

MEETING NOTICE

**Governor's Task Force on Global Warming
Carbon Tax/Cap and Trade Work Group
Date: Monday, October 8, 2007, 12:00 p.m. to 3:00 p.m.
Location: Commerce/WHEDA Building
First Floor Conference Room
201 West Washington Avenue, Madison, Wisconsin**

AGENDA

- 1) Welcome/Housekeeping announcements
- 2) Review (as necessary) revised policy templates.
- 3) Discussion about and construction of policy package to Task Force
- 4) Public comment
- 5) Next Steps/Adjourn

This meeting is open to the public.

If you have any questions or need special accommodations, please contact Lisa Stefanik at the Public Service Commission of Wisconsin by telephone at (608) 266-1125 or via e-mail at lisa.stefanik@psc.state.wi.us.

Wisconsin Global Warming Task Force Work Group

1. **Work Group:** Carbon cap-and-trade/tax work group.
2. **Policy Name:** Cap-and-trade program.
3. **Policy Type:** Legislation with regulatory implementation and enforcement.
4. **Affected Sectors, Sub-Sectors and/or Entities:** Electric generation, industry, commercial.
5. **Estimated Greenhouse Gas Emissions Reductions Impact:** Based on the comparison of the business-as-usual case against the cap-and-trade reduction requirements, by 2020 emission reductions of _____ million tons are predicted. [WRI is working to prepare this estimate].
6. **Estimated Costs:** Substantial administrative costs are projected to establish, operate, and oversee the cap-and-trade program. Other costs anticipated are the amounts paid by regulated entities to purchase allowances. ~~For example, if~~ A larger (e.g., multi-state) market for the cap-and-trade program is likely to be more efficient and therefore the cost of allowances is likely to be lower. If the trading market prices allowance at \$_____10 per metric ton, then the direct costs of the allowance program for all covered sources would be approximately \$_____— million per year. ~~However~~ [WRI is working to prepare input to determine this number]. It should be noted that these covered sources may be able to pass on all or part of these costs to the customers. In addition, the money collected from the purchase of allowances will be used to off-set present public benefits program funding, pay for additional public benefits-related programs, and other carbon-reducing activities, with the remainder of the funds returned to rate payers and/or Wisconsin tax payers.
7. **Specific Description of Policy Proposal:** Below are the key elements of the cap-and-trade program:

Design Elements:

a. **Stringency:**

Covered emissions would be reduced to their 1990 levels by 2020. According to WRI's emissions inventory for Wisconsin, estimated 1990 emissions from covered sources in the Industrial, Commercial and Electric Generation sectors were approximately _____ million metric tons ~~[we will need to request that WRI provide us with the 1990 emissions from the covered sources. [WRI is working to prepare this number].~~ Projections for 2020 ~~business~~ business as usual emissions are _____. [WRI is preparing input to determine this number]. In order to ensure that the Governor's reduction goals are met, there would be no cap on the price of allowances.

b. **Schedule:**

~~In 2010, The cap-and-trade program should be implemented as soon as possible. However, it should be noted that it likely will take two years for implementation of the cap-and-trade from the passage of any legislation. Assuming the process can move forward relatively quickly, but allowing sufficient time to make sure that the various cap-and-trade issues are properly addressed, in 2011,~~ emissions would be capped at 2009 levels and then reduced gradually to meet the 1990 level target in 2020.

c. **Covered sources:**

Existing and new point-source, direct emitters of CO₂, in the electric generation and other industrial sectors. Specifically, fossil fuel-fired electric generation units with a nameplate capacity of 25MW or higher or that emit 25,000 metric tons of CO₂ equivalents or more annually; as well as stationary fossil fuel-fired combustion units that emit 25,000 metric tons of CO₂ ~~[or CO₂-equivalents]⁺~~ or more annually [**we will need to determine based on WRI data whether 25,000 metric tons is the appropriate cut-off point in Wisconsin in light of the desire to cover as many emissions as possible, but also to avoid covering sources that do not add much to the overall greenhouse gas emissions from the Industrial, Commercial and Electric Generation sectors**] (see Table 1 below for alternative threshold levels) would be covered at the start of the program. Also all electrical energy imported to the state would be subject to this cap. Other sectors, smaller sources within covered sectors and GHGs other than CO₂ may be included over time if technically feasible and not duplicative in order to make the market more robust and efficient while also potentially achieving greater emission reductions at least cost.

d. **Recognition of early action:**

Starting in 2008, covered sources that have achieved GHG reductions prior to implementation of the program would be rewarded for their actions. GHG reductions would need to be confirmed through verification of a source's own inventory or through the registration of emission reductions in a recognized GHG reporting program. In any event, generally accepted GHG accounting principles must be used for reporting early action reductions.

Modeling Assumption: Early action credits for reductions achieved from 2008-~~2009-2010.~~

e. **Linkages with other programs outside of Wisconsin:**

The preference is for an independent but regional cap-and-trade program (e.g., not RGGI or the emerging Western states program) that will be linked to other emissions markets ~~and potentially combined into a larger Midwestern states market.~~ Efforts would be made early in the design process to harmonize a Wisconsin program with existing and emerging state and international systems. Linkages or regional market development would be explored with Midwest states in particular.

⁺~~The program could be modified to include CO₂-equivalent emissions from large stationary sources. In particular, some sources may have N₂O or CH₄ emissions that may be easier or less expensive to control or reduce. There is no particular issue in including N₂O and CH₄ in their CO₂-equivalent amounts in a trading program, as long as they are treated in their equivalent form in the relevant baseline.~~

Modeling Assumption: The All-In modeling run will include linkages to RGGI. Under this run, regulated entities in Wisconsin (and the RGGI states) could buy EU allowances if the RGGI allowance price exceeds \$10. Allowances can flow between Wisconsin and the RGGI states but cannot flow from Wisconsin and the RGGI states to the EU. Also a sensitivity run will include linkages to ~~Michigan, Minnesota, and Illinois to simulate a Midwestern market of Wisconsin and those states~~ any state that signs on to Level 4 at the Midwest Conference of Governors.

f. **Distribution of allowances:**

Cap-and-trade programs can allocate allowances to covered GHG emitters, auction the allowances, or allocate part of the allowances and auction the rest. Auctioning allowances allows for the creation of a fund of money that could be used for energy efficiency programs and other carbon-reducing activities. If the monies used by the fund are used to help fund negative cost GHG-reducing items, which could include energy efficiency programs, these funds could provide economic as well as GHG reduction benefits. The money from an auction could also be used to assist low income individuals, who tend to use a larger percentage of their income for energy, and/or to off-set costs to energy customers generally. Finally, auction funds could be used to lower marginal tax rates, which could lower the overall economic costs of a cap-and-trade program from what they would be if allowances were allocated or were auctioned without any off-setting decrease in tax rates.

~~At~~ Under this policy proposal, at least 85 percent of all allowances would be auctioned. All revenue generated by the auctioning of allowances would be ~~recycled and~~ placed in a separate state investment board fund to be directed to purposes that benefit the public and/or returned to rate payers and/or tax payers. Possible activities that would receive funds would include those funded by the state's present public benefits program, as well as additional greenhouse gas-reducing activities. The revenues generated by the sale of allowances would first off-set those funded by the state's present public benefits program, and then be used for additional public benefits or other greenhouse gas-reduction programming, with any remaining funds returned to rate payers and/or tax payers. The determination of the type and amount of any public benefits and/or other greenhouse gas-reduction programming to be funded above the present level would be determined by the full task force based on the need to finance greenhouse gas-reducing efforts. The allocation methodology for any non-auctioned allowances would be determined by a subsequent stakeholder process and could include the allocation of allowances based on early action GHG reductions. The share of auctioned allowances may also be re-examined in this stakeholder process.

Modeling Assumption: The All-In run assumes auction revenues are spent as follows: _____% energy efficiency, _____% renewables, and the remaining _____% divided between program administration and low-income energy assistance. An additional sensitivity run would attempt to model the GHG reductions and/or cost savings in achieving GHG reductions that can be achieved by using auction revenues for energy efficiency and other carbon reduction efforts.

g. **Offsets:**

Regulated sources could use credits generated from offset projects in unregulated sectors to help meet up to 10 percent of their reduction requirements in any given year. The program should allow for a wide range of eligible offset projects, as long as the GHG reductions are real, permanent, additional and verifiable. Though offsets generated in Wisconsin are preferred, eligible offset categories and the geographic source of offset credits would be determined through a subsequent stakeholder process. [In addition, the subsequent stakeholder process would determine the extent to which the 10% cap on the use of off-sets should be lifted if the price of allowances exceeds certain thresholds.](#)

Modeling Assumption: Regulated entities can buy CDM credits under the All-In scenario in accordance with proposed offset rules stated above. Regulated entities in the RGGI states and Wisconsin can use RGGI and Wisconsin offsets. Under the sensitivity run, regulated entities in Wisconsin can purchase off-sets from sources in Illinois, Minnesota, and Michigan, as well as those in Wisconsin and RGGI states.

[h. Monitoring, measurement, verification, and reporting requirements:](#)

[The cap-and-trade program would contain requirements for monitoring and measurement of GHG emissions from covered sources. It would also require verification of that monitoring and measurement, as well as reporting of the results to the regulatory agency that would oversee and enforce the program.](#)

8. **Timetables, Duration, and Stringency Option:** The timetable is implicit in this policy recommendation (i.e., commences 2010 and runs through 2020 and beyond). The duration is until changed by law. This policy should be regarded as stringent as a result of PSC and/or DNR enforcement of cap requirements.

9. **Explanation of Rough Estimate of GHG Reductions:** Since the cap-and-trade program sets a limit for the emissions from the covered sectors, reductions can be calculated by comparing that cap against the projected emissions under the reference case for the covered sources.

10. **Rough Estimate of Costs for Selected Years:** The projected administrative costs for this program are approximately \$_____ per year. The cost of this program can be funded from a portion of the funds received from the sale of allowances.

11. **Barriers to Implementation:** The major barrier to implementation of this policy is the need for legislation to implement it. Opposition may come from the covered sectors as well as larger electric customers that may believe that this requirement may increase their electricity costs. However, this policy is considered to be one of the most efficient ways of addressing greenhouse gas emissions, as Illinois modeling has also shown. In addition, since the funds with the auction of credits would be used to off-set other costs, it may be perceived as being cost neutral over all.

12. **Other Factors:** It is important to note that other requirements and incentives for greenhouse gas reductions in the covered sectors may reduce the financial impacts of the cap-and-trade program. For example, if the renewable portfolio standard is substantially enhanced, that requirement would help to reduce the greenhouse gas emissions associated with

electric generation and thereby decrease the amount additional reductions needed to meet the cap. Also, the use of monies raised by the sale of allowances for public benefits-related programs and other greenhouse gas-reducing activities should further help Wisconsin to meet its greenhouse gas reduction targets.

Table 1: Estimate of covered emissions and number of facilities under three potential emissions thresholds.

	All emitters	>25,000 tonnes CO₂/year	>75,000 tonnes CO₂/year
Estimated covered CO ₂ emissions (metric tons CO ₂)	_____	_____	_____
Percentage of total emissions covered by program	100%	_____%	_____%
Estimated number of facilities covered by program	_____	_____	_____
Percentage of total facilities covered by program	100%	_____%	_____%

Source: _____.

Wisconsin Climate Change Advisory Group

- a. **Work Group:** Carbon cap-and-trade/tax work group.
- b. **Policy Name:** Expanded Cap-and-trade program.
- c. **Policy Type:** Legislation with regulatory implementation and enforcement.
- d. **Affected Sectors, Sub-Sectors and/or Entities:** Electric generation, industry, commercial, residential, waste, and agricultural.
- e. **Estimated Greenhouse Gas Emissions Reductions Impact:** Based on the comparison of the business-as-usual case against the cap-and-trade reduction requirements, by 2020 emission reductions of _____ million tons are predicted. [WRI is working to prepare this estimate].
- f. **Estimated Costs:** Substantial administrative costs are projected to establish, operate, and oversee the cap-and-trade program. Other costs anticipated are the amounts paid by regulated entities to purchase allowances. ~~For example, if~~ A larger (e.g., multi-state) market for the cap-and-trade program is likely to be more efficient and therefore the cost of allowances is likely to be lower. If the trading market prices allowances at \$~~_____~~10 per metric ton, then the direct costs of the allowance program for all covered sources would be approximately \$_____ million per year. ~~However~~ [WRI is working to prepare input to determine this number]. It should be noted that these covered sources may be able to pass on all or part of these costs to the customers. In addition, the money collected from the purchase of allowances will be used to off-set present public benefits program funding, pay for additional public benefits-related programs, and other carbon-reducing activities, with the remainder of the funds returned to rate payers and/or Wisconsin tax payers.
- g. **Specific Description of Policy Proposal:** Below are the key elements of the cap-and-trade program:

Design Elements:

13. Stringency:

Covered emissions would be reduced to their 1990 levels by 2020. According to WRI's emissions inventory for Wisconsin, estimated 1990 emissions from covered sources in the Industrial, Commercial, Electric Generation, Residential, Transportation, Agriculture, and Waste sectors were approximately _____ million metric tons. ~~[We will need to request that WRI provide us with the 1990 emissions from the covered sources~~ WRI is working to prepare this number]. Projections for 2020 business as usual emissions are _____. [WRI is preparing input to determine this number]. In order to ensure that the Governor's reduction goals are met, there would be no cap on the price of allowances.

14. Schedule:

In 2010, The cap-and-trade program should be implemented as soon as possible. However, it should be noted that it likely will take two years for implementation of the cap-and-trade from the passage of any legislation. Assuming the process can move forward relatively quickly, but allowing sufficient time to make sure that the various cap-and-trade issues are properly addressed, in 2011, emissions would be capped at 2009 levels and then reduced gradually to meet the 1990 level target in 2020.

15. Covered sources:

Existing and new point-source, direct emitters of CO₂, in the electric generation and other industrial sectors. Specifically, fossil fuel-fired electric generation units with a nameplate capacity of 25MW or higher or that emit 25,000 metric tons of CO₂ equivalents or more annually; as well as stationary fossil fuel-fired combustion units that emit 25,000 metric tons of CO₂ ~~for CO₂-equivalents~~⁺ or more annually (together “Large Fossil Fuel-Fired Units”) **[we will need to determine based on WRI data whether 25,000 metric tons is the appropriate cut-off point in Wisconsin in light of the desire to cover as many emissions as possible, but also to avoid covering sources that do not add much to the overall greenhouse gas emissions from the Industrial, Commercial and Electric Generation sectors]** (see Table 1 below for alternative threshold levels) would be covered at the start of the program. Also, all electrical energy imported to the state would be subject to this cap. In addition, the appropriate supply chain level of natural gas, coal, diesel fuel, and gasoline not used by Large Fossil Fuel-Fired Units would be subject to the cap. Solid waste disposal facilities and combined animal feed lot operations that emit 25,000 metric tons of CO₂ equivalents **[we will need to check with WRI or Winrock to determine if this is the appropriate threshold to use]** or more annually would also be subject to the cap (see Table 2 below for alternative threshold levels).

16. Recognition of early action:

Starting in 2008, covered sources that have achieved GHG reductions prior to implementation of the program would be rewarded for their actions. GHG reductions would need to be confirmed through verification of a source’s own inventory or through the registration of emission reductions in a recognized GHG reporting program. In any event, generally accepted GHG accounting principles must be used for reporting early action reductions.

Modeling Assumption: Early action credits for reductions achieved from 2008-~~2009~~2010.

17. Linkages with other programs outside of Wisconsin:

The preference is for an independent but regional cap-and-trade program (e.g., not RGGI or the emerging Western states program) that will be linked to other emissions markets ~~and potentially combined into a larger Midwestern states market~~. Efforts would be made early in the design process to harmonize a Wisconsin program with existing and emerging state and

⁺~~The program could be modified to include CO₂-equivalent emissions from large stationary sources. In particular, some sources may have N₂O or CH₄ emissions that may be easier or less expensive to control or reduce. There is no particular issue in including N₂O and CH₄ in their CO₂-equivalent amounts in a trading program, as long as they are treated in their equivalent form in the relevant baseline.~~

international systems. Linkages or regional market development would be explored with Midwest states in particular.

Modeling Assumption: The All-In modeling run will include linkages to RGGI. Under this run, regulated entities in Wisconsin (and the RGGI states) could buy EU allowances if the RGGI allowance price exceeds \$10. Allowances can flow between Wisconsin and the RGGI states but cannot flow from Wisconsin and the RGGI states to the EU. Also a sensitivity run will include linkages to ~~Michigan, Minnesota, and Illinois to simulate a Midwestern market of Wisconsin and those states~~ any state that signs on to Level 4 at the Midwest Conference of Governors.

18. Distribution of allowances:

Cap-and-trade programs can allocate allowances to covered GHG emitters, auction the allowances, or allocate part of the allowances and auction the rest. Auctioning allowances allows for the creation of a fund of money that could be used for energy efficiency programs and other carbon-reducing activities. If the monies used by the fund are used to help fund negative cost GHG-reducing items, which could include energy efficiency programs, these funds could provide economic as well as GHG reduction benefits. The money from an auction could also be used to assist low income individuals, who tend to use a larger percentage of their income for energy, and/or to off-set costs to energy customers generally. Finally, auction funds could be used to lower marginal tax rates, which could lower the overall economic costs of a cap-and-trade program from what they would be if allowances were allocated or were auctioned without any off-setting decrease in tax rates.

~~At~~Under this policy proposal, at least 85 percent of all allowances would be auctioned. All revenue generated by the auctioning of allowances would be ~~recycled and~~ placed in a separate state investment board fund to be directed to purposes that benefit the public and/or returned to rate payers and/or tax payers. Possible activities that would receive funds would include those funded by the state's present public benefits program, as well as additional greenhouse gas-reducing activities. The revenues generated by the sale of allowances would first off-set those funded by the state's present public benefits program, and then be used for additional public benefits or other greenhouse gas-reduction programming, with any remaining funds returned to rate payers and/or tax payers. The determination of the type and amount of any public benefits and/or other greenhouse gas-reduction programming to be funded above the present level would be determined by the full task force based on the need to finance greenhouse gas-reducing efforts. The allocation methodology for any non-auctioned allowances would be determined by a subsequent stakeholder process and could include the allocation of allowances based on early action GHG reductions. The share of auctioned allowances may also be re-examined in this stakeholder process.

Modeling Assumption: The All-In run assumes auction revenues are spent as follows: ____% energy efficiency, ____% renewables, and the remaining ____% divided between program administration and low-income energy assistance. An additional sensitivity run would attempt to model the GHG reductions and/or cost savings in achieving GHG

reductions that can be achieved by using auction revenues for energy efficiency and other carbon reduction efforts.

19. **Offsets:**

Regulated sources could use credits generated from offset projects in unregulated sectors to help meet up to 10 percent of their reduction requirements in any given year. The program should allow for a wide range of eligible offset projects, as long as the GHG reductions are real, permanent, additional and verifiable. Though offsets generated in Wisconsin are preferred, eligible offset categories and the geographic source of offset credits would be determined through a subsequent stakeholder process. In addition, the subsequent stakeholder process would determine the extent to which the 10% cap on the use of off-sets should be lifted if the price of allowances exceeds certain thresholds.

Modeling Assumption: Regulated entities can buy CDM credits under the All-In scenario in accordance with proposed offset rules stated above. Regulated entities in the RGGI states and Wisconsin can use RGGI and Wisconsin offsets. Under the sensitivity run, regulated entities in Wisconsin can purchase off-sets from sources in Illinois, Minnesota, and Michigan, as well as those in Wisconsin and RGGI states.

t. **Monitoring, measurement, verification, and reporting requirements:**

The cap-and-trade program would contain requirements for monitoring and measurement of GHG emissions from covered sources. It would also require verification of that monitoring and measurement, as well as reporting of the results of the regulatory agency that would oversee and enforce the program.

h. **Timetables, Duration, and Stringency Option:** The timetable is implicit in this policy recommendation (i.e., commences 2010 and runs through 2020 and beyond). The duration is until changed by law. This policy should be regarded as stringent as a result of PSC and/or DNR enforcement of cap requirements.

i. **Explanation of Rough Estimate of GHG Reductions:** Since the cap-and-trade program sets a limit for the emissions from the covered sectors, reductions can be calculated by comparing that cap against the projected emissions under the reference case for the covered sources.

j. **Rough Estimate of Costs for Selected Years:** The projected administrative costs for this program are approximately \$_____ per year. The cost of this program can be funded from a portion of the funds received from the sale of allowances.

k. **Barriers to Implementation:** The major barrier to implementation of this policy is the need for legislation to implement it. Opposition may come from the covered sectors as well as larger electric customers that may believe that this requirement may increase their electricity costs. However, this policy is considered to be one of the most efficient ways of addressing greenhouse gas emissions, as Illinois modeling has also shown. In addition, since the funds with the auction of credits would be used to off-set other costs, it may be perceived as being cost neutral over all.

1. **Other Factors:** It is important to note that other requirements and incentives for greenhouse gas reductions in the covered sectors may reduce the financial impacts of the cap-and-trade programs. For example, if the renewable portfolio standard is substantially enhanced, that requirement would help to reduce the greenhouse gas emissions associated with electric generation and thereby decrease the amount additional reductions needed to meet the cap. Also, the use of monies raised by the sale of allowances for public benefits-related programs and other greenhouse gas-reducing activities should further help Wisconsin to meet its greenhouse gas reduction targets.

Table 1: Estimate of covered emissions and number of industrial, commercial, and electric generation facilities under three potential emissions thresholds.

	All emitters	>25,000 tonnes CO ₂ /year	>75,000 tonnes CO ₂ /year
Estimated covered CO ₂ emissions (metric tons CO ₂)	_____	_____	_____
Percentage of total emissions covered by program	100%	_____%	_____%
Estimated number of facilities covered by program	_____	_____	_____
Percentage of total facilities covered by program	100%	_____%	_____%

Source: _____.

Table 2: Estimate of covered emissions and number of waste and agricultural facilities under three potential emissions thresholds.

	All emitters	>25,000 tonnes CO ₂ /year	>75,000 tonnes CO ₂ /year
Estimated covered CO ₂ emissions (metric tons CO ₂)	_____	_____	_____

Percentage of total emissions covered by program	100%	_____%	_____%
Estimated number of facilities covered by program	_____	_____	_____
Percentage of total facilities covered by program	100%	_____%	_____%

Source: _____.

Wisconsin Global Warming Task Force Workgroup Template for Presentation Policy Options

1. **Workgroup:** Carbon Tax / Cap and Trade
2. **Policy Name:** Carbon Tax
3. **Policy Type:** market based mechanism
4. **Affected Sectors, Sub-Sectors and/or Entities:**

The carbon tax policy will affect fossil fuel producers, importers and users in Wisconsin.

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.)*

TBD. Tax levels will be phased in and adjusted over time to achieve the required amount of reduction. Emissions impacts will be uncertain in the short-term - this is the trade-off between having either certain emissions levels (e.g., under a cap) or certain compliance costs. Because of the nature of CO₂ emissions and global climate change, the additional uncertainty in reductions that the tax will allow in the short term is less of a concern provided long term goals are met. Publishing a schedule of expected tax rates, with alternatives based on resulting emissions levels, would give the regulated community important information for their compliance planning.

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.)*

TBD. Revenues collected through the carbon tax could be used to pay for administrative costs. If the cost-benefit analysis includes societal costs and benefits, some studies indicate that

increased fuel taxes can have a net societal benefit.¹ Assuming a revenue neutral or tax shifting program, costs of redistribution of revenues for different options should be considered as well.

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.)*

The State of Wisconsin can institute a carbon tax on fossil fuels burned in the state with the purpose of reducing GHGs. The carbon tax may be levied based on the carbon content of the fuels produced, purchased or used. In situations when fossil fuel combustion results in emissions of other GHGs the source will need to be taxed directly for those emissions based on CO₂ equivalents (because the emissions are not dependent on the carbon content of the fossil fuel), or regulators will need to address these other higher potency greenhouse gases in some other way. Fuels with higher carbon to energy ratios will become more expensive relative to lower- or no-carbon fuels motivating fuel switching when possible as well as conservation.

The carbon tax can be collected at various points in the process depending on what is practicable. The further upstream the tax is levied, the less carbon leaks out through uncovered activities like oil-field processing, and the smaller the number of sources to be regulated.”² For Wisconsin, lacking oil, natural gas, or coal production, taxes will have to be on imports of each, or further downstream with the increased potential for leaks.

If taxes are collected provisions must be made for use of revenues. Tax revenues can be redistributed to residents of the state in a number of ways:

1. via income or sales tax reductions to the populations most affected by the increased fuel costs
2. through increased funding of public benefits programs with a focus on further reducing CO₂ emissions
3. to encourage business development or technology development for CO₂ reducing technologies and services
4. to aid industries or sectors with disproportionate adverse effects from the tax in transitioning to new lower carbon strategies

Considerations should include the progressiveness or regressiveness of the tax being collected and of that being offset. State income taxes are typically considered to be somewhat progressive. Providing taxpayers with a flat rebate amount could make them even more progressive whereas giving each taxpayer a flat amount of deduction would create a lesser increase in progressiveness. Alternatively, sales taxes are considered to be regressive because wealthier people tend to save more and so have a smaller proportion of their income subject to sales taxes. Therefore, reducing the state sales tax will

¹ Parry I, “On the Costs of Policies to Reduce Greenhouse Gases from Passenger Vehicles,” Resources for the Future (www.rff.org), Discussion Paper 06-14, March 2006. In this paper, Parry examines policy costs including local pollution emissions, energy security, highway congestion, and accidents, and finds large net benefits, especially with taxes based on vehicle mileage.

² Kolstad C and Toman M, “The Economics of Climate Policy,” Discussion Paper 00-40REV, Resources for the Future (www.rff.org) June 2001.

also reduce the tax regressiveness.³ Another possible use for collected revenues is to fund additional carbon reductions through public benefits programs or to support other CO₂ reduction programs in the state.

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

Carbon tax policies should be phased in with gradually increasing tax rates until reduction goals are reached. Taxes should be applied according to a pre-set schedule of increases to allow affected sources the greatest certainty in developing emissions strategies. In addition, the schedule should include points at which policy evaluation and possible schedule adjustments may occur, and should give some indications of what the adjustments could be for different evaluation findings. The scheduled gradually increasing tax rate will give regulators an indication of regular feedback on how the market will respond to prices in terms of CO₂ reductions so that any need to adjust the scheduled adjustments to the tax can be minimized.

9. Explanation of Rough Estimate of GHG Reductions: *(Concise, transparent and well-referenced 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 CO₂ or other GHG.)*

CO₂ reduction effects must be measured for the scheduled tax amounts. The most immediate effect of a carbon tax will be increased fuel costs which will lead to:

- Vehicle owners driving less and/or seeking out lower carbon fuels which will be relatively cheaper
- Vehicle buyers seeking out more fuel-efficient vehicles or flex-fuel vehicles
- Small stationary combustion sources exploring options for renewable fuels, and alternative low carbon fuels such as biomass
- Energy users in all sectors experiencing increased energy costs
- Use of revenues to fund additional CO₂ reduction efforts.

Each of these market effects will need to be calculated to produce an emissions reduction estimate.

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.)*

Carbon tax policies could potentially have lower administrative costs due to lower complexity than cap and trade programs. However, during the design phase they will still need to address issues with wealth redistribution that promise to be very contentious.

The policy itself should be zero net cost because administrative costs are paid out of tax revenues. Imposition of the tax could actually be an overall net benefit for society when additional associated externalities from fossil fuel use are included in the evaluation (see item 6 and footnote).

³ Gilbert Metcalf makes the case that carbon tax policy as part of a tax reform package (i.e., when revenue uses are considered) can have whatever degree of progressiveness policy makers desire. Metcalf G, "Tax Reform and the Environment: Paying for Fundamental Tax Reform," white paper, June 6, 2005, Tufts University.

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.)*

1. Political aversion to new taxes – few examples of implemented carbon taxes exist from which experiences can be drawn and there are no state carbon tax programs in the United States.⁴ Conscientious and strategic use of revenues coupled with changes in the political climate may make this barrier less important.
2. Certain options for taxing fuels will not be available (e.g., at production or blending point).
3. Ability to counteract leakage effects may be limited, making CO₂ reductions less verifiable, although leakage effects will be an issue for any market-based state policies.
4. Program design will need to include safeguards to prevent tax revenues from being sent to the general revenue fund; these revenues should be used to correct market issues and inequities created by the tax or to fund CO₂ reductions.

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.)*

1. Carbon tax policies must be compatible with GHG policies in neighboring states. Designers need to consider border issues.
2. Carbon tax and allowance programs with auction distribution are the only two options that produce revenue that can be used to counteract program costs for affected parties as well as administration (e.g., a carbon tax may be able to use existing administrative infrastructure whereas an allowance auction would require new structure and functions).
3. Key trade-off: a tax can provide compliance cost certainty, but not reduction amount certainty, while cap and trade can provide reduction amount certainty but no compliance cost certainty.
4. A cap and trade policy with a “safety valve” (i.e., in the event prices reach a certain level, sources can buy an unlimited number of allowances at that price) will function in much the same way as a carbon tax once that price is reached.
5. A carbon tax policy could boost the potency of other policies such as those encouraging improvement in energy efficiency and promoting renewable and low carbon energy by rendering those strategies relatively more cost-effective.
6. Program design will need to consider inter-program effects (in-state and interstate) in which cost differences will motivate sources to move from one program to another.

A number of organizations have articulated comparisons between a carbon tax and a cap and trade policy. Following are some points from the Carbon Tax Center.⁵

⁴ The City of Boulder recently adopted a municipal carbon tax on electricity use charged to end users of electricity and collected by Xcel Energy. People who choose to buy wind power are not subject to the tax. The expected cost for a household is expected to average about \$1.33, and for a business about \$3.80 per month. The purpose of the tax is to generate about \$1 million annually for public benefit programs. <http://www.msnbc.msn.com/id/15651688/>.

⁵ The Carbon Tax Center (CTC) is a non-profit, non-governmental organization formed in 2007 by economist Charles Komanoff and attorney Dan Rosenblum, and is a project of the Environmental Law & Policy Center of the Midwest: <http://www.carbontax.org>.

- “Carbon taxes will lend predictability to energy prices, whereas cap-and-trade systems will do little to mitigate the price volatility that historically has discouraged investments in less carbon-intensive electricity generation, carbon-reducing energy efficiency and carbon-replacing renewable energy.
- Carbon taxes can be implemented much sooner than complex cap-and-trade systems. Because of the urgency of the climate crisis, we do not have the luxury of waiting while the myriad details of a cap-and-trade system are resolved through lengthy negotiations.
- Carbon taxes are transparent, and easily understandable, making them more likely to elicit the necessary public support than an opaque and difficult to understand cap-and-trade system.
- Carbon taxes can be implemented with far less opportunity for manipulation by special interests, while a cap-and-trade system’s complexity opens it to exploitation by special interests and perverse incentives that can undermine public confidence and undercut its effectiveness.
- Carbon tax revenues can be rebated to the public through dividends or tax-shifting, while the costs of cap-and-trade systems are likely to become a hidden tax as dollars flow to market participants, lawyers and consultants.”

Wisconsin Global Warming Task Force Workgroup Template for Presentation Policy Options

1. **Workgroup:** Carbon Tax / Cap and Trade
2. **Policy Name:** Carbon Tax – Excluding Large Stationary Sources (25MW+ and 250MMBtu+)
3. **Policy Type:** market based mechanism
4. **Affected Sectors, Sub-Sectors and/or Entities:** Fossil fuel producers, importers and users:
 - transportation
 - small stationary sources under 25MW or 250MMBtu/hour rating
 - natural gas, propane, and fuel oil users (industrial, commercial and residential)

This policy option assumes large stationary sources (i.e., those larger than 25MW or 250MMBtu/hour) are subject to another carbon regulation such as a cap and trade program. Sources subject to the carbon tax outlined here would have the option of joining (opting into) the cap and trade program if it offered a more favorable compliance option.

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.)*

TBD. Tax levels will be phased in and adjusted over time to achieve the required amount of reduction. Resulting higher energy prices could augment effectiveness of other programs.

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.)*

TBD. Revenues collected from the carbon tax could be used to pay for administrative costs. If the cost-benefit analysis includes societal costs and benefits, some studies indicate that increased fuel taxes can have a net societal benefit.⁶ Assuming a revenue neutral or tax shifting program, costs of redistribution of revenues for different options should be considered as well.

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.)*

The State of Wisconsin can institute a carbon tax on fossil fuels burned in the state with the purpose of reducing greenhouse gas emissions. The carbon tax can be charged on fuels used in the state based on the carbon content. In situations when fossil fuel combustion results in emissions of

⁶ Parry I, "On the Costs of Policies to Reduce Greenhouse Gases from Passenger Vehicles," Resources for the Future (www.rff.org), Discussion Paper 06-14, March 2006. In this paper, Parry examines policy costs including local pollution emissions, energy security, highway congestion, and accidents, and finds large net benefits, especially with taxes based on vehicle mileage.

other greenhouse gases, the source will need to be taxed directly for those emissions based on CO₂ equivalents, or regulators will need to address these higher potency greenhouse gases in some other way (because the emissions are not dependent on the carbon content of the fossil fuel but on combustion conditions). Fuels with higher carbon to energy ratios will become more expensive relative to lower carbon fuels motivating fuel switching, when possible, as well as conservation.

To minimize regulatory complexity and possibilities for leakage, the point of application for the tax should be as close to the point of fuel production as practicable. For Wisconsin, the highest upstream POA is likely the importer. One option for gasoline imports would be to apply the carbon tax at the same point where the petroleum inspection fee is applied using existing administrative infrastructure.

Tax revenues can be redistributed to residents of the state in a number of ways:

5. via income or sales tax reductions to the populations most affected by the increased fuel costs
6. through increased funding of public benefits programs with a focus on further reducing CO₂ emissions
7. to encourage business development or technology development for CO₂ reducing technologies and services
8. to aid industries or sectors with disproportionate adverse effects from the tax in transitioning to new lower carbon strategies

Considerations should include the progressiveness or regressiveness of the tax being collected and of that being offset. State income taxes are typically considered to be somewhat progressive. Providing taxpayers with a flat rebate amount could make them even more progressive whereas giving each taxpayer a flat amount of deduction would create a lesser increase in progressiveness. Alternatively, sales taxes are considered to be regressive because wealthier people tend to save more and so have a smaller proportion of their income subject to sales taxes. Therefore, reducing the state sales tax will also reduce the tax regressiveness.⁷ Another possible use for collected revenues is to fund additional carbon reductions through public benefits programs or to support other CO₂ reduction programs in the state.

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

Carbon tax policies should be phased in with gradually increasing tax rates until reduction goals are reached. Taxes should be applied according to a pre-set schedule of increases to allow affected sources the greatest certainty in developing emissions strategies. In addition, the schedule should include points at which policy evaluation and possible schedule adjustments may occur, and should give some indications of what the adjustments could be for different evaluation findings. The scheduled gradually increasing tax rate will give regulators an indication of regular feedback on how the market will respond to prices in terms of CO₂ reductions so that any need to modify the schedule of adjustments to the tax can be minimized.

⁷ Gilbert Metcalf makes the case that carbon tax policy as part of a tax reform package (i.e., when revenue uses are considered) can have whatever degree of progressiveness policy makers desire. Metcalf G, "Tax Reform and the Environment: Paying for Fundamental Tax Reform," white paper, June 6, 2005, Tufts University.

Due to the relatively simple design and reduction in the number of contentious program details that would need to be resolved, a carbon tax is more likely to be instituted in the short term than a more complex cap and trade program.

9. Explanation of Rough Estimate of GHG Reductions: *(Concise, transparent and well-referenced 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 CO₂ or other GHG.)*

CO₂ reduction effects must be measured for the scheduled tax amounts. The most immediate effect of a carbon tax will be increased fuel costs which will lead to:

- Vehicle owners driving less and/or seeking out lower carbon fuels which will be relatively cheaper
- Vehicle buyers seeking out more fuel-efficient vehicles or flex-fuel vehicles
- Small stationary combustion sources exploring options for renewable fuels, and alternative low carbon fuels such as biomass
- Use of revenues to fund additional CO₂ reduction efforts.

Each of these market effects will need to be calculated to produce an emissions reduction estimate.

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.)*

Carbon tax policies could potentially have lower administrative costs due to lower complexity than cap and trade programs. However, during the design phase they will still need to address issues with wealth redistribution that promise to be very contentious.

The policy itself should be zero net cost to implement because administrative costs are paid out of tax revenues. It is conceivable that the policies could result in an overall net benefit (see item 6 and footnote).

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.)*

5. Political aversion to new taxes – few examples of implemented carbon taxes exist from which experiences can be drawn and there are no state carbon tax programs in the United States.⁸ Conscientious and strategic use of revenues coupled with changes in the political climate may make this barrier less important.
6. Certain options for taxing fuels will not be available (e.g., at production or blending point).
7. Ability to counteract leakage effects may be limited, making CO₂ reductions less verifiable, although leakage effects will be an issue for any market-based state policies.

⁸ The City of Boulder recently adopted a municipal carbon tax on electricity use charged to end users of electricity and collected by Xcel Energy. People who choose to buy wind power are not subject to the tax. The expected cost for a household is expected to average about \$1.33, and for a business about \$3.80 per month. The purpose of the tax is to generate about \$1 million annually for public benefit programs. <http://www.msnbc.msn.com/id/15651688/>.

8. Program design will need to include safeguards to prevent tax revenues from being sent to the general revenue fund; these revenues should be used to correct market issues and inequities created by the tax or to fund CO₂ reductions.

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.)*

7. Carbon tax policies must be compatible with GHG policies in neighboring states. Designers need to consider border issues.
8. Carbon tax and allowance programs with auction distribution are the only two options that produce revenue that can be used to counteract program costs for affected parties as well as administration (e.g., a carbon tax may be able to use existing administrative infrastructure whereas an allowance auction would require new structure and functions).
9. Key trade-off: a tax can provide compliance cost certainty, but not reduction amount certainty, while cap and trade can provide reduction amount certainty but no compliance cost certainty.
10. A cap and trade policy with a “safety valve” (i.e., in the event prices reach a certain level, sources can buy an unlimited number of allowances at that price) will function in much the same way as a carbon tax once that price is reached.
11. A carbon tax policy could boost the potency of other policies such as those encouraging improvement in energy efficiency and promoting renewable and low carbon energy by rendering those strategies relatively more cost-effective.
12. Program design will need to consider inter-program effects (in-state and interstate) in which cost differences will motivate sources to move from one program to another.

A number of organizations have articulated comparisons between a carbon tax and a cap and trade policy. Following are some points from the Carbon Tax Center.⁹

- “Carbon taxes will lend predictability to energy prices, whereas cap-and-trade systems will do little to mitigate the price volatility that historically has discouraged investments in less carbon-intensive electricity generation, carbon-reducing energy efficiency and carbon-replacing renewable energy.
- Carbon taxes can be implemented much sooner than complex cap-and-trade systems. Because of the urgency of the climate crisis, we do not have the luxury of waiting while the myriad details of a cap-and-trade system are resolved through lengthy negotiations.
- Carbon taxes are transparent and easily understandable, making them more likely to elicit the necessary public support than an opaque and difficult to understand cap-and-trade system.
- Carbon taxes can be implemented with far less opportunity for manipulation by special interests, while a cap-and-trade system’s complexity opens it to exploitation by special

⁹ The Carbon Tax Center (CTC) is a non-profit, non-governmental organization formed in 2007 by economist Charles Komanoff and attorney Dan Rosenblum, and is a project of the Environmental Law & Policy Center of the Midwest: <http://www.carbontax.org>.

interests and perverse incentives that can undermine public confidence and undercut its effectiveness.

- Carbon tax revenues can be rebated to the public through dividends or tax-shifting, while the costs of cap-and-trade systems are likely to become a hidden tax as dollars flow to market participants, lawyers and consultants.”

Wisconsin Global Warming Task Force Workgroup

October 3, 2007 DRAFT

1. Workgroup: Carbon Tax/Cap and Trade

2. Policy Name: Voluntary Programs

3. Policy Type: (Fiscal measure, regulation, legislation, voluntary R&D, market based mechanism, etc.)

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

Use of voluntary programs can extend across a broad range of sectors and entities.

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.)

Reductions are difficult to project at this time. Existing voluntary programs have demonstrated varying reductions with reductions. Reductions will vary based on individual programs, sectors, and entity. Reductions can be impacted positively with incentives and or goals and greater awareness of the existing voluntary programs. For example, the actual emission reductions received under the Chicago Climate Exchange (“CCX”) program compared to the reduction target is summarized in the table below.

Calendar Year	CCX Reduction Target from 1998-2001 Baseline	CCX Members Actual Reductions from 1998-2001 Baseline
2003	1%	~9%
2004	2%	~15%
2005	3%	~14%
2006	4%	Not yet available

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.)

With several voluntary programs already operational, start up costs from an administrative point would be relatively limited. Implementation of incentives to participate in programs would increase costs.

There are administrative costs for participating in various programs that are borne by the participant. In addition, some voluntary programs require third party verification and

this cost maybe the responsibility of the participant. Any program enrollment fees and annual membership fees will also be the responsibility of the participant.

Actual costs for reduction can vary significantly depending on the program, sector and entity. The current cost of carbon credits on the Chicago Climate Exchange is approximately \$3-\$4/metric ton of CO2.

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.)

There are several existing voluntary programs, each with different requirements and characteristics. These programs can be categorized into three categories, registry, reduction commitments, and end user participation. A registry program provides a platform to report emissions and projects to reduce emissions.

Registry Programs

The following table summarizes the voluntary registry programs that we are aware of:

	DOE 1605(b) Program	WDNR Voluntary Emission Reduction Registry	The Climate Registry	Business Environmental Leadership Council	U.S. Climate Action Partnership
Website	www.eia.doe.gov/oiaf/1605/frntvrgg.html	dnr.wi.gov/org/aw/air/registry/index.html	www.theclimateregistry.org	www.pewclimate.org/companies_leading_the_way_belc	www.us-cap.org
Reported Quantity	Total emissions and/or emission reductions	Emission reductions	Total emissions	Not specified	N/A
Reporting Scope	Direct emissions; indirect emissions from electricity purchases	Avoided emissions	Direct emissions; indirect emissions from electricity purchases (optional if for resale)	Not specified	N/A
Baseline	Optional reporting of 1987 – 1990 baseline	Average annual emissions for 2 years prior to reduction (for efficiency and renewables – average WI generating system emission rate)	To be selected by reporting organization	N/A	N/A
Target	N/A	N/A	Considering “sector-specific metrics” to be developed in the future.	Organizations encouraged to set reduction targets	N/A
Inventory Protocol	Program-specific protocol based on WRI/WBCSD ¹	Various acceptable protocols, including WRI/WBCSD ¹	Program-specific protocol being developed. Draft expected in late October.	Not specified	N/A

	DOE 1605(b) Program	WDNR Voluntary Emission Reduction Registry	The Climate Registry	Business Environmental Leadership Council	U.S. Climate Action Partnership
Third-Party Verification	Optional	Optional	Required	N/A	N/A
Offsets	N/A	N/A	N/A	N/A	N/A
Reporting Requirements	Annual reports	Annual reports	Annual Reports	Not specified	N/A
Membership Fee	No	No	Annual fee required. Fee based on revenue/budget of reporting organization.	No	No
Other Administrative Costs			Third party verification costs.		
Comments	Original 1994 program guidelines replaced with more-stringent 2007 guidelines. Revised reporting software being developed.		Newly-formed organization of 40+ states, etc. Expects to begin accepting reporting data in January, 2008.		

Programs Requiring Reduction Commitments

The following table summarizes the voluntary programs with binding reduction commitments that we are aware of:

	EPA Climate Leaders	Chicago Climate Exchange (CCX)	DOE Climate Vision
Website	www.epa.gov/climateleaders	www.chicagoclimateexchange.com	http://www.climatevision.gov/
Reported Quantity	Total emissions	Total emissions	GHG intensity
Reporting Scope	Facility wide inventory including all direct emissions and indirect emissions from purchased electricity and steam. Can opt-in other indirect sources.	Direct emissions from fossil fuel combustion. Can opt-in reporting of indirect emissions.	Sector identifies scope. Can include direct emissions, avoided emissions, sequestered emissions, etc. converted to GHG intensity.
Baseline	Most recent year available when organization joins program	1998-2001 or 2000	2002
Target	Individualized goal (absolute or intensity) developed by organization and EPA – must be aggressive relative to EPA sector benchmarks. Longer term goal to be achieved over 5 to 10 years.	New member reduction (absolute) from baseline: 2007: 1.5% 2008: 3% 2009: 4.5% 2010: 6% Allowance credits awarded if reductions exceed targets. Allowances purchased if reductions do not meet targets.	Target of 18% reduction in GHG intensity by 2012 from 2002. Sectors identify commitment level.

	EPA Climate Leaders	Chicago Climate Exchange (CCX)	DOE Climate Vision
Inventory Protocol	Program-specific protocol based on WRI/WBCSD ¹	Program-specific protocol based on WRI/WBCSD ¹	Work plan identifies protocols and methodologies used to determine greenhouse gas intensity and action to reduce emissions.
Third-Party Verification	Optional. If conducted is at partner's expense.	Third party verification of baseline and annual emissions included as part of membership	N/A
Offsets	Optional	Can be included if an approved offset project.	N/A
Reporting Requirements	Inventory Management Plan for EPA approval; annual inventory reports	Annual reporting	Develop work plans and provide periodic reports to DOE when requested.
Membership Fee	No	Enrollment fees and annual membership fee Membership fee based on size of emission baseline.	No
Other Administrative Costs	Third part verification costs, if conducted.	Third party verification for offset projects is the responsibility of the project sponsor.	
Comments	Program will provide up to 80 hours of technical assistance to develop and document inventory management plan. Can include an on-site visit. After completion of base year inventory, EPA can provide up to 10 hours of technical assistance in subsequent years.	- Market based trading scheme. - Associate membership available to small businesses, office-based firms and non-governmental organizations.	Voluntary sector initiative. Implementation can be coordinated for a sector by business organizations and/or trade groups.

Notes:

¹World Resources Institute/World Business Council on Sustainable Development – GHG Protocol Initiative (www.ghgprotocol.org)

End Use Voluntary Programs

End use customers could be provided opportunities to voluntarily pay a fee or donation that could be used to reduce emissions. An example of this would be Pacific Gas and Electric's recent launching of "ClimateSmart" a voluntary program where PG&E's residential and business customers can help to fund environmental projects aimed at removing greenhouse gases (GHG) from the air or avoiding the emissions in the first place. Customers who enroll will pay a separate amount on their monthly utility bills to remove or avoid the equivalent carbon dioxide (CO₂) associated with their energy use—thus making them "climate neutral".

The amount a customer will pay for ClimateSmart will be determined after a calculation of exactly how many pounds of greenhouse gas emissions the customer's electricity and natural gas usage produces. PG&E estimates that the cost for the average residential customer will be less than \$5 per month. Prior to enrolling, all customers can view an estimate of their carbon emissions via a new carbon footprint calculator on PG&E's ClimateSmart Web.

More of these types of programs are expected to be launched with different variations. An example of a variation would be to have utilities educate customers on the greenhouse gas emissions that result from their use of electric and gas service and make them aware of charitable organizations that purchase and retire greenhouse gas emission allowances. The donation would be tax deductible for customers. Another variation of this would be to provide a check off box on customers electric and gas bills allowing them to donate funds that could be used to purchase and retire greenhouse gas emission allowances. Having the State obtain clarification, possibly in an IRS letter ruling, that this donation would be tax deductible on federal taxes for individuals would be recommended.

The State of Wisconsin could elect to take a leadership role and participate in one of the voluntary programs for its facilities. The Regional Greenhouse Gas Initiative ("RGGI") is a cooperative effort by 9 Northeast and Mid-Atlantic states to discuss the design of a regional cap-and-trade program initially covering carbon dioxide emissions from power plants in the region. A similar effort is taking place with several states in the west. Wisconsin could elect to enter into a memorandum of understanding allowing Wisconsin sources to participate in the RGGI offset allowance program. Utilities and large industrial sources are usually the first place looked at for achieving reductions in GHG emissions. However, mitigation of GHG emissions can also be achieved by other sectors including the government sector. Wisconsin, as a state, can participate in the CCX program by being a member and committing to achieve the reduction commitments for its government facilities. There are currently states, counties and municipalities that are members of CCX.

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

Due to a number of voluntary programs that are currently operational, some WI entities are already participating in these programs. Development of incentives, goals and/or activities to increase awareness of such programs could likely be started within 6 months. Duration of this initial implementation phase would be dependent upon actual incentives and/or goals that may be used and the nature and intensity of awareness activities.

Long term duration range is flexible. Use of voluntary programs could be used a long term tool or could be used as a transition mechanism to allow actions to be taken in Wisconsin while a regional or national program is developed and implemented.

9. Explanation of Rough Estimate of GHG Reductions: (Concise, transparent and well-referenced 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 CO₂ or other GHG.)

Actual reductions will be dependent upon the voluntary program selected, the implementation of any incentives or goals, and amount of participation.

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.)

With several voluntary programs already operational, start up costs from an administrative point would be relatively limited. There are administrative costs for participating in various programs that are borne by the participant. There could be costs to the state should incentives be implemented to encourage participation in a voluntary programs, such as tax incentives. Costs could also be incurred to increase awareness of voluntary programs in the state/region.

Actual costs for reduction can vary significantly depending on the program, sector and entity and will likely change over time. The current cost of carbon credits on the Chicago Climate Exchange is approximately \$3-\$4/metric ton of CO₂.

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.)

Some major barriers to implementation at this time are: lack of incentive to participate, lack of awareness of the existing voluntary programs, concern of internal records/data to be able to demonstrate emissions and subsequent reductions, and risk of early actions not being counted in subsequent mandatory program.

Incentives: There are no direct financial incentives to participate in a voluntary program at this time. Direct financial incentives would likely increase participation and the amount of GHG reductions that could be obtained via a voluntary program. An example of a direct financial incentive would be a state tax incentive.

Lack of awareness: Most of the programs are relatively new and interest in green house gas emissions has historically not been wide spread and the awareness and familiarity with the various voluntary programs is limited. Recently, interest has increased and is expected to continue to increase with national and regional debates taking place on green house gas policies. Participation in the voluntary programs would likely increase with more education and awareness of the various voluntary programs.

State outreach efforts to increase awareness of voluntary programs may result in increased interest and participation across all sectors.

Concern with increased administrative burden: If facilities have not had a need to track certain activities and/or retain certain records, the information is often either not available, difficult to obtain, and possibly not complete or accurate. Minimizing the amount of history required and creating awareness of record keeping requirements would help minimize these concerns.

Early action: Risk of early actions not being credited under a Federal mandatory program.

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 use of existing voluntary programs would seem to be a good transition mechanism to allow actions to be taken in Wisconsin almost immediately while a regional or national program is developed and implemented. Voluntary programs could be used to support and facilitate potential solutions that may arise from other task force subcommittees.

Other positive aspects of voluntary programs are:

- 1.) Allow for actions to be implemented in a relatively short time frame since programs are currently available.
- 2.) Minimize the cost impacts of the reducing emissions for those entities that would have difficulty absorbing increased costs at this time.
- 3.) Aid in creating awareness and education of the public on green house gas issues and solutions.
- 4.) Reduces State resources needed for the development and implementation of a State-run regulatory/mandatory program.
- 5.) Create initial incentives for sources to participate.

Wisconsin Global Warming Task Force Workgroup Template For Presentation Policy Options

1. **Workgroup:** Carbon Work Group

2. **Policy Name:** Offset Program as part of Cap and Trade Regulatory Framework

3. **Policy Type:**

A program to track offset allowances (credits) from certified emissions reduction or carbon sequestration projects that take place outside the regulated program and meet specific requirements.

The Clean Development Mechanism program under the Kyoto Protocol is an example of a voluntary offset program. The European Union Emissions Trading Scheme also has a voluntary offset program as a component of a larger cap and trade program, although this program had problems.

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

Sector: Electric, Industry (all entities captured in the cap and trade program)

Sub-Sector: All Sectors

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

Offset are achieved through not only emissions reductions, but also avoidance and sequestration. Therefore, it is possible that a cap and trade program that incorporates offsets could result in less absolute emissions reductions (particularly in the early years). If the offset program is broad geographically, it could result in more emission reductions outside the state with a related exodus of funds.

6. **Estimated Costs:**

An offset program has administrative costs. These costs could be minimized through fees paid by program participants.

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

A voluntary program through which non-regulated sources reduce, avoid or sequester CO₂/equivalent emissions. When offsets through the program are certified they can be purchased to be used as credits by regulated entities participating in a trading program. By monetizing offsets, the program encourages emissions reductions from non-regulated sources that otherwise would have little incentive to change behaviors/processes. Further, by bringing additional credits into the regulated program, an offset program offers emitters in a trading program increased compliance flexibility and the opportunity to meet compliance targets at a lower cost. Offset program are also believed to result in “co benefits” – other environmental or societal benefits beyond CO₂/Equivalent emissions reductions.

Administration:

Offset projects can be financed and implemented by a party outside the regulatory program. Offset projects can also be financed by a regulated entity through activities outside their regulated portfolio. Emissions reductions made by an emitter captured under a cap and trade program through regulated activities do not constitute offsets but could, if the reductions exceed mandated levels, result in credits.

Criteria:

A project must demonstrate that emission reductions would not otherwise have occurred. Emissions reductions from a project must be verified and quantified. The overarching program objective is to have projects that result in certified offsets that are compatible with and “recognized” by other programs.

Limitations:

The group is proposing to limit the use of offsets to 10 percent of each regulated entities reduction requirement. IL and RGGI both have limits of the ability of regulated entities to use offsets to meet their own emission reduction targets. However, in the RGGI program, the percentage of offsets available to regulated entities increases based on the cost of allowances. In other words, offsets can be used, in combination with or in lieu of emissions waivers, as a safety valve to hedge against exceedingly high prices. This issue is more fully addressed in the Cap and Trade template.

Scope:

The offset program should be as broad as possible -- at a minimum within the Midwest region. There should be linkages to other existing programs such as RGGI to expand the scope of the program. Protections must be put in place to prevent double counting of offsets in more than one program.

Qualifying offset projects for all six greenhouse gases are allowed and will be adjusted based on their respective global warming potentials. The table below shows the GWPs for the recognized greenhouse gases: CO₂, CH₄, N₂O, hydrofluorocarbons, perfluorocarbons and SF₆.

Comparison of 100-Year GWP Estimates from the IPCC's Second (1996) and Third (2001) Assessment Reports		
Gas	1996 IPCC GWP^a	2001 IPCC GWP^b
Carbon Dioxide	1	1
Methane	21	23
Nitrous Oxide	310	296
HFC-23	11,700	12,000
HFC-125	2,800	3,400
HFC-134a	1,300	1,300
HFC-143a	3,800	4,300

HFC-152a	140	120
HFC-227ea	2,900	3,500
HFC-236fa	6,300	9,400
Perfluoromethane (CF ₄)	6,500	5,700
Perfluoroethane (C ₂ F ₆)	9,200	11,900
Sulfur Hexafluoride (SF ₆)	23,900	22,200

^a Intergovernmental Panel on Climate Change, *Climate Change 1995: The Science of Climate Change* (Cambridge, UK: Cambridge University Press, 1996).

^b Intergovernmental Panel on Climate Change, [*Climate Change 2001: The Scientific Basis*](#) (Cambridge, UK: Cambridge University Press, 2001).

Project Eligibility:

Wisconsin currently has a voluntary registry program that could serve as an initial platform (with modification) to launch a stand alone offset program.

A set of protocols for determining project eligibility based on existing standards and scientific recommendations should be adopted through a formal rulemaking process. Following adoption of protocols, specific projects would be deemed eligible through an administrative process overseen by the appropriate state authority. Likewise, as new environmental regulations are adopted and previously unrelated activities become regulated, this administrative process would be used to remove certain projects from the eligibility list.

In adopting protocols and making project determinations, existing programs such as the Kyoto Protocol Clean Development Mechanism, RGGI, and the Chicago Exchange should be considered.

At a minimum, the following types of projects should be deemed eligible:

- Reforestation, Afforestation and other land use management changes
- Landfill gas – methane capture and destruction
- Sulfur hexafluoride – reduction in fugitive emissions from electricity transmission and distribution equipment
- Farming operations – avoided methane emissions

Equivalent:

Offsets for certified CO₂/equivalent emissions reductions should be awarded on a one-to-one ton basis.

8. Timetables, Duration and Stringency Option:

Assuming some type of offset program is in place for new emission sources prior to implementation of a mandatory cap and trade program, or as part of a voluntary program, implementation issues should be limited. The program would continue indefinitely.

The program can be more or less stringent base upon project eligibility and other characteristics such as banking. A key stringency issue will be whether there is a limit placed on the percentage of offsets a regulated entity can use to meet its emissions reduction requirement.

9. Explanation of Rough Estimate of GHG Reductions:

10. Rough Estimate of Costs for Selected Years:

11. Barriers to Implementation:

An offset program as part of a mandatory cap and trade program will require authorizing legislation. The major barrier to implementation of this policy is developing a strong verification, measurement and tracking program. There will be policy disagreements with respect to some key issues such as what constitutes additionality, whether offset must be permanent, and what percentage of offsets can be used by a regulated entity to meet mandatory reduction requirements.

12. Other Factors:

An offset program can be complex to design. The workgroup did not attempt to reach consensus on or develop specific recommendations with respect to the following implementation issues.

- Eligible project under the program must have emissions reductions that are verified and quantified, which will require monitoring and measurement.
- Ownership rights must be clarified to encourage program participation and to minimize double counting.
- Policy decisions must be made with respect to the vintage (when an offset was created) of offsets and retrospective/prospective use.
- Banking of offset created under the program allows participants more compliance flexibility. However, banking can result in delayed emission reductions.
- The desire for transparency of offset measurement/verification/ownership must be balanced against program costs and industry confidentiality needs.

Wisconsin Global Warming Task Force Workgroup Template For Presentation Policy Options

1. **Workgroup:** Carbon Work Group

2. **Policy Name:** Stand Alone Offset Program

3. **Policy Type:**

In exchange for state regulatory approval to site/construct a new emitting source, a facility owner must certify that a percentage of emissions reductions are physically or contractually offset.

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

Sector: Electric, Industry, other stationary CO₂ sources over 25 MWs (or 250 BTU per hour)

Sub-Sector: All sectors

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

An early offset program moves Wisconsin toward stabilization of GHG emissions but from a limited number of sources. The level of emissions reductions is related to the number of new sources developed. From a utility perspective, there has been minimal discussion regarding new development in the state. Accordingly there would be few emissions reductions captured by an offset program. There is also the potential for facilities to locate outside the state to avoid the offset requirement (diminishing emissions reductions).

While emission reductions may not be significant under an offset program, it establishes a safety net to protect against any significant emission increases from the regulated sectors. Further, the program provides an opportunity for the state and regulated industries to develop experience with an offset program and associated administrative infrastructure in anticipation of a mandatory cap and trade program.

6. **Estimated Costs:**

- Administrative costs of the program (verification, enforcement),
- Costs of the offsets reflected in higher electricity rates, and
- Increased cost of goods/services.

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

Administration:

New stationary GHG sources (meeting size requirement) will be mandated to purchase or demonstrate offsets for a percentage of the newly created emissions prior to issuance of a construction or other regulatory permit.

A greenhouse gas (GHG) offset is generated by the reduction, avoidance, or sequestration of GHG emissions from a specific project. It must be measured and verified and must account for reductions that otherwise would not have occurred.

Offsets can be secured in two ways. The direct model whereby the facility owner creates offsets through projects that meet predetermined criteria or through a trust model whereby a facility owner pays a dollar amount per ton to a separate organization that in turn develops offset projects.

Criteria:

An entity seeking a permit must demonstrate that the new source will meet a predetermined performance standard through the creation or purchase of CO₂/equivalent offsets. For example, a performance standard could be the difference between a new generating unit and the lb/mwh of a reference combined cycle gas unit.

Scope:

The offset requirement would apply only to new sources within the State of Wisconsin that meet a specific size. However, regulated entities should be able to acquire offsets from as broad a region as possible, with links to existing programs such as RGGI. Non-regulated entities could generate and certify offsets in advance of a specific new source request.

Qualifying offset projects for all six greenhouse gases are allowed and will be adjusted based on their respective global warming potentials. The table below shows the GWPs for the recognized greenhouse gases: CO₂, CH₄, N₂O, hydrofluorocarbons, perfluorocarbons and SF₆.

Comparison of 100-Year GWP Estimates from the IPCC's Second (1996) and Third (2001) Assessment Reports		
Gas	1996 IPCC GWP^a	2001 IPCC GWP^b
Carbon Dioxide	1	1
Methane	21	23
Nitrous Oxide	310	296
HFC-23	11,700	12,000
HFC-125	2,800	3,400
HFC-134a	1,300	1,300
HFC-143a	3,800	4,300
HFC-152a	140	120
HFC-227ea	2,900	3,500
HFC-236fa	6,300	9,400
Perfluoromethane (CF ₄)	6,500	5,700
Perfluoroethane (C ₂ F ₆)	9,200	11,900
Sulfur Hexafluoride (SF ₆)	23,900	22,200

^a Intergovernmental Panel on Climate Change, *Climate Change 1995: The Science of Climate Change* (Cambridge, UK: Cambridge University Press, 1996).

^b Intergovernmental Panel on Climate Change, *Climate Change 2001: The Scientific Basis* (Cambridge, UK: Cambridge University Press, 2001).

Project Eligibility:

Wisconsin currently has a voluntary registry program that could serve as an initial platform (with modification) to launch a stand alone offset program.

A set of protocols for determining project eligibility based on existing standards and scientific recommendations should be adopted through a formal rulemaking process. Following adoption of protocols, specific projects would be deemed eligible through an administrative process overseen by the appropriate state authority. Likewise, as new environmental regulations are adopted and previously unrelated activities become regulated, this administrative process would be used to remove certain projects from the eligibility list.

In adopting protocols and making project determinations, existing programs such as the Kyoto Protocol Clean Development Mechanism, RGGI, and the Chicago Exchange should be considered.

At a minimum, the following types of projects should be deemed eligible:

- Reforestation, Afforestation and other land use management changes
- Landfill gas – methane capture and destruction
- Sulfur hexafluoride – reduction in fugitive emissions from electricity transmission and distribution equipment
- Farming operations – avoided methane emissions

Equivalent:

Offsets for certified emission reductions will be awarded on a one-to-one ton basis.

8. Timetables, Duration and Stringency Option:

The program requires authorizing legislative and therefore will need, at a minimum 6, months after enactment of such legislation to be implemented. It would be desirable to have a program in place by 2010. The program would continue until a broader, mandatory CO₂/equivalent regulatory program is developed.

9. Explanation of Rough Estimate of GHG Reductions:

10. Rough Estimate of Costs for Selected Years:

11. Barriers to Implementation:

The major barrier to implementation of this policy is the need for authorizing legislation. However, parties seeking to site new sources could agree to offsets absent any official program. Certain industries within the state may see increased costs that could impact their ability to compete nationally and internationally or it could create an incentive for industry to locate outside of WI. Further, there would be uncertainty as to whether such a program would be comparable to a future regional program. All these issue will create opposition to legislation.

12. Other Factors:

An offset program can be complex to design. The workgroup did not attempt to reach consensus on or develop specific recommendations with respect to the following Implementation issues.

- Eligible project under the program must have emissions reductions that are verified and quantified, which will require monitoring and measurement.
- Additionality must be defined.
- Ownership rights must be clarified to encourage program participation and to minimize double counting.
- Policy decisions must be made with respect to the vintage (when an offset was created) of offsets and retrospective/prospective use.
- The desire for transparency of offset measurement/verification/ownership must be balanced against program costs and industry confidentiality needs.