



Arkansas Governor's Commission on Global Warming

Agriculture, Forestry and Waste
Management Technical Work Group
Meeting #5, April 15, 2008

Office of the Governor
Center for Climate Strategies

Agenda

1. Introductions
2. Review and Approval of Prior Call Summary
3. GCGW Process Progress
4. Review of Results of GCGW Meeting #5 (April 9, 2008)
5. Consider Goals for GCGW Meeting #6 (May 19, 2008)
6. Review Example Policy Options
7. Discuss Next Steps in Developing Straw Proposals
8. Form Small Groups to Work on Policy Options
9. Review of Next Steps for TWG
10. Agenda, Date and Time for Next Meetings
11. Public Comments and Announcements

Stepwise Planning Process

1. Develop inventory and forecast of emissions
2. Identify a full range of possible actions
3. Identify initial priorities for analysis
4. Develop straw proposals
5. Quantify GHG reductions and costs/savings
6. Evaluate externalities, feasibility issues
7. Develop alternatives to address barriers
8. Aggregate results
9. Iterate to final agreements
10. Finalize and report recommendations

Results of GCGW Meeting #5 (April 9, 2008)

- Approval of TWG's recommended priority policy options
- GCGW Comments: under AFW-1, include an additional component for co-generation to be used at Ag-biomass energy sites.

Goals for GCGW Meeting #6 (May 19, 2008)

- Goals: Obtain GCGW approval of TWG straw proposal descriptions and design characteristics on priority policy options
- TWG Steps:
 - Draft straw proposals
 - Revise as needed
 - Approve straw proposals to forward to GCGW
- Develop recommendations for improving draft Arkansas GHG Inventory and Forecast
 - On-going - GCGW Meetings #6 - #8

Next Steps for AFW TWG

- Develop consensus recommendations for design characteristics of AFW pending priority policy options
- Draft straw proposals for the design of policy options using a standard template (see next slide)
- Identify policies/programs in place in Arkansas related to policy options (to define baselines)
- Prepare progress update with straw proposals for next GCGW meeting

Development of Priority Policy Options

- Design Template / Matrix
 - Policy description
 - Policy design (goals, timing, parties involved)
 - Potential implementation mechanisms
 - Related policies/programs in place (in Arkansas)
 - Type(s) of GHG reductions
 - Estimated GHG reductions and costs or cost savings
 - Key uncertainties
 - Types of additional (non-GHG) benefits and or costs
 - Feasibility issues, if needed
 - Status of group approval (reserved for GCGW)
 - Level of group support (reserved for GCGW)
 - Barriers to consensus (reserved for GCGW)

Development of Straw Proposals for Priority Policy Options

AFW-1	Expanded Use of Agriculture and Forestry Biomass Feedstocks for Electricity, Heat or Steam Production
AFW-2	Advanced Recovery and Recycling
AFW-3	Management and Establishment for Carbon Sequestration
AFW-4	Expanded Use of In-State Liquid Biofuels
AFW-5	Manure Management
AFW-6	Promotion of Farming Practices that Achieve GHG Benefits
AFW-7	End of Use Waste Management Practices
AFW-8	Improved Water Management and Use
AFW-9	Expanded Use of Locally Produced Farm and Products

Example Policy Designs

- **Title:** Expanded Use of Agriculture and Forestry Biomass Feedstocks for Electricity, Heat or Steam Production
- **Policy Design:**
- Energy Crop: Annually harvest at least 5 million dry tons of dedicated energy crop production materials by 2020, which includes:
 - Establishing 1 million acres of identified energy crop production by 2020; and
 - Transitioning 50 percent of expiring CRP contracts to energy crop production.
- Agriculture Crop Residue: Annually harvest at least 10 million tons of annual crop residue biomass for energy production by 2020.
- Forest Biomass: Annually harvest at least 1 million tons of forest products or wood residues for biomass energy production by 2020.
- Biomass Plant: Have at least one major industrial operation contracting with producers to use biomass as the primary energy source for plant operations by 2015.
- Biofuels: Have at least one biofuels production plant contracting with producers to use biomass as the primary energy source by 2015.

Example Policy Designs (Cont.)

- **Title:** Waste Management Strategies
- **Policy Design:**
 - Three approaches are possible: recycling approach, waste prevention approach, market driven approach, i.e. producer responsibility (voluntary systems and mandatory systems).
- **Goals:**
 - Waste Prevention:
 - Achieve a 0% per capita increase in waste production (as compared to 2005), from residential commercial, and government sectors by 2020.
 - Reuse and Recycling:
 - Increase statewide recycling rate average to 35% by 2020 as compared to the amount of waste produced. (If waste is minimized, then there will be less materials to recycle.)

Example Policy Designs (Cont.)

- **Title:** Land Management to Promote Sequestration Benefits
- **Policy Design:**
- **Goals:**
- Conservation Tillage: By 2020, 75 percent of annual cropland will be managed with continuous no-till or low-till production practices
- Agriculture land conversion: By 2020, convert 1 million acres of marginal agricultural land to higher sequestration permanent cover (including grassland, rangeland, orchard, or forest).
- Conservation grazing: By 2020, apply conservation grazing practices including rotational grazing to 50 percent of state grazing lands.
- Reforestation: By 2020, establish 250,000 acres of new forest lands and 500,000 acres of reforestation.
- Urban Forestry: By 2020, increase the canopy cover of urban forest in state communities by 25%.
- Biochar: By 2020, apply biochar to 5 million acres of state land annually.

Example Policy Designs (Cont.)

- **Title:** Encourage Large-Scale Manure/Methane Management Capture Utilization
- **Policy Design:**
- **Goals:**
- Utilization: By 2020, utilize 50% of available methane from livestock manure (primarily dairy, swine and poultry) for renewable electricity, heat and steam generation or incorporation into natural gas distribution systems.
- Management: By 2020, apply improved manure handling and storage practices on 50% of manure generated.

Example Policy Designs (Cont.)

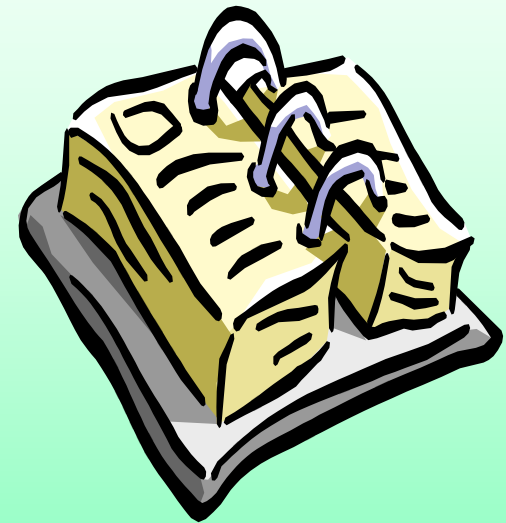
- **Title:** Landfill Methane Energy Programs
- **Policy Design:**
- **Goals:**
- Control: Increase the number of landfills from recovering methane as an energy source wherever it is economically feasible to do so. By 2020, ensure that all large landfills (i.e sites accepting over XX TPD of waste) are fully controlling the release of methane, such that XX% of the landfill gas being generated is controlled by 2020. This can be done through development of additional landfill gas to energy (LFGTE) projects. For sites where LFGTE is not feasible, implement flaring controls to achieve the goal.
- Technology Research and Evaluation: Since conversion technologies hold promise for environmentally managing waste and producing energy, annually examine the experience and costs of emerging technologies for waste management with a goal to determine feasibility of the technology for the state. (non-quantified goal)
- Education: Begin to educate the public about the impact and costs of various waste to energy technologies. (non-quantified goal)

Example Policy Designs (Cont.)

- **Title:** Nutrient Management
- **Policy Design:**
- **Goals:**
- Efficiency: Increase fertilizer use efficiency (in terms of N applied per crop yield) by 10% by 2020.
- Seasonally Flooded Areas: Reduction of N application by 50% on 50% of seasonally flooded areas by 2020.
- Improved Nutrient Distribution: Provide more of the state's cropland nitrogen requirements through improved distribution of natural and organic nitrogen sources (manures). Replace 10 percent of manufactured nitrogen sources through better manure distribution by 2020.

Next AFW TWG Meeting

- Agenda:
 - Develop straw proposals for policy description, design, and related policies/programs in place
 - Begin review of draft inventory and forecast for Arkansas
- Dates/Times for Next TWG Calls
 - AFW TWG Call #6 – 29 April 1pm – 2:30pm Central Time



Public Input, Announcements