

MEETING NOTICE

Governor's Task Force on Global Warming Industry Work Group

Date: Tuesday, October 16, 2007 9:00 am – 12:00 noon

**Location: Country conference room B, Oshkosh DNR Service Center,
625 E. County Road Y, Oshkosh**

AGENDA

- 1) Welcome and review of agenda
- 2) Open meetings issues and questions
- 3) Discussion of new and revised policy templates
 - a. Satya's CHP/other templates
 - b. Paul's Consolidated template
 - c. Dave S's Metrics template
 - d. Ed's updated boiler efficiency template
- 4) Review 'big picture' – status of all templates
- 5) Decide on next steps, determine future meeting times and locations

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:** Generation and Delivery (Supply-Side) Subgroup
2. **Policy Name:** Incentives and/or mandates for Combined Heat and Power (CHP) construction, upgrades, and/or replacement.
3. **Policy Type:** Incentives, information and regulatory changes to encourage investment in combined heat and power generation and distribution systems.
4. **Affected Sectors, Sub-Sectors and/or Entities:**
 - Sector: Electric Utility and Industry sectors.
 - Sub-sectors: Distribution Utilities
5. **Estimated Greenhouse Gas Emissions Reduction Impact:** Estimated reduction in GHG emissions up to 2.7 million metric tonnes annually.
6. **Estimated Costs:** The estimated cost is approximately \$52/tonne of GHG reduction.
7. **Specific Description of Policy Proposal:** Establish policies, incentives and information to decommission older, high emission sources and replace these units with CHP systems and to identify and install new CHP systems. Emphasis should be on projects that maximize the thermal host load in order to maximize efficiencies. Potential candidates include the Cyclone boiler installations within Wisconsin
 - a. Amend Wis. Stat. §196.192 (market-based compensation, rates and contracts) to allow large customers to contract with utilities for the purchase of power and steam from more energy efficient systems. A model could be 2007 Pennsylvania

- Act 36, where large customers with 15 megawatts of load can establish bi-lateral contracts for power, contingent upon PSC review & approval of those contracts.
- b. Conduct a feasibility study through Focus on Energy regarding Cyclone boiler retirement and/or installation of CHP systems.
 - c. Focus on Energy (alternatively, the PSC and/or DNR with private sector support such as the major trade associations) would disseminate the results of the study.
 - d. Consider incentive programs through Focus on Energy to provide funding for the installation of CHP systems. We cannot fully recommend the incentive option at this time, because the incentive could be very large based on what other states are currently providing (\$6 million or more for a project the size of a Cyclone boiler using the proposed incentive in Illinois).

To provide an illustration of potential incentive programs, here is what the Global Warming Task Force in Illinois is recommending:

- \$1.00 per watt of installed nameplate capacity for installations that use renewable fuels.
- \$0.50 per watt of installed nameplate capacity for installations the use non-renewable fuels.
- Total incentives payouts would be capped at 10MW though any size installation would be eligible.

Other states have the following incentives designed to promote CHP:

Table 1. Selected state CHP incentive programs		
STATE	INCENTIVE TYPE	AMOUNT
California	Rebate	<p><i>With Renewable Fuels:</i></p> <ul style="list-style-type: none"> • Microturbines and Small Gas Turbines - \$1.30/W; • IC Engines and Large Gas Turbines - \$1.00/W <p><i>With Non-Renewable Fuels:</i></p> <ul style="list-style-type: none"> • Microturbines and Small Gas Turbines - \$0.80/W; • IC Engines and Large Gas Turbines - \$0.60/W
Connecticut	Grant	\$450/kW for baseload projects (\$500/kW if sited in southwest CT); \$200/kW for emergency generators (\$250/kW if sited in southwest CT)
Florida	Tax Credit	\$0.01/kWh for electricity produced from 1/1/2007 through 6/30/2010
New Jersey	Rebate	\$0.50 per watt (<i>expired 6/30/2006</i>)
New York	Tiered Rebates (NYSERDA)	Rebates for purchase/installation, energy savings, and ESCOs.
Ohio	Grant	25% of eligible project costs (\$100,000 maximum)
Oregon	Tax Credit	35% of eligible project costs, distributed over five years
Source: Database for State Incentives for Renewable Energy. 2007		

8. **Timetables, Duration and Stringency Option:** A feasibility study should be conducted and concluded by 2009. Implementation of policies and investment in projects take place over the following 10-20 years.
9. **Explanation of Rough Estimate of GHG Reductions:** Emission reductions based on an assumption of the installation of 500 MWs of CHP projects with a capacity factor of 85% and an effective heat rate of 4,900 Btu/Kwh.
10. **Rough Estimate of Costs for Selected Years:** Costs are based upon estimated capital costs for a 50 MW combined-cycle CHP facility less the savings in fuel costs associated with the improved cycle efficiencies and the capacity value of the plant. Incremental administrative costs of implementing CHP policies are estimated to be negligible.

11. **Barriers to Implementation:** The capital and operating costs associated with a CHP facility, the availability of appropriate thermal host sites to achieve necessary cycle efficiencies, regulatory requirements, and the risks associated with the long term commercial viability of the thermal host all represent barriers to implementation of a CHP policy.

Cyclone boilers are most likely fully depreciated assets and are coal-fired, which is currently a low cost fuel. As such, a host company would not want to replace the Cyclone unless the fuel savings and/or benefits of combined steam provided greater returns.

One potential barrier to implementation of this policy is the federal New Source Review (NSR) laws. In order to replace Cyclone Boilers, a company might trigger NSR guidelines which in turn would require permitting time and resources, plus system-wide capital investments. However, CHP projects obviously have fewer emissions and therefore it might not be a barrier. Further, there is a way of avoiding NSR altogether, and that is to have an independent power producer (IPP) or utility install a CHP project at the current Cyclone site and have customers receive electricity and steam under a purchase power agreement (PPA).

Currently, there are no known statutory restrictions on an IPP building installing a generator on an industrial site to create a CHP system. However, IPPs rarely install coal-fired projects. They have traditionally built large natural gas-fired power plants.

However, an investor owned utility is statutorily prohibited (Wis. Stat. §196.192) from installing a CHP project and contracting with the customers. In order to stimulate the Cyclone boiler retirements, Wis. Stat. §196.192 could be amended, perhaps narrowly, to allow for contracts with the utilities.

Fuel costs could be another barrier. Coal costs are relatively inexpensive and generally very stable in price. With uncertainty over whether the state and federal government will implement a carbon tax or carbon adder, a company might be reluctant to replace the Cyclones. Fuel switching to natural gas is a very risky proposition. Natural gas is currently expensive and volatile. The price volatility is what really makes gas a deal-breaker for most companies. Further, under a new regulatory regime aimed at limiting carbon emissions, some have estimated natural gas climbing to 3-4 times the current commodity price. Finding a way to ensure electricity price stability, such as a PPA would help address this barrier.

A general lack of awareness and knowledge of CHP district heating and district energy systems could be another barrier. This would be the case if a developer were trying to maximize the number of customers purchasing the steam. The planning and coordination required increases the complexity of CHP projects.

Infrastructure is a barrier. The WRI white paper on district heating states that it can “require extensive underground thermal piping to connect multiple facilities. As a result, construction and financing can be significant obstacles to overcome. Fixed

costs represent 80 percent of the delivered energy cost, including 25 percent or more for the distribution system. As a result, debt service costs of district energy systems can be 35 percent or higher, so interest rates often determine whether or not district heating is economical.” To eliminate this barrier, Wisconsin should enact bi-lateral contracts and incentives.

Lastly, cost allocation for steam infrastructure is a barrier. During ratemaking proceedings, a utility totals their assets to establish their revenue requirements. Once the revenue requirement is determined, then the utility and the PSC figure out how to divide the costs of providing service to all their customers. Dividing up the costs of power and steam infrastructure among the utility’s customer base will be problematic. Customers not receiving steam service might object to the added cost to the utility’s system. Steam service and electric rates could provide an advantage to a competitor, which would also be a concern to the utility’s customer.

12. Other Factors:

Wisconsin Global Warming Task Force Workgroup

1. **Workgroup:** Industry
2. **Policy Name:** Production tax credit
3. **Policy Type:** legislative
4. **Affected Sectors, Sub-Sectors and/or Entities:** Industry, Utilities, PSC,
5. **Estimated Greenhouse Gas Emissions Reduction Impact:**
6. **Estimated Costs:** Depends on level of credits. Federal credit is 1.5 cents per kilowatt-hour. Washington State has a \$0.12/kWh - \$0.54/kWh credit, depending on generation source.
7. **Specific Description of Policy Proposal:**

Institute a production tax credit for electricity generated and sold and heat generated for industrial purposes from renewable resources. Covered technologies should include: wind, geothermal energy, solar energy, hydropower, small irrigation power, municipal solid waste and biomass resources. Eligible biomass resources include anaerobic digestion, landfill gas, wastewater-treatment gas, and cellulosic material derived from forest-related resources (excluding old-growth timber), from waste pallets and crates, or from agricultural sources.

To qualify for the credit, a renewable energy facility must be at least 51% owned by specifically defined qualifying owners. Furthermore, facilities must be placed into service on or after July 1, 2009, and before January 1, 2016 or generate electricity from an eligible resource that is co-fired with coal and initially begins co-firing an eligible resource on or after January 1, 2009, but before January 1, 2016, regardless of when the original facility was placed in service.

The tax credit should be per kilowatt-hour or per million BTUs, and co-firing should be eligible for approximately half the credit renewables are eligible for.
8. **Timetables, Duration and Stringency Option:** goes into effect 7/1/2009, sunsets 1/1/2016
9. **Explanation of Rough Estimate of GHG Reductions:**
10. **Rough Estimate of Costs for Selected Years:** Depends on level of credits

11. **Barriers to Implementation:** Resistance of Legislature to tax credits?

Resistance from utilities?

12. **Other Factors:** In May 2005, Washington enacted Senate Bill 5101, establishing production incentives of 12¢ to 54¢ per kilowatt-hour (capped at \$2,000 per year) for individuals, businesses, or local governments that generate electricity from solar power, wind power or anaerobic digesters. The incentive amount paid to the producer is adjusted according to how the electricity was generated by multiplying the incentive by the following factors:

- For electricity produced using solar modules manufactured in Washington state: 2.4
- For electricity produced using a solar or wind generator equipped with an inverter manufactured in Washington state: 1.2
- For electricity produced using an anaerobic digester, by other solar equipment, or using a wind generator equipped with blades manufactured in Washington state: 1.0
- For all other electricity produced by wind: 0.8

Ownership of the renewable-energy credits (RECs) associated with generation remains with the customer-generator and does not transfer to the state or utility.

The state's utilities will pay the incentives and earn a tax credit equal to the cost of those payments. The credit may not exceed the greater of \$25,000 or 0.25% of a utility's taxable power sales. The incentive amount may be uniformly reduced if requests for the incentive exceed the available funds.

The Washington Department of Revenue (DOR) is responsible for submitting a report measuring the impacts of this legislation, including any change in the number of solar energy system manufacturing companies in Washington, and the effects on job creation, such as the number of jobs created for Washington residents.

The incentives apply to power generated as of July 1, 2005, and remain in effect through June 30, 2014. A utility may not claim any tax credits for incentive payments after June 30, 2016.

Wisconsin Global Warming Task Force Workgroup Template for Presentation for Policy Options

1. **Workgroup:** Industry
2. **Policy Name:** Rate Structure for CHP Generation
3. **Policy Type:** PSC proceeding
4. **Affected Sectors, Sub-Sectors and/or Entities:** PSC, utilities, customer-generators
5. **Estimated Greenhouse Gas Emissions Reduction Impact:**
6. **Estimated Costs:** depends on rate structure adopted
7. **Specific Descriptions of Policy Proposal:**

Examine the rate structure with respect to CHP generation: Based on the experiences of states that have implemented utility rates to support CHP, a number of best practices have emerged. These best practices include:

- Ensure that state PSC commissioners and staff have current and accurate information regarding the rate issues for CHP and its potential benefits for the generation system.
- Open a generic PSC docket to explore actual costs and system benefits of onsite cleaner and more efficient energy supply and rate reasonableness, if this cannot be addressed under an existing open docket.
- State energy offices, energy R&D offices, and economic development offices can be important sources of objective data on actual costs and benefits of onsite generation.
- Energy users can help provide data to ensure utility rate reasonableness when examining costs and system benefits of existing and planned onsite clean energy supply projects.
- Establish a working group of interested stakeholders to consider design issues and develop recommendations for favorable rates. Key stakeholders include:
 - PSC.
 - Electric utilities and competitive electric service providers.
 - Developers of CHP and renewable energy systems, and trade associations that represent these interests.
 - MISO
 - Office of Energy Independence, Commerce, etc.
 - Current renewable energy and CHP users.
- Identify if existing or pending renewable portfolio standards or other policies, which might be significant drivers to new onsite clean DG, generate a need for rate evaluations.

Whenever new rates are adopted, monitor utility compliance, pace of new clean energy installations, and impact on rate payers. Unanticipated or adverse

ratepayer impacts can be addressed through implementing or adjusting cost caps or other appropriate means.

8. **Timetables, Duration and Stringency Option:** Realistically, several years to open a docket, do the required research, and develop a new rate structure.
9. **Explanation of Rough Estimate of GHG Reductions:**
10. **Rough Estimate Costs for Selected Years:**
11. **Barriers to Implementation:** Willingness of PSC to specialize rates for CHP?
12. **Other Factors:**

Wisconsin Global Warming Task Force Workgroup Template for Presentation for Policy Options

1. **Workgroup:** Industry Work Group
2. **Policy Name:** Retooling Industry for New Energy
3. **Policy Type:** Legislative
4. **Affected Sectors, Sub-Sectors and/or Entities:** Industry, unions, private investors
5. **Estimated Greenhouse Gas Emissions Reduction Impact:**
6. **Estimated Costs:** Minimal start up cost, because an IDB program exists already. Costs for the tax credit would depend on the level of credit.
7. **Specific Descriptions of Policy Proposal:**

There are huge potential benefits in manufacturing and other heavy industrial firms as we move into a new energy economy, because these firms are in a good position to produce the component parts that are the backbone of many renewable energy and energy efficiency systems. But at the same time, some of these firms are in danger of extinction because they manufacture dying technologies. This is especially true with the advent of carbon regulation, which will make older, dirtier industries have a very difficult time competing with newer, higher-tech industries. The following policies may help these firms transition to become suppliers to the new energy economy, or at least become cleaner facilities more able to compete. Both solutions will enable thousands of workers to keep their jobs and move more easily into the new economy.

Industrial Development Bonds

Industrial development bonds are a form of conduit financing whereby private investors provide loans to companies through the state or local government. Under the arrangement, the government sells bonds to investors and uses the proceeds to make loans to private businesses, generally for the acquisition, construction, or expansion/rehabilitation of manufacturing facilities. Interest income from the bonds is tax free, allowing the loans to be low interest. These loans require some showing of public benefit – though this is usually expressed in economic terms, the benefits can also be measured through clean energy production.

California is one of the only states that have ever tied IDBs to clean energy, although the program has been discontinued. In 2002, the California Power Authority (CPA) marketed a \$30 million tax-exempt industrial revenues bond that provided low interest loans to companies that either bought or built efficient and renewable energy products. The CPA specified a minimal amount to be spent on core manufacturing activities, requiring that at least 75% of the bond money allocated by the state be used for actual manufacturing/production/energy improvement. Unfortunately, this program was discontinued in 2004.

Manufacturing Conversion Tax Credits

Governments often provide tax credits for companies that redesign production facilities to produce new, cutting-age technologies. Most of these are designed to give a credit for a

percent of the value of the equipment bought or facilities built to produce the new product. These are often called Manufacturing Investment Credits.

These types of credits can be specifically targeted to companies that want to transition from dirtier technologies to cleaner ones. Examples might include auto plants wanting to transition to producing hybrid cars. These credits could also be used to provide incentives for component part manufacturers that already produce parts that can be used in clean energy systems to transition to producing mainly for those industries.

These credits can also be tied to specific job creation requirements. An example of this type of credit is the New Mexico Manufacturing Investment Tax Credit. The NM program covers 5% of the value of qualified manufacturing equipment. To receive the credit, companies must show that at least one job was created per \$500K spent of the first \$30M of equipment purchased, and that at least one more job was created for every \$1M of equipment purchased over \$30M. The NM program is described here:

http://www.nmsitesearch.com/incentives/incentives_1_4.htm.

Wisconsin could provide industrial development bonds or manufacturing conversion tax credits for in-state manufacturers/refiners that:

- begin manufacturing energy efficient fixtures, metering equipment and appliances.
- begin manufacturing renewable energy products and components, or that install renewable power generators in their facilities.
- refine ethanol or biodiesel for motor fuel,
- invest in cutting-edge technologies such as cellulosic ethanol,
- begin manufacturing component parts for renewable fuel or hybrid/flex-fuel vehicle operations, and
- transition from manufacturing traditional vehicles to manufacturing hybrids, advanced diesel, flex-fuel and other advanced drive train vehicles and related components.

8. **Timetables, Duration and Stringency Option:** To be effective, these programs should be relatively long term – perhaps a 10 year lifespan with the possibility of renewal.

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

10. **Rough Estimate Costs for Selected Years:**

11. **Barriers to Implementation:**

12. **Other Factors:**

Wisconsin Global Warming Task Force Workgroup Template for Presentation Policy Options

1. **Workgroup:** Industry Work Group
2. **Policy Name:** Workforce development for GHG reduction related jobs
3. **Policy Type:** legislation
4. **Affected Sectors, Sub-Sectors and/or Entities:** UW, Tech Colleges, UW extension, unions, Workforce Development Boards, employers,
5. **Estimated Greenhouse Gas Emissions Reduction Impact:**
6. **Estimated Costs:** For part A, ~\$500,000 for a round of grants similar to Grow Wisconsin; for part B, depends on success of obtaining federal funding and scope; for part C, increase current funding by 25% (about \$1 million)
7. **Specific Description of Policy Proposal:**
 - A. Organize workforce development and career ladders in "green collar" jobs by convening employers, tech colleges, UW, job centers, unions, etc. Key questions are: What jobs exist/where will labor shortages be (i.e. skilled trades); what training is needed to secure these jobs/advance into them; who is looking for work and what skills do they have/need. Model after the Milwaukee-based Wisconsin Regional Training Partnership (WRTP), Jobs With a Future (JWF) of South Central Wisconsin and the Grow Wisconsin Initiative.
 - B. Develop "green collar" education programs and certification programs - consider green building; building efficiency audit and retrofits; solar PV and solar thermal installation and maintenance; wind installation and maintenance; bio-fuels production and distribution, geothermal installation and maintenance; renewable and efficiency component manufacturing; etc. The state should explore accessing the \$125 million funds for green job training recently authorized by the federal Green Jobs Act. Model after the Federal Green Jobs Act and/or the Oakland Green Jobs Corps concept.
 - C. Expand the existing Customized Labor Training Program at the Dept. of Commerce by 25% and explicitly include and promote training for "green collar" jobs and to support manufacturing conversion to the production of renewable and efficiency components.
8. **Timetables, Duration and Stringency Option:**
9. **Explanation of Rough Estimate of GHG Reductions**
10. **Rough Estimate of Costs for Selected Years:**
11. **Barriers to Implementation:**
 - A. This level of organization requires significant facilitation and ongoing support. Defining job types and career ladders can be difficult.
 - B. Defining job types and career ladders can be difficult. Requires cooperation of multiple campuses.
 - C. Defining job types and career ladders can be difficult.
12. **Other Factors:**

Wisconsin Global Warming Task Force Workgroup Template For Presenting Policy Options

1. **Workgroup:** Electric Generation Workgroup
2. **Policy Name:** Advanced Renewable Tariffs (10-year fixed price tariffs to stimulate the deployment of renewable generation projects under 15 MW).
3. **Policy Type:** Definitely a PSC proceeding. Authorizing legislation may be necessary.
4. **Affected Sectors, Sub-Sectors and/or Entities:** Public Service Commission, utilities, customer-generators, independent power producers, renewable energy installation contractors and equipment manufacturers.
5. **Estimated Greenhouse Gas Emissions Reduction Impact:** If utilities supplied 2% of their sales with distributed renewable resources by 2020 (above current requirements), and 3% by 2025, this would result in reductions of 1.5 million tons/yr by 2020, and 2.25 million tons/yr by 2025.

1. Estimated Greenhouse Gas Emissions:

Effect of Advanced Renewable Tariffs on Wisconsin Renewable Electricity Supply in million MWh for given growth rates (based on 2003 WI electricity sales of 67.2 million MWh).

Annual Growth Rate From 2003:	0%	1%	1.5%	2.1%
Current Law (10%)	6.7	7.6	8.0	8.6
10 +1 % (2015)	7.4	8.4	8.8	9.5
10 +2% (2020)	8.0	9.6	10.4	11.4
10+ 3% (2025)	8.7	10.7	12.1	13.8

Emissions Avoided by Advanced Renewable Tariffs (U.S. tons of CO₂-eq) using WI average recent fleetwide emissions of 1850 Lbs CO₂-e/MWh and assuming zero emissions from all RPS generation.

Annual Growth Rate From 2003:	0%	1%	1.50%	2.13%
Base Emissions With No RPS	43,100,000			68,800,000
Current Law (10%)	5,272,500	6,567,500	7,400,000	8,417,500
10 + 1% (2015)	5,325,225	7,296,492	8,262,100	9,456,472
10 + 2% (2020)	5,378,477	7,774,777	8,847,263	10,189,079
10 + 3% (2025)	5,432,262	8,284,414	9,473,870	10,978,442

6. **Estimated Costs:** Rising from \$5 million/yr in 2009, annual costs peak at \$33.million/yr in 2018, and decline to \$15 million/yr by 2025. At its maximum, the overall rate impact is less than 0.5% of gross utility revenues.

7. **Specific Description of Policy Proposal:** The advanced renewable tariff proposal has two elements: (1) a requirement ~~that the PSC establish on utilities to offer~~ advanced renewable tariffs that are uniform across utility service territories to qualifying generators ~~within their service territories~~; and (2) a gradually rising ceiling under which utilities set of goals for increasing the contribution of distributed renewable generation relative to their a utility's system mix retail sales. Proposed Suggested ceiling goals are 1% by 2015, 2% by 2020 and 3% by 2025.

For the purposes of this proposal, advanced renewable tariffs are 10-year fixed-rate tariffs pegged at the generation source's production costs in Year 1. These technology-specific tariffs would be uniform across utility boundaries. Unless the price of conventional fuel declines, the margin between the advanced renewable energy tariff and the utility's avoided cost will narrow during the 10-year period.

When the 10-year term ends, the utility can purchase that energy at its avoided-cost based rate. Utilities would have the option of rate-basing these generation sources or reselling some or all of the electricity acquired through these tariffs through their voluntary renewable energy programs, as We Energies' current practice with its special solar tariff.

Utilities that establish Advanced Renewable Tariffs are purchasing not only the energy from qualifying generators but also the renewable energy credits that are created. A utility may apply generation purchased under these tariffs toward its current Renewable Portfolio Standard or any successor renewable energy obligation, unless the output is resold through a voluntary renewable energy program at retail. After the 10-year fixed rate tariff ends for a particular generator, a utility may continue to apply that generation toward any successor renewable energy requirement.

8. **Timetables, Duration and Stringency Option:** If the PSC believes it has the authority it has the authority to establish advanced renewable energy tariffs without legislation, it could convene a proceeding at any time to determine the production costs of various distributed renewable resources such as solar, wind, small hydro, landfill gas, biogas, and other biomass sources. To achieve a 2% target by 2020, utilities would, in the aggregate, need to purchase 1.5 billion kWh per year of qualifying generation through these rates by 2020. To achieve a 3% target, the utilities would need to purchase another 750 million kWh/year. Spread out over a 17-year period beginning in 2009, annual increases would average between 100 and 150 million kWh.

9. **Explanation of Rough Estimate of GHG Reductions:** The 2020 estimate assumes the displacement of 1.5 billion kWh/yr of conventional generation with carbon-free or carbon-neutral generation. The 2025 estimate assumes the addition of 750 million kWh/yr on top of the quantity leveraged by the 2020 target. It is assumed that 1 billion kWh of carbon-free or carbon-neutral generation in Wisconsin will result in a reduction of 1 million metric tons of CO₂ from the electrical sector.
10. **Rough Estimate of Costs for Selected Years:** The cost per unit of electricity acquired would be highest in 2009 (Year 1) (approximately 5 cents/kWh). The overall cost per year will increase from Year 1 until it reaches a peak of \$33 million/year in 2018 (Year 10). It will then decline each year to \$15 million/yr in 2025. In the cost estimate below, it is assumed that the marginal difference between energy purchased through an advanced renewable tariffs and energy purchased through the standard parallel generation rate will decline by 0.25 cents per year. Note: these numbers reflect nominal values and do not take inflation into account.

<u>Year</u>	<u>Amount</u>	<u>Incremental Margin</u>	<u>Annual Cost</u>
2009	100,000,000 kWh	5 cents/kWh	\$5,000,000
2010	200,000,000	4.75	\$9,500,000
2011	300,000,000	4.50	\$13,500,000

2012	400,000,000	4.25	\$17,000,000
2013	500,000,000	4.0	\$20,000,000
2014	600,000,000	3.75	\$22,500,000
2015	750,000,000	3.50	\$26,250,000
2016	900,000,000	3.25	\$29,250,000
2017	1,050,000,000	3.0	\$31,500,000
2018	1,200,000,000	2.75	\$33,000,000
2019	1,350,000,000	2.50	\$31,250,000
2020	1,500,000,000	2.25	\$29,250,000
2021	1,650,000,000	2.00	\$27,000,000
2022	1,800,000,000	1.75	\$24,500,000
2023	1,950,000,000	1.50	\$21,750,000
2024	2,100,000,000	1.25	\$18,750,000
2025	2,250,000,000	1.00	\$15,000,000

11. **Barriers to Implementation:** It is not clear whether legislation would be required to provided the PSC with the authority to set advanced renewable tariffs and impose targets on utilities.
12. **Other Factors:** The Wisconsin Distributed Resources Collaborative (WIDRC) has spearheaded a voluntary effort to develop a consensus proposal for establishing Advanced Renewable Tariffs. This group has been meeting steadily on this issue since early 2006 to work out various methodological and economic issues associated purchasing renewable electricity from customer-generators. The current proposal before the body recommends a biogas tariff of 10 cents/kWh for

systems up to 500 kW, and nine cents/kWh between 500 kW and one megawatt. This initiative has prompted two separate utility proposals this year to establish technology-specific tariffs, and they are both under consideration by the PSC. One, offered by Madison Gas & Electric, would buy back solar-generated electricity from its customers at a rate of 25 cents/kWh. The other, ~~proposed~~ ~~by~~from Xcel-Northern States Power, proposes a biogas rate of 7.3 cents/kWh and a wind energy rate of 6.6 cents/kWh. It is interesting to note that while these proposed tariffs are higher than the utilities' respective parallel generation rates, they are below the production costs of the technology to be incentivized. Their success in stimulating customer-sited distributed renewable generation wholly depends on other financial support external to the utility tariff, such as federal tax credits and Focus on Energy incentives.

Wisconsin Global Warming Task Force Workgroup-“Emissions Data Feedback Policy”
Draft 10-12-2007-Linzmeyer

1. Workgroup:
 - a. Industry Work Group
2. Policy Name:
3. **Wisconsin Sustainability Council will be a statewide advocate, policy advisor and catalyst for Business and Industry to embrace environmentally sustainable practices with the outcome of significantly reducing consumption and their carbon footprint. One of its main functions would be to explore opportunities for companies and organizations for recognition for early actions of going beyond “business as usual” or “beyond compliance”.**
 - a. 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.

In addition to its role described above, the sustainability council give suggested policy advice on the following issues;

- a) **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.
- b) **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.
- c) **Education**
 - a. Enhance outreach/extension/education about GHG reduction to business, especially small to medium sized business.
4. **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
5. **Affected Sectors, Sub-Sectors and/or Entities:**
 - a. All Industry Sectors, Sub-Sectors, and Entities (Facilities)
 - b. Focus on Energy
 - c. Green Tier
 - d. WMEP
 - e. Research and Development
 - f. Manufacturing
 - g. Small entrepreneurs
 - h. UW and Technical College Systems.
6. **Estimated Greenhouse Gas Emissions Reduction Impact:**
 - a. Target should be 3-5% reduction annually from all sectors combined.
7. **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. WMEP, UW and Technical College Systems will take active role in initiation. 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.
8. **Specific Description of Policy Proposal:**
 - a. **The Wisconsin Sustainability Council**
 - i. The Wisconsin Sustainability Council 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
 - 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.
 - c. **Incentives**
 - i. The R&D Tax Credit increase policy would increase the R&D Tax Credit for Small Engines to 15% from 10%. This policy will help to solidify Wisconsin as a world leader in engine and power technology development

1. 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.
 - ii. 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, improved fuel economy, and 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 tends to be constrained by the time and money available in the context of many competing priorities. Wisconsin is fortunate that both the UW and Technical College Systems have existing outreach programs on energy efficiency so the information conduits already exist. What is proposed here is to enhance existing information flows and address current barriers to adoption of more energy efficient methods.
 1. 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
 - ii. Tax incentives. Provide a refundable tax credit for the purchase equipment or other capital expenditures that will result in quantifiable energy savings.
 - 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
- 9. Timetables, Duration and Stringency Option:**
- a. Expanding current programs
 - i. There should be no timetable set for elimination of these programs.
 - b. Program Funding
 - i. Funding beginning FY09 continuing annually through 2020
 - ii. Program review every 5 year
 - c. Incentives
 - i. . To maximize effectiveness, the incentives should be considered as continuous ongoing appropriations.
- 10. 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.
 - b. Wisconsin Industry could average a 3% reduction annually, which would reduce CO2 by 2.9 million tons annually.
 - c. GHG reductions will be calculated by project technology based upon the baseline calculation 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
- 11. 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.
- 12. Barriers to Implementation:**
- a. Adequate funding of government program resources, especially resources to administer data collection and reporting program; gather, collate, evaluate, disseminate, etc.
 - b. DNR regulations inhibit quick response of industry to invest and make changes in their operations. Construction Permits for GHG reduction need fast approvals.
 - c. Reluctance of Industry to believe in slow return on investments.
 - d. Energy costs are not part of capital budgets, thus unnoticed at many small and medium businesses.
 - e. Lack of internal education on what is available: Techniques, Tools, Resources, Funding, etc.
 - f. Lack of resources for energy management in small business
 - g. Third Party verification costs can be greater than savings. Industry Associations should help reduce these costs by providing these services.
 - h. The incentives would require legislative approval, including the appropriation of state revenue during a time when the budget is tight. 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.
- 13. 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. A more efficient use of public funds to focus on large energy users which give a higher GHG reduction per replacement. 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.

Wisconsin GWTF Industry Workgroup-“Emissions Data Feedback Policy”

Draft #2 10-15-2007 (Stringham)

1. Workgroup:

Industry

2. Policy Name:

Provide Data Feedback to Industry on Baseline GHG Emissions and GHG Emissions Reductions - immediate, medium, long term. This policy focuses on baseline and periodic industry emissions data collection and reporting; identification of tools to help industry measure and quantify emissions; establishing sector goals for GHG emissions reductions; adopting energy auditing and budgeting by industrial sector; providing convenient-to-use measuring devices (smart meters); and, finally, setting emissions reduction targets and measuring reductions in relation to impact on “quality” job metrics.

3. Policy Types:

- a. Legislation and funding authorization;
- b. Voluntary industry best practices systems;
- c. Legislation: special study of relationship between GHG reduction & economic and quality job metrics.

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

- a. All Industry Sectors, Sub-Sectors, and Entities (Facilities) using on-site power generating sources.

5. Estimated Greenhouse Gas Emissions Reduction Impact:

- a. Target should be 3-5% increment of reduction annually from all sectors beyond that achieved without the inventory, the publicized data feedback loop, and the array of tools deployed under this policy for moving facilities beyond routine compliance.

6. Estimated Costs:

- a. Companies investing in GHG emissions monitoring/reporting will see an initial investment of ?% on their present operating budgets. ROI's will depend on linkage between implementing GHG reduction initiatives and improving core production efficiencies.
- b. State government costs will include funding for 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.
- c. Industry associations will incur costs to create their own technical assistance programs and, possibly, incentive and loan programs, for use by members in acquiring and using special measuring devices.

7. Specific Description of Policy Proposal:

- a. Wisconsin Legislature should authorize and fund a program to collect baseline GHG emissions data and updated emissions data from facilities in key industrial sectors to establish, update, and publish a comprehensive, empirical emissions inventory. Ideally, this inventory will provide a reliable macro-measure of state industry emissions of GHG, as well as a facility-specific micro baseline measure, that will accomplish two objectives:
 1. quantify, using empirical means, the GHG gas emissions loading into the atmosphere from facilities and industry sectors for a specific baseline year in the near future; and
 2. establish GHG measurement protocol and industry reporting and feedback process,

procedure, and schedule to enable valid, empirical measurement of progress in reducing GHG emissions at the micro (facility) level and the macro (industry) level.

- b. Industry, through voluntary adoption of best practices and government encouragement, should adopt energy auditing and budgeting systems, including the establishment of publicized goals (reduction targets) for annual, short-term and long-term GHG emissions reductions, and GHG emissions reporting in relation to goals. Annually, industry should report results by sector and by facility.

8. Timetables, Duration and Stringency Option:

- a. Annual, depending on data collection/reporting costs and effectiveness for GHG emissions reporting. Scope, level of detail, types of GHG to be reported, frequency of data collection and reporting, and other details will establish the “stringency” of the requirement.

9. Explanation of Rough Estimate of GHG Reduction:

- a. If Wisconsin industry averaged a 3% reduction annually, it would reduce CO₂ by 2.9 million tons annually. NB: By comparison, at some companies, Toxic Release Inventory (TRI) reductions have averaged over 5% per year over 10+ year period.

10. Rough Estimate of Costs for Selected Years:

- a. Program management costs for state government, presumably the DNR, are minor, but still need to be specifically 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 need 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. Energy auditing protocols and procedures with respect to GHG emissions widely unknown to many small and medium businesses, especially.
- d. Lack of resources for energy auditing and GHG emissions monitoring and reporting.
- e. Lack of perceived short-term economic value from periodic GHG emissions data collection and reporting activity.

12. Other Factors:

- a. To be determined.

Subgroup Review Draft
10/15/07

**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 covering a range of fuels and boiler types 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. The estimated universe of industrial boilers in Wisconsin is approximately 3,000.
6. **Estimated Costs:** Evaluation of six boiler efficiency options showed:
 - a) Capital costs are variable because they are dependent on site-specific conditions, which are variable.
 - 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 could range from insignificant for small boilers at minor sources to significant for boilers at major sources regulated by the PSD/NSR program.
7. **Specific Description of Policy Proposal:**
 - a) Regulatory Incentives: Provide permitting relief for boiler efficiency projects. Provide expedited permit approvals.

Subgroup Review Draft
10/15/07

- b) Financial Incentives: Annual funding of \$5 million for grants and loans should be provided through the Focus on Energy Program. Funding purposes should include technical assistance, equipment purchases and installation costs. Alternatively, a larger one-time revolving low-interest loan program could be established.
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 Focus on Energy Program, could be accomplished within a year.
9. **Explanation of Rough Estimate of GHG Reductions**: Based on analysis of: (1) preheating demineralized water with secondary heat before steam heating; (2) installation of a steam accumulator to facilitate efficient control of steam header pressure; (3) installation of an ash reinjection system in a hog fuel boiler; (4) installation of a bark press or dryer to increase utilization of biofuels; (5) installation of additional heat recovery systems to lower losses with flue gases; and (6) implementation of an energy management system. From "Technologies for Reducing Carbon Dioxide Emissions: A Resource Manual for Pulp, Paper, and Wood Products Manufacturers," December 2001, NCASI and EKONO, Inc. Estimate of statewide boiler base from Department of Commerce records.
10. **Explanation of Rough Estimate of Costs**: See Item 9.
11. **Barriers to Implementation**:
- Potential limitations on regulatory incentives for major sources 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.

Policy (originally from balloting process)	Memo Team (leader in bold)	9/24/07	10/3/07	10/9/07	10/12/07	10/16/07
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	Rev. 3
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				Rev. 2?
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				Rev. 2?
Encourage or require reductions in emissions of high GWP gases	Dave Boyd	DISC.				
General incentives for conservation & efficiency & infrastructure	Scott Manley and Joe Muehlbach	DRAFT	Rev. 2			
Feebates	John Imes			Rev. 1		
Negotiated Agreements	John Imes					
Industry feedback mechanisms-Consolidated	Linzmeyer, et al. (yellow indicates original consolidated policies)				Rev. 1	Rev. 2

Workgroup Review Draft
10/16/07

**Wisconsin Global Warming Task Force
Industry Workgroup
Policy Option: Combined Heat & Power Incentives**

1. **Workgroup:** Industry
2. **Policy Name:** Incentives for combined heat and power projects at industrial facilities
3. **Policy Type:** Financial incentive; technical assistance
4. **Affected Sectors, Sub-Sectors and/or Entities:** Industrial facilities
5. **Estimated Greenhouse Gas Emissions Reduction Potential:**
6. **Estimated Costs:**
7. **Specific Description of Policy Proposal:**
 - a) Allow the Focus on Energy Program to provide incentives for projects that feed more than 50% of the generated electricity back to the grid and that result in a net greenhouse gas emission reduction. These large and potentially very beneficial projects are currently not eligible for funding unless fueled by renewables. Any project that results in a net GHG reduction should be eligible, regardless of fuel type.
 - b) Increase the Focus on Energy Program project cost cap for CHP projects from \$3 million to \$15 million. CHP projects are typically very expensive and \$3 million does not provide sufficient influence on the economics of a project.
8. **Timetables, Duration and Stringency Option:**
9. **Explanation of Rough Estimate of GHG Reductions:**
10. **Explanation of Rough Estimate of Costs:**
11. **Barriers to Implementation:** \$\$\$\$\$

**Governor's Task Force on Global Warming
Industry Work Group
Date: Tuesday, October 16, 2007 9:00 am – 12:00 noon
Location: Country conference room B, Oshkosh DNR Service Center,
625 E. County Road Y, Oshkosh**

Meeting Notes

In Attendance:

David Oughton	Scott Manley
David Stringham	Caryl Terrell
Ed Wilusz	John Imes
Steve Steinpreis	Joe Muehlbach
Charles Cole	David Boyd
Nick Sayen	

- 1) Welcome and review of agenda
 - a. There were no changes made to the agenda
- 2) Open meetings issues and questions
 - a. There were no questions or issues with the Open Meetings law
- 3) Discussion of new and revised policy templates
 - a. Satya's CHP/other templates
 - i. The group began with Satya's suggestion of the Elec. Gen. CHP template
 1. It was decided to write a memo endorsing the Elec. Gen. template with a few issues highlighted:
 - a. reference to PA Act 36 should not be as a 'model' of legislation if it is now controversial and being reconsidered
 - b. support should be given to all boiler types – not just Cyclones
 - c. there should be two paragraphs added – these come from Ed Wilusz's CHP template
 - d. language from the Fuel Switching template, section 2b about market equilibrium of woody-biomass ought to be included
 - e. the size of project grant cap could be capped, but the size of the facility should not be (low interest loans from Focus on Energy may be necessary to complete project)
 - f. feasibility section ought to include language about incentives based on USE (per kWh) instead of INSTALLATION (per MW) – FL example
 - ii. Production Tax Credit
 1. the group felt this complimented the CHP template well, but that the scale should be adjusted from residential (small) to industrial/commercial
 2. the group felt that this should be structured as a feasibility study of a program with perhaps a 10 year sunset with sensitivity given to: i) infrastructure improvements/investments that may result and ii) the woody bio-mass market equilibrium
 - iii. Rate structure for CHP

1. the group was confused by this template and was unable to find a concrete policy recommendation
- iv. Retooling Industry
 1. the group felt that this material (specifically Industrial Development Bonds) was most appropriate as a component of the broader ‘general incentives’ template
- v. Workforce development
 1. the group felt that this material could be added into the similar template from Clare
- vi. The group did not discuss the following material from Satya:
 1. advanced renewable tariffs template
 2. incentives for distributed generation (this was not included in the emailed packet of information from Satya)
- b. Paul’s Consolidated template
 - i. There was a substantial and extended conversation about how to handle Paul’s Consolidated template.
 - ii. There was thorough weight given to the pros and cons of leaving the paper in its current (Consolidated) form versus breaking the paper back into its original components
 - iii. During this conversation a number of noteworthy themes were brought up:
 1. Incentives seem to be the common theme of the templates; some lend themselves well to quantification of GHGs, others do not
 2. A Cap & Trade system seemed inevitable to some members, there was a suggestion the group ought to weigh in officially on how that Cap & Trade system should be structured – this suggestion was not acted upon
 3. specific ways to adjust Focus On Energy were identified, specifically regard the timeline of R.O.I.:
 - a. 2-5 years – provide grants
 - b. 5-7 years – no interest loans
 - c. 7-9 years – low interest loans
 - iv. In the end the group reached consensus that Paul’s Consolidated paper should be broken into its original components, with some additions to the original components
- c. Dave S’s Emissions Data Feedback (metrics) template
 - i. Dave began the conversation about his template, then turned the floor over to Dave Boyd to discuss his calculations regarding CO2 emissions
 1. Dave Boyd researched the Cap & Trade proposals from the Cap & Trade/Carbon Tax Work Group and found that the bottom range of emitters that would be included in the program ranged from 10,000 mt/yr to 25,000 mt/yr
 2. he then made calculations about how much natural gas a facility would be using in order to emit that many tons (assuming that natural gas would be the most likely fuel for smaller WI facilities)
 3. his calculations showed a facility would have a boiler of the approximate size: 45M Btu/hr
 4. given this size boiler he made the following conclusions:

- a. the facility operator would be fairly sophisticated and likely familiar with reporting emissions already
 - b. the facility would likely already be reporting some emissions because they would be over the 5 ton/year NO_x threshold
 - c. it would not be a significant burden to include the reporting of CO₂ emissions
 - ii. Thus Dave S. and Dave B. suggested that the template include that the Wisconsin Air Emissions Inventory adopt the reporting threshold of 10,000 mt/yr or 25,000 mt/yr
 - iii. In order to provide as much useful information to the businesses involved, as well as provide transparency to the public, the AEI reporting threshold should depend upon the Cap & Trade threshold adopted, with the AEI threshold set below the Cap & Trade threshold – e.g. if C&T = 50,000 mt/yr, then AEI = 25,000 mt/yr, if C&T = 25,000 mt/yr, then AEI = 10,000 mt/yr
 - iv. There was some questions and debate on this, however the group ultimately reached consensus
 - d. Ed's updated boiler efficiency template
 - i. The group reviewed changes from the previous version of this template which included:
 - 1. the inclusion of 3,000 boilers, per the Dept. of Commerce database
- 4) Review 'big picture' – status of all templates
- 5) Decide on next steps, determine future meeting times and locations
- a. Dave S. will update his template
 - b. As part of breaking apart Paul's Consolidated template, Steve S., and Scott would update their individual templates with Steve incorporating Ed's concept of 'one-stop-shopping' for CO₂ information
 - c. Caryl will attempt to finish Paul's original template (before he Consolidated) creating a recognition system
 - d. There will be a cover memo written for Paul in order to help him prepare for his presentation to the Task Force on 11/2
 - i. The memo will be drafted by Scott and Ed for review by whole group. The memo will be finalized by the co-chairs.
 - ii. The memo will include:
 - 1. 4 priorities from Scott Johnson's slide show
 - 2. Themes are recognition of early adopters, increase business participation in existing programs and adding additional incentives to deal with the disconnect between operating and capital budgets with incentives to tip the ROI and get projects done.
 - 3. Enable businesses through R&D, I&E and 'one-stop-shopping' to capture the cost savings and competitive advantage of energy conservation and reducing GHG
 - 4. Emphasizing incentives over regulations and mandates.
 - e. A future meeting date was left open, pending the groups electronic review of edited templates