ATTACHMENT #2

Statewide Conservation and Preservation Plan Recommendations
LCCMR Discussion of Ideas to Consider for 2009 RFP-Phase 2

*****Energy 1: Develop coordinated laws, policies, and procedures for governmental entities to assess renewable energy production impacts on the environment.**

- Plan for how to go to more renewable energy sources; 100% renewable energy for electricity in 10 years in MN

Energy 2: Invest in farm and forest preservation efforts to prevent fragmentation due to development guided by productivity and environmental vulnerability research.

No comments

*****Energy 3: Invest in perennial biofuel and energy crop research and demonstration projects on a landscape scale.**

- Do this as a subset of Energy 9
- Research and demonstration projects that evaluate multiple benefits and impacts of increased yields, including understanding; develop BMPs; determine growing conditions best suited; study costs, benefits, and barriers and develop relevant strategies as result; evaluate biomass resource availability and sustainable production rates
- Projects relating to working lands initiatives

*****Energy 4: Develop policies and incentives to encourage perennial crop production for biofuels in critical environmental areas.**

- Additional mapping of CRP lands to target most important vulnerable lands for keeping in CRP; prioritize what is best return on investment

*****Energy 5: Invest in data collection to support the assessment process**

- Comparison of renewable energies (e.g. solar) to determine what is most cost effective mix for transportation fuels and electricity generation

Energy 6: Invest in research to determine sustainable removal rates of corn stover and to establish incentives and Best Management Practices (BMPs)

No comments

*****Energy 7: Invest in research to review thermal flow maps for Minnesota**

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- Need maps of geothermal potential for MN that show thermal calculations and measurements; Map for both shallow (*low grade*) and deep (*high grade*) well potentials
- Perhaps add to geologic atlases and soil surveys as additional layer
- Measure and evaluate pilot projects for geothermal; for example, in NE Minnesota where some possible candidate sites already identified or where existing mining/drilling already occurring

Energy 8: Invest in applied research to reduce energy and water consumption and greenhouse gas emissions in present and future ethanol plants, and enact policies to encourage implementation of these conservation technologies.

MEETING NOTES/DISCUSSION

- Using wastewater after treatment in ethanol production
- Look at both corn and various biomass alternatives to corn
- Gasification may be promising alternative to follow, particularly if helps reduce water use

- Different ethanol plants need to share more info between themselves; may need policy and regulation to help sharing process
- What are other state's doing (e.g. ethanol studies at Iowa)?

*****Energy 9: Invest in research to determine the life cycle impacts of renewable energy production systems.**

- Energy 3 should be seen as a subset of Energy 9
- Research on over-arching climate change and life-cycle costs, including impacts on economy, GHG emissions, water consumption, water quality, carbon sequestration, gene flow risks, wildlife populations, native pollinators, and transportation sector.
- Need to evaluate both individual crops and systems in terms of multiple benefits (e.g. yield, carbon reduction)

Energy 10: Invest in research and demonstration projects to develop, and incentives to promote, combined with wind power/biomass, wind power/natural gas, and biomass/coal co-firing electricity projects.

MEETING NOTES/DISCUSSION

- Evaluate potential for electricity through pump-stored hydro-power in mines
- Re-visit at a later date once there is more information
- Next Gen Board – staff needs to get updates on the status of their process and suggest they review the SCPP recommendations

Energy 11: Invest in research and enact policies to protect existing native prairies from genetic contamination by buffering them with neighboring plantings of perennial energy crops

MEETING NOTES/DISCUSSION

- Legislation and LCCMR funding this past session started down this path.

Energy 12: Invest in efforts to develop sufficient seed or seedling stocks for large-scale plantings of native prairie grasses and other perennial crops.

MEETING NOTES/DISCUSSION

- Legislation and LCCMR funding this past session started down this path.

Energy 13: Invest in research and policies regarding "green payments"

No comments

Energy 14: Investigate opportunities to provide tax incentives for individual investors in renewable energy (e.g. individuals who wish to install solar panels)

No comments

Energy 15: Invest in efforts to develop, and research to support, community-based energy platforms for producing electricity, transportation fuels, fertilizer, and other products that are locally/cooperatively owned

No comments

Energy 16: Provide incentives to transition a portion of Minnesota's vehicle fleet to electrical power, while simultaneously increasing renewable electricity production for transportation

No comments

Energy 17: Promote policies and incentives that encourage carbon-neutral businesses, homes, communities, and other institutions

No comments

***Energy 18: Implement policies and incentives to lower energy use of housing stock while monitoring the performance of improvements and calling on the utility industry to join in the effort

- Request proposals on innovative ways to help homeowners with residential energy conservation. For example, a program through public or private utilities offering no interest loans with easy payback via energy savings paid over time in utility billing.
- Important to include redevelopment – energy reduction in existing housing – not just new stock. For example, when upgrading, there could be energy upgrade requirements, such as with septic tank upgrades and with meeting requirements for FHA loans.

MEETING NOTES/DISCUSSION

- May need legislation
- Some utilities and states are already doing this.
- Target homeowners because potential gains; i.e., the largest potential gainers through efficiency improvements are thought to be heavy industry in China (#1) and American homes (#2).

***Energy 19: Promote policies and strategies to implement smart meter and smart grid technologies

- Develop strategies to implement smart grid/smart meter technologies

Energy 20: Develop incentives to encourage the widespread adoption of passive solar and shallow geothermal heat pump systems in new residential and commercial building construction. Invest in research to develop improved technology for storing renewable energy.

No comments

Energy 21: Develop standards and incentives for energy capture from municipal sanitary and solid waste, and minimize landfill options for MSW

No comments

Energy 22: Invest in public education focusing on benefits and strategies for energy conservation targeted toward individual Minnesota residents and businesses

No comments

- [Terrestrial]