MEETING NOTICE

Governor's Task Force on Global Warming
Industry Work Group
Date: Friday, October 12, 2007 9:00 am – 12:00 noon
Location: DNR conference room, Oshkosh DNR Service Center,
625 E. County Road Y Suite 700, Oshkosh

AGENDA

1) Welcome and review of agenda

2) Open meetings issues and questions

3) Review policy template 'matrix' & templates from other work groups

4) Discussion of new and revised policy templates
    a. Ed's Industrial boiler efficiency improvements template
    b. Dave S's Metrics template
    c. Paul's Consolidated template of Oughton/Stapleton-Concord/Steinpreis/Linzmeyer/Rhodes-Conway

5) Review comments from John Nicol

6) Review 'big picture' – status of all templates

7) Decide on next steps, determine future meeting times and locations
    a. There have been several requests to schedule farther ahead
    b. Task Force meeting on 11/2

This meeting is open to the public.

For more information, or if you need special accommodations to attend this meeting, contact Nick Sayen, DNR, at (608) 267-2466 or Nick.Sayen@wisconsin.gov.

Wisconsin Global Warming Task Force Workgroup Template for Presentation Policy Options

1. Workgroup: Industry Work Group

2. Policy Name: Enhance outreach/extension/education about GHG reduction to business, especially small to medium sized business.

3. Policy Type: Education and facilitation.

4. **Affected Sectors, Sub-Sectors and/or Entities:** Small entrepreneurs, WMEP, UW and Technical College Systems. Priority may be placed on businesses that have the most improvement to make; however, other businesses which have already improved their energy efficiency should also be encouraged to move toward high efficiency, not only for the GHG impacts but for the demonstration effect in the industry sector.

5. **Estimated Greenhouse Gas Emissions Reduction Impact:** This is a policy that can be implemented immediately with little initial seed money. However, there may be some cost in overcoming barriers. Small entrepreneurs can be expected to act in their own best interest in choosing energy savings. Reductions in GHG emissions will be in proportion to the number of participants.

6. **Estimated Costs**: This policy would require some organization to initiate, but since the WMEP**,** UW and Technical College Systems are already active in this area the effort could be turned over to them quite quickly. The challenge in priming the existing information and incentive channels is the apparent lack of available money.

7. **Specific Description of Policy Proposal:** Information flow to entrepreneurs, especially small entrepreneurs, tends to be constrained by the time and money available in the context of many competing priorities. With regard to GHG reduction Wisconsin is fortunate that both the UW and Technical College Systems have existing outreach programs on energy efficiency so the information conduits already exist. These efforts go back at least 10 years so there is some awareness within the small and medium entrepreneur sector. In some cases the needed technology is already available. What is proposed here is to enhance existing information flows and address current barriers to adoption of more energy efficient methods.

8. **Timetables, Duration and Stringency Option:** This effort could start as early as desired, however the barriers to adoption must be addressed first.

9. **Explanation of Rough Estimate of GHG Reductions**: See Barriers

10. **Rough Estimate of Costs for Selected Years:** See Barriers

11. **Barriers to Implementation:** There are two major barriers to more extensive deployment of energy efficient methods, cost and permitting. Both of these increase the perceived cost of innovation and hence reduce the perceived ROI.

The cost and permitting barriers can be addressed as interdependent components of the same system. The PSC, currently pre-auditing Focus on Energy and Green Tier projects, mat be consuming resources better spent on GHG reduction. In effect plans by the company are validated by Focus on Energy or Green Tier and then again by PSC or hired consultants. The effect is to slow permitting and to introduce unnecessary costs. The Governor could request/direct PSC to conduct a pilot project in which projects approved by Focus on Energy or Green Tier would be deemed approved if PSC did not act in 10 business days.

The second barrier to more extensive deployment of energy efficient methods is cost. Because the investment may be too large or "lumpy" especially for small businesses there may be a need to provide means to reduce or spread the costs. The Governor could request/direct PSC to use the saved staff time, estimated to be 10% of current Focus on Energy and Green Tier budgets, to create a funding pool that can provide revolving longer term loans. Although the funding from this source would be small initially, over time the revolving fund could be enhanced from other sources, such as savings from DNR if a similar pilot program of deeming a class of permits with significant reductions were to be implemented at DNR.

12. **Other Factors:** It may be argued that a more efficient use of public funds would be to focus on large energy users which give a higher GHG reduction per replacement. However it may also be argued that small employers can serve as a potent local demonstration that GHG reduction matters and brings economic gain. In that context small and medium sized entrepreneurs can demonstrate that it is possible to move out of a carbon based economy.

Subgroup Review Draft
10/10/07

Wisconsin Global Warming Task Force
Industry Workgroup
Policy Option: Industrial Boiler Efficiency Improvements

1. **Workgroup**: Industry

2. **Policy Name**: Regulatory and financial incentives for industrial boiler owners to undertake boiler efficiency improvements

3. **Policy Type**: Regulatory incentive; financial incentive

4. **Affected Sectors, Sub-Sectors and/or Entities**: Industrial facilities

5. **Estimated Greenhouse Gas Emissions Reduction Potential**: Evaluation of six boiler efficiency options in the pulp and paper industry showed potential CO2 emission reductions of between 6,000 and 25,000 tons per year for a model facility. Actual reductions may be higher or lower.

6. **Estimated Costs**: Evaluation of six boiler efficiency options in the pulp and paper industry showed:

    a) Capital costs are unknown because they are dependent on site-specific conditions, which are unknown.
    b) Operational cost savings range between $205,000 and $845,000 annually for a model facility. Actual cost savings could be higher or lower.
    c) Regulatory compliance costs are unknown, but could be significant in some cases.

7. **Specific Description of Policy Proposal**:

    a) <u>Regulatory Incentives</u>: Provide permitting relief from federal PSD/NSR requirements for boiler efficiency projects. Provide expedited permit approvals.

b) Financial Incentives: Annual funding of $5 million for grants and loans should be provided through the Public Benefits Program. (The Public Service Commission has oversight of how program funds are expended and could be directed to assure that a specified amount of money is spent in a specified way.) Alternatively, a larger one-time revolving low-interest loan program could be established. The purpose of the financial incentive is to improve the project payback period.

8. **Timetables, Duration and Stringency Option**: Regulatory incentives could take several years to put in place, depending on the need to modify rules and statutes, and to address any legal challenges to regulatory incentives. The duration is dependent on future federal regulatory actions, but should be permanent, if possible. Financial incentives, if provided through the Public Benefits Program, could be accomplished within a year.

9. **Explanation of Rough Estimate of GHG Reductions**: See Item 5.

10. **Explanation of Rough Estimate of Costs**: See Item 6.

11. **Barriers to Implementation**:

- Potential limitations on regulatory incentives due to federal pre-emption
- State government costs for incentives
- Availability of engineering contractors and equipment suppliers if initiative is expanded to a larger scale.

Subgroup Review Draft
10/10/07

Wisconsin Global Warming Task Force
Industry Workgroup
Policy Option: Industrial Boiler Fuel Switching

1. **Workgroup**: Industry

2. **Policy Name**:

   a) Provide incentives intended to increase the supply of non-wood biomass and noncommercial forest residues available for use as biofuels. A goal of 50% recovery and use of forest residue for biofuels is recommended.
   b) Provide incentives to industrial boiler owners to increase the amount of non-wood biomass and noncommercial forest residues used as fuel. These incentives should include regulatory streamlining incentives. Care should be taken to insure that supply-demand market balance is maintained in order to avoid driving up the price of commercial stem wood used as raw material in the pulp, paper, and wood products industries.
   c) Mandated fuel switching, either to biofuels or from coal to natural gas, is not recommended due to the potentially high cost. It is understood that other policy decisions could drive fuel switching on a site-specific basis. The costs and benefits of fuel switching should be evaluated further within the context of that policy discussion.

3. **Policy Type**: Possible fiscal, regulatory, or technical assistance incentives.

4. **Affected Sectors, Sub-Sectors and/or Entities**: Industrial facilities, primarily in the forest products industry

5. **Estimated Greenhouse Gas Emissions Reduction Potential**: A recent analysis set the amount of forest residues generated in Wisconsin at between 609,000 and 2,325,000 dry tons per year. For every 100,000 tons of forest residues that displace coal, greenhouse gas emissions are estimated to be reduced by about 130,000 tons. A 50% recovery and use goal, if realized and if displacing coal, would reduce greenhouse gas emissions by between approximately 400,000 tons and 1,500,000 tons annually. However, this figure would be reduced by the amount of greenhouse gas emissions associated with collection and transport for use (life-cycle analysis).

6. **Estimated Costs**: Costs for incentives would be dependent on available government funds and legislative will to provide additional funding.

7. **Specific Description of Policy Proposal**:

   a) Supply-side Incentives: Forest residues include defective portions of trees, unmerchantable trunks, trees removed for purposes of thinning, and materials left behind during logging and management operations. Forest residues do not include pulpwood, saw logs, and other wood used as raw material in the forest products industry. Non-wood biomass would include switchgrass and other similar crops, but not wood. Financial assistance could be provided in the form of grants and low-interest loans to loggers for the purchase of equipment to collect and transport forest residues to market, and for other technical assistance. Funding could be provided through the Focus on Energy Program. Recommended funding is $1 million per year for three years, with future funding determined by the Focus on Energy Program based on demand. It is also recommended that voluntary best management practices for the recovery of forest residues be developed between DNR and the forest products industry.
   b) Demand-side Incentives: Financial assistance could be provided in the form of grants and low-interest loans to industrial owners of wood-fired boilers to make physical plant changes necessary to increase the utilization of forest residues or non-wood biomass as fuel (increase wood handling capacity, etc.). Financial assistance could also be provided in the form of a fuel cost subsidy for industrial owners of wood-fired boilers. The source of funding could be the Focus on Energy Program. Recommended funding is $1.5 million annually in grants for three years and $1.5 million in low interest loans for three years. Future funding levels should be determined by the Focus on Energy Program based on demand. It is important that market supply and demand balance be maintained in order to avoid driving up the price of commercial stem wood used as raw material in the pulp, paper, and wood products industries. In addition, to the extent allowed under federal regulations, permit streamlining incentives should be provided to offset the regulatory barriers that could be associated with boiler projects.

8. **Timetables, Duration and Stringency Option**: Incentives could take about one year to put in place, if through the Focus on Energy Program. It would likely take a couple of years to put incentives into place through other mechanisms. It would then likely take some time before companies began to utilize the incentives and make related changes.

9. **Explanation of Rough Estimate of GHG Reductions**: Conversion factor developed by NCASI based on commonly used emission factors.

10. **Explanation of Rough Estimate of Costs**: See Item 6.

11. **Barriers to Implementation**:

- State government costs for incentives
- Environmental permitting and compliance costs that could negatively impact the cost-effectiveness of projects. For example, federal PSD/NSR and NSPS regulation could come into play. Also, the operation of environmental controls would result in the combustion of fossil fuels or additional energy usage, which would need to be subtracted from total greenhouse gas reduction estimates.

12. **Other Factors:** Two additional options were examined – mandating that all fossil fuel boilers switch to biofuels and mandating that all coal-fired boilers switch to natural gas. These options are not recommended because of the significantly high cost of implementation, operational costs, and the potential lack of available biomass and natural gas to support a statewide conversion in fuel use.

- Emission Reduction Potential. The following are very rough, ballpark estimates of the general magnitude of reductions that might be expected with 100% implementation of each option.

  a) Convert fossil fuel boilers to biomass/renewables: Based on a rough estimate in the pulp and paper industry, the maximum statewide reduction might be in the vicinity of 50% from 2005 levels, or approximately 5 million tons. (Total industry sector CO2 emissions in 2005 were approximately 10 million tons (DNR AEI). Pulp and paper industry is almost 70% of total, or somewhat under 7 million tons. About 70% of pulp and paper CO2 emissions are associated with fossil fuel combustion, or a little under 5 million tons. Assume more reductions if extrapolated to all industry. Assume less reduction due to a boiler size limit below which conversion would not be required. Assume the increases and decreases offset, resulting in an approximate 5 million ton maximum reduction potential.)
  b) Convert coal-fired boilers to natural gas: Based on a rough estimate in the pulp and paper industry, the maximum statewide reduction might be in the vicinity of 18% from 2005 levels, or approximately 1.8 million tons. (Approximately 55%, or about 3.8 million tons, of pulp and paper CO2 emissions in 2005 associated with coal combustion. Assume natural gas emissions are 59% of

coal emissions, adjusted for efficiency. Paper industry maximum potential reduction of approximately 1.6 million tons. Extrapolate to all industry, but assume few coal-fired boilers outside of pulp and paper, resulting in approximately 1.8 million ton maximum reduction potential. This would need to be adjusted for life-cycle emissions (e.g., if CHP units lose efficiency, then purchased power may increase.)

- Costs. The following are very rough, ballpark estimates of the general magnitude of costs that might be expected with 100% implementation of each option.

  a) Convert fossil fuel boilers to biomass/renewables: Based on a rough estimate in the pulp and paper industry, the capital costs for boiler conversions alone might be expected to approach $2 billion. The capital costs for related facility changes and pollution controls are unknown, but could approach $1 to $2 billion, based on anecdotal evidence. This would bring total capital costs into the $3-4 billion range, subject to other caveats noted below. Operation costs could increase or decrease, depending on site-specific conditions. (There were 83 pulp and paper industry boilers listed in the 2005 DNR AEI. Assume 15 boiler replacements at $33 million and 45 boiler rebuilds at $23 million. Total pulp and paper costs would exceed $1.5 billion. Extrapolate to all industry and costs could be expected to approach $2 billion. Costs are in 2001 dollars, so actual costs would be higher. Costs are for a model boiler based on steam demand. The model boiler is toward the small end of the boiler size spectrum, so costs must be scaled (most likely up) to account for actual steam demand.)
  b) Convert coal-fired boilers to natural gas: Capital costs are unknown, but would be substantial. Energy operation costs could be expected to increase by a factor of about 3.5, based on the average annual price differential between coal and natural gas in 2005 as reported in Wisconsin Energy Statistics 2006.

Wisconsin Global Warming Task Force Workgroup-"Emissions Data Feedback Policy"
Draft 10-09-2007-Linzmeyer

1. **Workgroup:**
   Industry Work Group

2. **Policy Name:**

Wisconsin Stewardship Council will be a statewide advocate for Business and Industry to embrace environmentally sustainable practices with the outcome of significantly reducing consumption and their carbon footprint.

a) **Explore opportunities for companies and organizations for recognition for early actions of going beyond "business as usual".** Identify and evaluate state policies that would create an innovative and robust way to ensure that Wisconsin businesses get credit for the early actions to reduce GHG emissions.

b) **Expansion of existing programs**

   a. Enhance existing programs and continue funding these programs to avoid additional costs associated with a special group to monitor and train industry in GHG reductions. These groups are Focus on Energy, Green Tier and WMEP.

c) **Incentives**
   a. Legislation to increase the R&D tax credit rate to 15% from 10% for small engines
      i. Expand scope of tax credit to include power products such as fuel cells, generators, and other technology
      ii. Promote power technology leadership in Wisconsin
   b. Legislation to create program to fund pilot projects or field demonstration of innovative technologies to reduce GHG emissions
   c. Incentives to encourage industrial sector businesses to conserve energy and implement energy efficiency projects.

d) **Education**
   a. Enhance outreach/extension/education about GHG reduction to business, especially small to medium sized business.

3. **Policy Types:**
   a. Legislation and funding authorization;
   b. Voluntary industry best practices systems;
   c. Legislation: special study of relationship between GHG reduction & quality job growth

4. **Affected Sectors, Sub-Sectors and/or Entities:**
   a. All Industry Sectors, Sub-Sectors, and Entities (Facilities) using on-site power generating sources
   b. Focus on Energy
   c. Green Tier
   d. WMEP
   e. Research and Development
   f. Manufacturing
   g. Small entrepreneurs
   h. UW and Technical College Systems.

5. **Estimated Greenhouse Gas Emissions Reduction Impact:**

    a. Target should be 3-5% reduction annually from all sectors combined.

6. **Estimated Costs:**
    a. Companies investing in Energy Management will see an initial investment of 5% on their present capital budget. ROI's will vary between 1-3 yrs in most instances; Focus on Energy is a key contributor to rebates and cost reductions of these investments. The government needs to add incentives similar to Focus on Energy for small and medium size businesses that do not meet the ROI's required for funding today.
    b. $5 Million per year in project funding
    c. This policy would require some organization to initiate, but since the WMEP, UW and Technical College Systems are already active in this area the effort could be turned over to them quite quickly. The challenge in priming the existing information and incentive channels is the apparent lack of available money.
    d. Operational costs would be negligible and could be estimated by looking at a similar effort from the Wisconsin Forward Award, which operates a similar model for workplace quality that we are proposing for workplace environmental best practices.
    e. State government should add incentives (i.e. grants, loans, tax credits, etc.) and technical assistance through UWEX etc. to help businesses, especially medium to small-size, design and execute energy auditing and GHG measuring programs that will in part provide GHG emissions data.
    f. An independent board would have oversight over the finances, policies, etc of the organization.

7. **Specific Description of Policy Proposal:**
    a. The Wisconsin Stewardship Council
        i. The Wisconsin Stewardship Council (as a policy advisor council of the DNR's Green Tier Program, but also in collaboration with Commerce Department) will publicize and leverage major corporate sustainability initiatives and build business leadership support for environmentally sustainable best practices.
            1. The council will be made up of an equal collaboration of Business, government and NGOs that are leaders in the environmental and emissions fields or in enacting best practices.
            2. This would be Available to those companies with a clear desire to go beyond compliance
            3. If a company has had a recent infraction, they can still become part of the program with regular audits of agreed upon benchmarks.
        ii. They will develop a self assessment protocol which companies can use to qualify for and annual award, similar to the Wisconsin Forward award. The award could be given at different levels of achievement.
        iii. They will put a business case for environmental sustainability and market it through a website, regional summits, collaborations with business groups like Chambers of Commerce and regional economic entities, etc
        iv. Program will be self monitoring, with required EMS with experts coming to companies to evaluate progress against award criteria
    b. Expansion of existing programs
        i. The legislature of Wisconsin should continue its funding and support of the above mentioned programs already in place today. These programs provide

education, training, funding and resources for businesses to reduce energy and power consumption, thus saving money for the business and reducing GHG emissions. Legislature needs to bring the DNR into support of these programs and allow industries who are investing for GHG reduction to work within regulations and receive construction permits within 60 days of filing.

c. Incentives
    i. The R&D Tax Credit increase policy would increase the R&D Tax Credit for Small Engines to 15% from 10%. The policy would also increase the scope of the tax credit to other power products. This policy will help to solidify Wisconsin as a world leader in engine and power technology development
    ii. The pilot project funding policy would provide a mechanism for the funding of technically solid projects that can demonstrate the commercial viability in Wisconsin of technical innovations that will improve GHG emission prevention or control. The funding will assist technologies that can help reduce emissions while promoting new industries and jobs in Wisconsin, improve industrial productivity and reduce control costs. $5 Million will be available per year to fund pilot projects and field demonstration projects. The following are elements of the funding program:
        1. Goal is to fund gap between proof of concept and marketable product
        2. Funding limited to pilot projects and field demonstration of technology or innovation in the private
        3. Administration of the program will be by the Wisconsin Department of Natural Resources
        4. Funding will be limited to no more than 50% of the project budget
        5. Funding will be limited to R&D expenses; no funding of marketing expenses
        6. Submissions of projects for consideration will require project plan
        7. Final report required
        8. Selections of projects will be made by a panel (who should be on the panel? WDNR, WDOC …)
        9. WDNR will regularly oversee progress of selected projects
        10. Technology developer will retain rights to intellectual property
    iii. Criteria for a project to be selected for funding:
        1. Must have potential for Wisconsin economic benefit
        2. Limited to parties with a presence in Wisconsin?
        3. GHG reduction potential in Wisconsin
            a. Fuel conversion
            b. Emission control
            c. Energy saving innovation
        4. In scope:
            a. Product related technology (engines, industrial machinery, etc.)
            b. Manufacturing process improvements
            c. Technology that reduces direct GHG emissions
            d. Technology that results in improved fuel economy
            e. Technology that results in improved energy efficiency
        5. Out of scope:
            a. Energy conservation projects
            b. Energy efficiency projects using available technology

d. Educational system support
    i. Information flow to entrepreneurs, especially small entrepreneurs, tends to be constrained by the time and money available in the context of many competing

priorities. With regard to GHG reduction Wisconsin is fortunate that both the UW and Technical College Systems have existing outreach programs on energy efficiency so the information conduits already exist. These efforts go back at least 10 years so there is some awareness within the small and medium entrepreneur sector. In some cases the needed technology is already available. What is proposed here is to enhance existing information flows and address current barriers to adoption of more energy efficient methods.

e. Establish incentives for industrial sector businesses to implement energy conservation and efficiency projects, practices and measures resulting in reduced energy consumption from non-renewable sources. Potential incentives could include:
   i. Monetary incentives. These could take the form of cash grants for the purpose of
      1. conducting comprehensive energy audits and implementing corresponding measures to improve energy efficiency or to conserve energy; or
      2. purchasing replacement or retrofit equipment that is more energy efficient.
   ii. Tax incentives. Provide a refundable tax credit for the purchase equipment or other capital expenditures that will result in quantifiable energy savings. The percentage of the credit could be flat, or set to a sliding scale based upon the expected efficiency savings, or a combination thereof. In any case, there would likely need to be a cap placed upon the amount of the credit on either a project or programmatic basis, or both.
   iii. Loan Program. Create an energy efficiency loan program to offer low-interest or no-interest loans for large capital expenditures intended to reduce energy consumption, and thereby make possible projects that may otherwise be economically infeasible.
   iv. Environmental permitting incentives. Provide fast track permitting for retrofit and/or equipment replacement projects that would otherwise proceed on a traditional permitting path, if the equipment will result in energy efficiency or conservation savings. Examples might include the expanded use of commence construction waivers, expanded application of RCP and ROP permitting for sources above 25 TPY actual emissions, and exemptions from construction permitting at true minor sources. Emphasis should be given to providing permitting incentives on a project basis.

8. Timetables, Duration and Stringency Option:

a. Expanding current programs
   i. There should be no timetable set for elimination of these programs. They are well established organizations that have proven their effectiveness. Each group should report their results to the Legislature semi-annually.
b. Program Funding
   i. Funding beginning FY09 continuing annually through 2020
   ii. Program review every 5 year
c. Incentives
   i. Implementation of incentive policies is dependant upon legislative approval, and the availability of state revenue. Under a very optimistic scenario, legislation could be passed in the 2009 legislative session and funding appropriated for the fiscal year beginning July 1, 2009. To maximize

effectiveness, the incentives should be considered as continuous ongoing appropriations.

9. Explanation of Rough Estimate of GHG Reduction:

a. As the business case for environmental sustainability is spread to more businesses, the resulting reduction could be phenomenal. We would need actual data on business emissions to be able to predict the results.
b. If Wisconsin Industry could average a 3% reduction annually, it would reduce CO2 by 2.9 million tons annually.
c. GHG reductions will be calculated by project technology based upon the baseline calculation of emissions prior to implementation of the technology and calculation or estimate of emissions after implementation of the funded technology project
d. A number of performance measures could be tracked in the program including (funding $/emission reduction) or other measures of economic benefit to Wisconsin

10. Rough Estimate of Costs for Selected Years:

a. Program management costs for State Government, the DNR and Commerce, are minor, but still need to be estimated.
b. Costs to private industry will be significantly larger and need to be carefully assessed and estimated on a facility level where business units in both large and small companies are typically defined. These estimates, including data collection and reporting burden that needs to be generated as part of the initial program design process, will help determine precisely the type and detail of information to be collected from industry, the reporting periods, and format.

11. Barriers to Implementation:

a. Reluctance of industry to adopt yet another self-reporting requirement due to direct expense of periodic data collection and reporting, and concern that data will result in future imposition of GHG emissions control requirements and expenditures.
b. Adequate funding of government program resources, especially resources to administer data collection and reporting program; gather, collate, evaluate, and disseminate reported data from/to industry and the public; and ensure compliance with emissions data reporting requirements.
c. DNR regulations inhibit quick response of industry to invest and make changes in their operations. Construction Permits for GHG reduction need fast approvals.
d. Reluctance of Industry to believe in slow return on investments.
e. Energy costs are not part of capital budgets, thus unnoticed at many small and medium businesses.
f. Lack of internal education on what is available: Techniques, Tools, Resources, Funding, etc.
g. Lack of resources for energy management in small business
h. Third Party verification costs can be greater than savings. Industry Associations should help reduce these costs by providing these services.
i. challenge of funding the program
j. maintaining funding
k. setting criteria that attract effective projects that will benefit Wisconsin.
l. Providing an incentive for a manufacturer to address GHG reductions while complying with product related emissions regulations
m. The incentives would require legislative approval, including the appropriation of state revenue during a time when the budget is tight. There would also need to be an administrative component to each of these incentives, including, in some cases, the

likelihood of a competitive application process or the certification of tax credits. Also, as noted above, the incremental benefit of energy efficiency and conservation is uncertain given that lean manufacturing and other market-driven forces have caused many industrial sector businesses to implement energy efficiency and conservation measures already.

There are two major barriers to more extensive deployment of energy efficient methods, cost and permitting. Both of these increase the perceived cost of innovation and hence reduce the perceived ROI.

The cost and permitting barriers can be addressed as interdependent components of the same system. The PSC, currently pre-auditing Focus on Energy and Green Tier projects, mat be consuming resources better spent on GHG reduction. In effect plans by the company are validated by Focus on Energy or Green Tier and then again by PSC or hired consultants. The effect is to slow permitting and to introduce unnecessary costs. The Governor could request/direct PSC to conduct a pilot project in which projects approved by Focus on Energy or Green Tier would be deemed approved if PSC did not act in 10 business days.

The second barrier to more extensive deployment of energy efficient methods is cost. Because the investment may be too large or "lumpy" especially for small businesses there may be a need to provide means to reduce or spread the costs. The Governor could request/direct PSC to use the saved staff time, estimated to be 10% of current Focus on Energy and Green Tier budgets, to create a funding pool that can provide revolving longer term loans. Although the funding from this source would be small initially, over time the revolving fund could be enhanced from other sources, such as savings from DNR if a similar pilot program of deeming a class of permits with significant reductions were to be implemented at DNR.

12. Other Factors:

a. Industry Associations should also come forward with training, tools, techniques and education on GHG and what businesses can do within each of their limitations.
b. It may be argued that a more efficient use of public funds would be to focus on large energy users which give a higher GHG reduction per replacement. However it may also be argued that small employers can serve as a potent local demonstration that GHG reduction matters and brings economic gain. In that context small and medium sized entrepreneurs can demonstrate that it is possible to move out of a carbon based economy.

GWTF
Industry Workgroup Policy Summary

	Policy Proposal	How Implemented and Estimated Timing	Approximate GHG Reduction Potential	Approximate Costs	Overall Ranking (High/Med/Low)
1.	**State Policy Name**. Next, include two or three sentences describing the policy here.				
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Nick,

Thanks again to you and the co-chairs for inviting me to address the group. I thought of a couple other points that I did not make that I thought the group should consider. Please pass these on to Caryl, Paul and the rest of the group.

- CHP is a big opportunity, but Focus on Energy is not allowed to provide incentives for projects that feed more than 50% back on the grid (unless they are renewable fueled). These types of projects are left out and the utilities have no reason to support them. Therefore, there is no real support for these types of projects, even though the CO2 and transmission/generation cost impacts could be big.
- These CHP projects are generally very large and with our Focus cap at $3 million on project costs, we do not have much influence with these opportunities. These and other large opportunities are not getting done because there is no monetary connection to the societal and market benefits of reduced transmission and generation costs.
- I was asked about the potential from what I see for more efficiency in the Industrial sector. I believe with the right messaging and community minded motivation, along with well placed incentives, efficiency could reduce the Energy use per $ revenue by 25% over the next 10 years, or 2.5% per year. This is also the stated goal for the DOE on a national level and is 4 times the level that Focus is achieving presently. There are a lot of very good (50% ROI) opportunities that companies let lay because of the lack of motivation to dig in. Most companies could economically reduce their energy use by 15 to 30% with a long-term continual improvement energy management approach. With this level of reduction, we could greatly reduce the need for new power plants and make a significant impact on emissions.
- I fully support the proposal to develop a method to compare the lifecycle CO2 and cost impacts of various supply and demand side options. This is a missing tool to make smart policy decisions.

Finally, I would welcome the opportunity to provide my perspective to any drafts of policy proposals developed by the group. Please let me know how I can best help.

John

John Nicol, PE
Industrial Program Manager
Focus on Energy
Energy Management is Good Business
SAIC
Energy Solutions Group
5609 Medical Circle, #201
Madison, WI 53719
608-277-2941

Wisconsin Global Warming Task Force Workgroup
Template For Presentation of Policy Options

"Enhanced Energy Efficiency Programs"

1. **Workgroup**: Conservation and Energy Efficiency

2. **Policy Name:** Enhanced Energy Efficiency Programs (aka public benefits)

3. **Policy Type:** Regulation (including innovative ratemaking policy to remove barriers for utilities).

4. **Affected Sectors, Sub-Sectors and/or Entities:** Electric and Natural Gas Utilities.

5. **Estimated Greenhouse Gas Emissions Reduction Impact:** *(Relevant target year(s) should be selected based on timing of measure, with reductions estimated as of that year(s) and not on a cumulative basis, in comparison with a rough cut business as usual scenario. WRI will assist in this task. Later in the process, reduction estimates will be refined based on Reference Case developed for the Task Force.)*

Overall, reach 1990 levels of CO2 by 2020 in electric load and natural gas use. Using a statewide public benefits program, we recommend that reduction to 1990 levels of CO2 be reached in large part by energy efficiency and conservation, as well as additional measures such as innovative tariffs, advanced metering, load management, real time pricing, and enhanced public education and awareness. Assuming a BAU growth rate of 1.5-2.0%, the statewide public benefits programs should reduce 1.5 percent of electric load and 1.0% of natural gas load[1] after a 2-3 year ramp up period. The utilities and PSCW should be given flexibility to be innovative in reaching these goals. Actual budgets should be determined periodically by the PSCW in a contested case hearing process. Annual targets should be established over a program period (e.g. 3-4 years) as the "average" annual savings to be achieved during that period to allow program flexibility as conditions may change over a program period.

6. **Estimated Costs:** (*Rough estimate of administrative costs and other material costs such as electric rate impact, for same years as selected for GHG reduction impact.*)

The state is currently spending 1.2% of electric and natural gas revenues on this effort as well as some additional funds for utility sponsored programs, tariff initiatives and other technical assistance. On average, we should reserve approximately 3.0 to 3.25% of total electric utility revenues and 1.2 to 1.75% per year of natural gas revenues. Actual budgets should be determined periodically by the PSCW in a contested case hearing process. (As a comparison, currently, we expect 1.2% of revenue to result in a reduction of up to about 0.6% of electric load). Such hearings should include development of incentive mechanisms for utilities and other so-called "decoupling" strategies to provide adequate shareholder and ratepayer benefits. These costs should be compared to the cost of BAU which would include building new generation. These estimates assume that innovative rate design will be implemented to help achieve the desired results. In addition, building code advances, and enhanced consumer awareness will be a key to success at these revenue levels.

[1] This is consistent with the Governor's Midwest Gas Initiative which has proposed a reduction of 1.0% of load starting in 2009.

7. **Specific Description of Policy Proposal:** *(Description should be specific, including material terms so that people understand what is being agreed upon; however, legislative or regulatory language should not be drafted.)*

To maximize the result of this effort, we should accomplish these steps during the rampup period:

- Study best practices in other areas to transfer to Wisconsin as program grows.
- Utilities and PSCW will provide leadership in determining the best portfolio of approaches to reach 1.5% and 1.0% in annual load reduction for electric utilities and natural gas respectively using efficiency as a resource. PSCW will approve plans in a contested case hearing every 3-4 years.
- Research the gap between the achievable and economic potential of energy efficiency and how consumers and businesses make energy decisions. Broaden the existing Potential Study to inform whether higher targets of sales reduction would be appropriate in 2012 or later.
- Create programs that will increase awareness, understanding and participation through marketing, education, and outreach.
- Create programs of recognition and incentives for the most effective results.
- Create a scorecard of achievement for the state, by sector or by utility or other geographic division or affinity group.
- Integrate individual utility efforts with statewide public benefits programs
- Create new ratemaking approaches to decouple sales from profits for utilities.
- Develop programs that take advantage of innovative ratemaking approaches developed by utilities.

8. **Timetables, Duration and Stringency Option**: (*When will the measure take affect, how long will it last, how stringent will it be over time?)*

The initial ramp-up period of 2-3 years will take effect when the PSC receives permission from Joint Finance to change the current investment amount and hold a hearing. Earliest possible date is calendar year 2009 for beginning of ramp up. Preparation for ramp-up (as listed above) can begin in 2008. By 2012, annual savings goals of 1.5% for electric use and 1.0 % for natural gas use should be reached. Should the growth rates slow due to other efforts, the PSCW may modify the energy efficiency efforts to track load growth.

9. **Explanation of Rough Estimate of GHG Reductions**: *(Concise, transparent and wellreferenced explanation of estimate of GHG emissions reduction estimate for years*

selected, including description of important assumptions. Final number should be in million metric tons of CO_2 or other GHG.)

Using a baseline of about 55 million tons in 1990, and 69 million tons in 2006, this statewide effort should reduce CO2 to 1990 levels by 2020 if the growth rate is in the lower end of the BAU range (Carbon baseline numbers to be confirmed by WRI calculations) and if other tariff based programs and utility efforts are coordinated with statewide programs.

10. **Rough Estimate of Costs for Selected Years**: *(Concise, transparent and well-referenced explanation of estimates of administrative cost of policy for designated years and other key material costs that should be considered by the Task Force.)*

Administrative costs are included in program cost estimates. Administrative costs include program oversight, as well as measurement and verification of results.

11. **Barriers to Implementation**: *(Description of barriers to implementation identified for policy, including technological, political and financial barriers, and where possible, recommendation on how to overcome these barriers.)*

We must be more innovative in investing in energy efficiency, using a best practice approach and an increased amount of customer education and outreach, as well as an integrated customer approach rather than a program approach. This requires long-term program and technological R&D to better design programs. In addition, a broader statewide campaign or "call to action" to reduce our carbon footprint will be necessary to effect the significant behavior change necessary for success in this and other efforts. Simply ramping up existing statewide energy efficiency programs will be inadequate as our potential studies indicate decreasing marginal returns to program expansion.

12. **Other Factors**: *(Where relevant, identify potential duplication with other policies that may be recommended and other policy interaction issues which group believes the Task Force should be aware of.)*

The costs and projections will depend on the speed of implementation of other initiatives such as building codes, appliance standards, implementation of low carbon generation sources, energy intensity of businesses, and actual underlying growth rates. Wisconsin should continue and expand its initiatives for improved programs and R&D with other regional entities. This recommendation makes no assumptions about PHEVs. Any strategy or recommendation that adds a significant amount of PHEV should separately address carbon effects.

Policy (originally from balloting process)	Memo Team (leader in bold)	9/24/07	10/3/07	10/9/07	10/12/07
Eff. in gen. & use of power on-site – fuel switching	**Ed Wilusz**, John Piotrowski, Joe Muehlbach, Satya Rhodes-Conway and use input and expertise from Caryl Terrell		Rev. 1	Rev. 2	Rev. 3
Eff. in gen. & use of power on-site – boiler improvements	**Ed Wilusz**, John Piotrowski, Joe Muehlbach, Satya Rhodes-Conway and use input and expertise from Caryl Terrell			Rev. 1	Rev. 2
invest in-link together R&D and pilot/demon. projects	**Dave Oughton** and Scott Manley	DRAFT	Rev. 2		
Workforce development	**Satya Rhodes-Conway,** Clare Stapleton-Concord, Doug Drake, and Steve Dunn		Rev. 1		
Outreach to business	**Clare Stapleton-Concord**, Doug Drake, Satya Rhodes-Conway and Steve Dunn		Rev. 1		
Provide feedback to industry on emissions (smart meters) - immediate, medium & long term	**Dave Stringham**, Paul Linzmeyer, Dave Oughton and possibly Scott Johnson	Rev. 1			
Utilize / emphasize / expand existing programs, especially small business	**Steve Steinpreis**, Dave Stringham and John Imes	Rev. 1		Rev. 2	
Explore opportunities for recognition for early actions	**Paul Linzmeyer**, Dave Stringham and Dave Oughton	DRAFT	Rev. 2		
Encourage Distributed Generation of Renewable Energy and CHP / promote distributed Renewable and Clean Fossil Fuel Power Generation	**Satya Rhodes-Conway**, Ed Wilusz, Dave Boyd and use input and expertise from Caryl Terrell	DRAFT	ELEC. GEN. WG DRAFT		
Encourage or require reductions in emissions of high GWP gases	**Dave Boyd**	DISCUSSION			
General incentives for conservation & efficiency & infrastructure	**Scott Manley** and Joe Muehlbach	DRAFT	Rev. 2		
Feebates	**John Imes**			Rev. 1	
Negotiated Agreements	**John Imes**				

Governor's Task Force on Global Warming
Industry Work Group
Date: Friday, October 12, 2007 9:00 am – 12:00 noon
Location: DNR conference room, Oshkosh DNR Service Center,
625 E. County Road Y, Suite 700, Oshkosh

MEETING NOTES

In Attendance:

John Imes (via conf. call)	Ed Wilusz
David Boyd	Scott Manley
Caroline Garber	David Oughton
David Stringham	Paul Linzmeyer
Caryl Terrell	Nick Sayen

1) Welcome and review of agenda
    a. There were no questions/revisions to agenda

2) Open meetings issues and questions
    a. There were no Open Meetings issues or questions

3) Review policy template 'matrix' & templates from other work groups
    a. The group reviewed an example policy template from the Conservation and Energy Efficiency Work Group and decided to keep it as reference and also reviewed the blank policy template 'matrix' into which their work will eventually have to fit

4) Discussion of new and revised policy templates
    a. Ed's fuel switching template
        i. revisions were presented to the group and further edits would be sent directly to Ed
    b. It was decided that template details would be foot-noted for sources and generally documented as much as possible
    c. Ed's Industrial boiler efficiency improvements template
        i. Based on 6 improvements from the NCASI book
        ii. There was a review and discussion of compliance costs and the range of capital costs
        iii. There was a discussion on the permitting process and how federal legislation and requirements drive/limit what the state can do in terms of incentives

5) The group reviewed John Nicol's email to the Co-Chairs & group
    a. The discussion centered mainly on CHP
        i. Reluctance of utilities to support
        ii. Discussion of 'demand destruction'

iii. Conflict-of-interest in FOE supporting CHP
iv. Potential for CHP – shifting market forces
v. Only voice for CHP would likely come from Industry

4) CONTINUED
   b. Dave S's Metrics template
      i. Based on TRI-model
      ii. Must be technically defensible
      iii. Suggestion from Dave B. to look at alternative and existing model: lower/adopt WI Air Emission Inventory system to include CO2
      iv. Also look at Climate Registry for an existing model?
   c. Paul's Consolidated template of Oughton/Stapleton-Concord/Steinpreis/Linzmeyer/Rhodes-Conway
      i. Paul's draft of the consolidated paper elicited several clarifying questions and resulting discussion.
      ii. There was a fundamental question raised near the end of the discussion of whether it made sense to consolidate in this way or if it was better to keep the individual policies separate – the consensus seemed to be to pursue both separate and collective policies for now, and wait to see what Paul's further revisions resulted in

5) Review 'big picture' – status of all templates
   a. The group looked at the status of all policies
   b. Dave Boyd would have his template sometime soon

6) Decide on next steps, determine future meeting times and locations
   d. There have been several requests to schedule farther ahead
   e. Task Force meeting on 11/2

This meeting is open to the public.

For more information, or if you need special accommodations to attend this meeting, contact Nick Sayen, DNR, at (608) 267-2466 or Nick.Sayen@wisconsin.gov.