Jen Jenkins, Jackson Schreiber, Rachel Anderson
Iowa Department of Natural Resources: Jason Marcel
Public Attendees: None

Background Documents: (http://www.iaclimatechange.us/Agriculture_Forestry.cfm)
1. Meeting Notice and Agenda
2. PowerPoint for Teleconference
3. Summary of Call #7
4. Policy Options Document

Discussion and Key Items:
1. Call to order and roll call
2. Review and approve prior call summary
3. Discuss Next Steps in Development of Straw Proposals
4. Next Steps for AFW subcommittee
5. Public Input and Announcements
6. Agenda, Time and Date for Next Meetings

Call to order and roll call – CCS Introductions
No Comments.

Review and approve prior call summary
No Comments or Revisions. Prior call summary approved.

Discuss Next Steps in Development of Straw Proposals
No Comments

Discuss Development of Policy Options
There was a general question raised regarding what energy costs estimates we are used, because energy costs have such a large impact on agricultural prices (fertilizer costs, fuel costs, etc). Dave Miller indicated that he had access to a program that could estimate farm input costs (e.g. fertilizer costs) based on energy costs such as coal, natural gas and

petroleum products. We will need to ensure that the assumptions regarding fuel costs are consistent across subcommittees and across different policy options. Data that is more than two years old no longer reflects energy costs very accurately.

CCS agreed to coordinate with other subcommittees (particularly the energy related subcommittee) to determine appropriate energy cost assumptions as we move forward.

1. **AFW 6 – Cellulosic Fuel Incentives**
    a. The subcommittee confirmed that the 10 million dry tons goal was for annual production in 2020, not cumulative production.
    b. If we look at land capability for biomass feedstocks that is not practical for soybean/corn crops, Iowa has about 333,000 acres available. That comes from a study by CRP. If we could raise 10 dry tons/acre of biomass (which is assumed future improved yield/acre), this would cover 1/3 of the goal. The subcommittee noted that allocating available biomass between options will be necessary as each option was developed independently.
    c. Crop residues are likely going to be used for the remaining biomass availability (our estimate is that 26 million dry tons of crop residues are available in Iowa).
    d. Crop residues are currently left on the fields, because of remaining nutrient value. You need to leave some residues on the field to maintain organic matter content and control erosion. CCS thought the NREL study used the assumption that 50% of crop residues need to remain on the ground to provide nutrients and erosion control [*note: subsequent investigation confirms that the NREL report assumes that 30% residue cover is reasonable for soil protection, 20%-25% of the stover in grazing, and about 10%-15% of the crop residue is used for other purposes: bedding, silage, etc.* ***Therefore, the NREL report assumes that about 35% of the total residue could be collected as biomass***].
    e. Crop residue is probably maximized at 50% of crop residues among 50% of the land (i.e. 25%). This would mean that the NREL study potentially overestimates available crop residue.
    f. Subcommittee members provided a ball park estimate of crop residues available in Iowa at around 10 million dry tons, which is why the goal was set at that level. A total biomass availability for the state of around 13-15 million dry tons among all sources would be reasonable.
    g. We will need to get this and AFW 3 to work together to make sure that there is a feasible amount of biomass available for both options.
    h. The subcommittee felt that the assumptions made for AFW 6 regarding beginning in 2009 and incentives not required after 2015 were reasonable for the time being.

2. **AFW 5 – Land Management to Promote Sequestration Benefits**
    a. Reforestation/Afforestation
        i. The subcommittee confirmed that the 500,000/250,000 acres in the goal is cumulative by 2020.

ii. Using marginal land for afforestation/reforestation will have additional benefits, because marginal crop land requires more input than traditional crops.
iii. The subcommittee noted that marginal land in Iowa could be comparable to the most productive land available in some other areas of the country or the world. This indicates that policies applicable to other states may not be relevant to Iowa.
iv. It might be more effective to do more afforestation/reforestation in other states, where AG land is less efficient. Given the value of Iowa soil, it is probably not efficient to be reducing production on Iowa lands.
v. The question was raised regarding the opportunity cost of increasing forest cover in the state. Any reforestation/afforestation that occurs will likely be on land that is heavily in use.
vi. It will be difficult to quantify the decreased corn production that will come from land use change, because it could increase the price of corn, increase the price of corn-fed animals, etc.
vii. This analysis tries to look at the societal in-state costs of these options. Comparisons of costs are usually based on the costs associated with the policy compared to a BAU analysis.
viii. CCS will compare the GHG emissions/fuel costs that come from using this land for agricultural and compare it with the GHG/economic benefit and costs of using this land for forestry purposes. CCS assumes fuel use on Ag land to be 3.5 gal/acre of agricultural land/year (see reference in POD). The subcommittee agreed that this value sounded reasonable.
ix. The subcommittee noted that Iowa accounts for 50% of biofuels production, and without Iowa's participation in the process, the biofuels market would collapse.

b. Urban Forestry
i. The question was raised of whether all urban forestry planting going on has heating/cooling benefits, or if some trees planted do not provide these benefits. For example, urban parks are less likely to have significant heating/cooling benefits.
ii. Planting trees near urban heat islands such as bitumen parking lots can reduce the urban heating effect, which could have benefits in terms of GHG and particularly ozone/human health benefits.
iii. We will count some of the trees as having a reduced building heating/cooling benefits (2/3 of trees), while other trees would be reducing the urban heating effect (1/3). "Trees Forever" in Iowa might be valuable in determining the benefits of urban forestry in Iowa.
iv. There was a question of what the true costs of urban forestry are. The quantification of this item may be simpler, because none of the land used for urban forestry is currently being used.

v. Only the establishment and associated maintenance will be considered in this analysis – noting that maintenance costs tend to be significantly higher than establishment costs.
vi. There is an aesthetic benefit to having trees in an urban setting. However, we have to assume that the current balance of costs/benefits of urban forestry takes this into account. If there is some sort of policy to make urban forestry more attractive, then it will change this balance so as to encourage the benefits that come from urban forestry.
vii. Discussion of the urban forestry item will continue offline.

c. Biochar
   i. Biochar is harvesting biomass that would have been left on the soil. Accurate data sources are not always available for this option. This makes straightforward quantification more difficult.
   ii. There was a question of whether this has true GHG benefits. This would allow the creation of liquid fuels, and then after burning takes place, it remains a valuable soil additive. Biochar greatly reduces the carbon from being released through burning.
   iii. Dr. Robert Brown at ISU would be a useful contact on this item.
   iv. The Subcommittee suggested moving this item from AFW-5 to AFW-6, as I by-product of the cellulosic fuel production process. While it may not be quantified it should be included as a practice that reduces carbon release in the production process.

d. Conservation tillage
   i. There is a list of data sources for this option in the POD. Some of these sources are outdated, and the Subcommittee was requested to provide better data on this option.
   ii. There remains debate on the GHG benefit of conservation tillage. The Chicago Climate Exchange numbers cite 0.6 tons CO2 reduction/acre/year. This is the average over a five year period, after which there is no CO2 benefit. The subcommittee recommended extending the carbon accumulation period from 5 years or quantifying to next twenty years (as this might be more accurate). The Chicago Climate Exchange numbers were agreed to be the most accurate numbers available, and will be used.
   iii. There is traditionally a 3 year cost for changing to no-till practices. This is in contrast to a benefit over a longer timeframe. Iowa has plenty of data on the costs of adopting no-till, from the ISU extension service. If SC members are aware of any of these estimates for Iowa, they should pass it on. No-till farming is often taken by farmers for profit measures only, regardless of GHG benefits. It might be best to assume no-costs for this option.

e. Agriculture land conversion
   i. The GHG benefits of this option run into the same problems that come from the afforestation/reforestation option, with regard to the opportunity costs of AG land conversion.

ii. Estimates from the Chicago Climate Exchange (CCX) grassland protocol (1 ton/acre per year) should be used for Iowa for this option. The subcommittee was comfortable with using the CCX protocol for the GHG benefits of agriculture land conversion.
iii. NRCS has cost-share estimates for this item. Land conversion is likely to occur in CRP buffer areas.
iv. Two main costs of this item: Proxy CRP costs and Establishment costs from the NRCS FSA.

3. Other options that were not discussed but will be discussed further offline.

Agenda, Time and Date for Next Meetings

Subcommittee Meeting #9 will be **Tuesday May 27, 2008 from 9:00-10:30 am**, Central Time (changed from May 29). The next ICCAC meeting will be held on June 12, 2008. CCS will email the meeting dates for the remaining AFW subcommittee meetings, proposed dates are:

IA AFW Call #9 ***Tuesday*** May 27, 9:00-10:30 CT
IA AFW Call #10 Thursday June 26, 9:00-10:30 CT
IA AFW Call #11 Thursday July 24, 9:00-10:30 CT
IA AFW Call #12 Thursday August 14, 9:00-10:30 CT
IA AFW Call #13 Thursday September 18, 9:00-10:30 CT
IA AFW Call #14 Thursday October 16, 9:00-10:30 CT

Public Input and Announcements

None

Thank you to everyone who participated on the call and contributed to the discussion of these issues.