

AGENDA

AG/FR Working Group

Of the Governor's Task Force on Global Warming

August 3, 2007

Ground Floor Conference Room (G09)

GEFII, Department of Natural Resources

101 S. Webster St, Madison

(Parking available at Government East Ramp or Brayton Lot)

Meeting Chairs: Bill Oemichen and Todd Holschbach

10:00 a.m. Welcome & Introductions

10:15 a.m. Discussion of Work Group Assignment

10:35 a.m. Review of Charge to Task Force and Work Groups:

- o Greenhouse Gas Benchmarks

- o Discussion of DRAFT Draft Work Proposal Ag/Forestry Work Group

10:45 a.m. Work Group Responsibility:

1:30 p.m. Public comment/opportunity mechanism

1:40 p.m. Meeting schedule review

1:45 p.m. Assignments/sub-groups

2:00 Adjourn

Illinois Climate Change Advisory Group

Subgroup: Commercial, Industrial and Agriculture

Policy Name: #21 Expand use of no-till farming

Policy Type: Financial

Estimated 2020 Reductions: 0.5 MMtons

Description

Tilling soil releases carbon to the air that forms CO₂. Continuous no-till (CNT) farming sequesters carbon in the soil and therefore reduces atmospheric CO₂ levels. Many Illinois farmers will not till the soil for one or two years as they rotate between corn and soy beans, but CNT is necessary to keep carbon sequestered.

This straw man proposal would provide financial incentives for farmers to use no-till farming. Data on the number of CNT acres in Illinois is highly uncertain. The Illinois Department of Agriculture estimates that about 10 to 13 percent of the roughly 23 million acres of croplands in Illinois are under CNT, or about 2.3 to 2.6 million acres.

Some farmers believe the disbenefits of CNT (e.g., seeds can take longer to sprout because the soil is cooler, potentially lower yields) outweigh the benefits (e.g, higher carbon content soils, less erosion, fuel savings). New equipment may also be needed for CNT.

The U.S. Natural Resources Conservation Service offers a flat rate of \$15 per acre per year up to 3 years of payments for new no-till farming, limited to 400 acres. The Chicago Climate Exchange offers farmers about \$1.50/acre at current prices (0.5 tons CO₂ sequestered/acre @ \$4/ton minus administrative fees), with no acreage limits.

Additional incentives are needed to increase the number of CNT acres. It may be possible to use the Energy 2020 model to estimate the effects of a particular financial incentive and to determine how much is needed to convert crop land to CNT. This straw proposal assumes an incentive sufficient to convert 1 million acres to CNT.

Rough estimate of reductions from BAU in 2020

Assume 0.5 metric tons sequestered for continuous no-till (CNT) farming.

Assume an additional 1 million acres uses CNT by 2020.

$1 \text{ million} \times 0.5 \text{ tons CO}_2 \text{ sequestered/acre} = 0.5 \text{ MMtons}$

Timetables, duration and stringency

Begin additional incentives in 2009.

Barriers to implementation

* Illinois farmers prefer to till, at least every few years.

* Funding for additional incentives.

* CNT can be more cost-effective even if yields are slightly lower. However, high corn prices undermine this.

Wisconsin Global Warming Task Force
Draft Policy Option Template v1

Workgroup:

Policy Name:

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

Estimated 2020 (or which ever target year you prefer) GHG Reductions Compared to BAU: In Million metric tons of CO₂e (note that these are not cumulative reductions but those that are approximated for the year 2020).

Affected sectors, subsectors and/or entities

Description

General, illustrative description of what policy is and what it will do.

Timetables, duration and stringency

When does the measure take effect? How long does it last? How stringent is it over time?

Rough estimate of GHG reductions from BAU in 2020

Concise, transparent and well referenced calculations of estimated GHG emission reductions in 2020 from this policy including all important assumptions would be presented here. Final numbers should be in Million metric tons of CO₂e.

Rough estimate of Costs in 2020

Concise, transparent and well referenced calculations of costs in 2020 from this policy including all important assumptions would be presented here. Types of costs (administrative, macroeconomic, etc.) should also be included when possible.

Barriers to implementation

Such as technological, political, financial, etc. and where possible recommendations on how to overcome these barriers.

Illinois Climate Change Advisory Group

Subgroup: Power/Energy

Policy Name: Enhanced Renewable Portfolio Standard

Policy Type: Regulatory standard for electric utilities

Estimated 2020 Reductions Compared to BAU: 6.9 million metric tons CO₂

Affected sectors, subsectors or entities (As the case may be)

Sector: Electric

Subsector: Distribution utilities

Entities: ComEd, Ameren, Mid-American, renewable energy developers

Description

The Governor's Energy Independence Plan calls for a renewable portfolio standard that ramps up from 3% of retail sales in 2008 to 10% of sales by 2015. Senate Bill 1184 and House Bill 1871 would increase that standard by 1.5% per year to 25% of sales in 2025. The ICCAG proposal would adopt this enhanced RPS.

Rough estimate of reductions from BAU in 2020

Meeting the enhanced RPS would require 8.6 million MWh of additional renewable generation annually by 2020, or about 2,800 MWs of additional renewable capacity (at a 35% capacity factor). Overall, adoption of the enhanced RPS would decrease emissions of carbon dioxide by about 6.9 million tons annually in 2020 and by 14.8 million tons in 2025. These benefits are based on an average emissions rate of about 1.75 pounds/kWh from the Shaw Group study on the environmental benefits of the Governor's Sustainable Energy Plan, which shows that mostly generation from the less efficient coal plants will be displaced. The Shaw study also shows that about half of these emission reductions would occur outside of Illinois because of the regional nature of the electric dispatch system.

Timetables, duration and stringency

Under the schedule proposed in SB 1184, the RPS would increase by 1.5% per year above the Governor's Plan starting in 2016, reaching 17.5% in 2020 and 25% in 2025.

Barriers to implementation

The major barrier, currently, to rapid implementation of an RPS is the shortage of wind power equipment. Presumably by the time the enhanced RPS kicks in, the market place would have caught up with the demand for wind power and other renewable technologies.

Interstate Cooperation

To ensure that Illinois has access to the most cost-effective renewable energy, the state would need to participate in the Midwest Renewable Energy Trading System, which is still under development, or other similar systems for trading renewable energy credits.

Policy	Workgroup	Potential Impact on Wisconsin GHG Emissions ¹	Implementation & Administrative Costs ²	Notes
FORESTRY AND AGRICULTURE				
Forestry				
Programs to encourage forest management, reforestation, tree- and grass-planting	Forestry and Agriculture	medium	low/medium	
Prevent or discourage loss of forest through conversion	Forestry and Agriculture	low	low	
Increase afforestation on non-forested lands	Forestry and Agriculture	low	low	
Enhance carbon stocks on existing forest lands through changes in forest management	Forestry and Agriculture	low	low/medium	Options: improved timber harvest; extended harvest rotation; enrichment plantings; early commercial thinning; increased stocking of fast growing trees on poorly stocked stands; reduced soil disturbance
Engaging private forest landowners in activities that enhance carbon sequestration	Forestry and Agriculture	low	low	
Reduce fossil fuel energy use during timber harvest, transportation and production of value-added forest products	Forestry and Agriculture	low	low/medium	
Use of wood for biofuels	Forestry and Agriculture	medium	medium	
Increase the use of durable wood products as substitutes for fossil-fuel based alternatives	Forestry and Agriculture	low	low/medium	
Increased use of wood fiber for energy production (power generation)	Forestry and Agriculture	medium	low/medium	
Agriculture				
Encourage best management practices which reduce soil disturbances including reduced or no-till farming	Forestry and Agriculture	low/medium	low	
Encourage conservation practices which maintain high carbon sinks like wetlands and prairies on existing farmlands	Forestry and Agriculture	low	low/medium	Also protect ag land from development.
Encourage methane capture, storage and use	Forestry and Agriculture	low/medium	medium	
Minimize nitrous oxide releases resulting from agricultural activities	Forestry and Agriculture	low/medium	low	Options: incentive programs. Significant environmental co-benefits related to water quality.
Use farm and crop waste for biofuels	Forestry and Agriculture	low/medium	low/medium	
Incentives and mechanisms to promote manure digester use and development for smaller ag operations	Forestry and Agriculture	low/medium	low	
Incentives and mechanisms to promote urban forestry to reduce heat island effects and for sink benefits	Forestry and Agriculture	low	low	
Grazing management programs	Forestry and Agriculture	low	low	Environmental co-benefits may include reduced soil erosion and water quality impacts.
Manure management and land application programs	Forestry and Agriculture	low/medium	low	
Programs to encourage farmers to plant cover crops	Forestry and Agriculture	low	low	Environmental co-benefits may include reduced soil erosion and water quality impacts.
Programs to support local farming/buy local	Forestry and Agriculture	low	low	
Programs to support organic farming	Forestry and Agriculture	low	low	
INDUSTRY				
Reduce direct emissions of GHGs from industry.				
Achieve reductions from existing on-site power generation	Industry	low/medium	low/medium	Clarity needed on what measures might be implemented to reduce GHGs from onsite power. What about other options for reducing direct GHG emissions from non-electric generation activities such as boilers?
Encourage or require reductions in emissions of high GWP gases (N ₂ O, HFCs, PFCs, SF ₆)	Industry	low	low/medium	SF ₆ reductions are a recognized offset category under RGGI.
Require biodiesel for commercial and industrial generators	Industry	low	low	
Energy efficiency incentives, assistance and/or standards for commercial/industrial generators and boilers	Industry	low	low/medium	
Reduce methane leaks in oil and gas systems	Industry	low	low/medium	Generally considered to be cost effective.
Negotiated agreements with industry	Industry	low/medium	medium	
Mandatory GHG reporting for companies, others	Industry	low	low	WI already has this requirement though it could be enhanced.
Reduce GHG emissions from small non-road engines				
Improve fuel efficiency of non-road engines	Industry	low	low/medium	Options: Minimum standard, tax, financial incentive
Promote use of biofuels or other low-GHG emitting fuels	Industry	low	low/medium	
Promote alternative landscaping and maintenance practices	Industry	low	low	Options: promote native planting, leaving grass and leaf clippings in place
Take advantage of business growth opportunities				

Technology development	Industry	low	medium	Scores assume that this is an R&D exercise. Likely to be a longer-term outcome only.
New climate-friendly products and services	Industry	low	medium	Clarity needed on what measures might be used to achieve outcome, and what types of services are displaced by climate friendly ones. Primary benefits in the economic sector rather than with respect to in-state emissions.
Motivate businesses to adopt corporate climate strategies				
Recognition for early actions	Industry	low	low	
Market-based and other financial programs and incentives	Industry	medium/high	low/medium	Options: Market-based trading and banking programs; tax policies. Emission reductions and cost are largely contingent on policy type chosen.
Publicize and leverage major corporate sustainability initiatives and build business leadership support for Task Force goals	Industry	low	low	
Energy efficiency and pollution prevention assistance to businesses	Industry	low/medium	low/medium	
Small business grants for clean energy technology	Industry	low	low	

ELECTRIC UTILITY

Conservation and Efficiency (Demand-Side) Subgroup				
Residential and commercial building code standards for energy efficiency	Electric	low/medium	low/medium	Options: Codes beyond international standards
Energy efficiency standards for appliances and equipment	Electric	low/medium	low/medium	
Enhance energy conservation and efficiency programs for existing or new state facilities	Electric	low	low	Options: Use of geothermal heating; state-of-the-art lighting; improved heating, air conditioning and ventilation; passive solar; consumer outreach
Fund/enhance energy efficiency building codes/standards for government/public buildings	Electric	low	low	Options: Creation of state-financed fund
De-couple electric and natural gas utility revenues from sales	Electric	medium	low	De-coupling can apply to electricity or gas; statewide or to a specific utility. Alternative options: return differentials by technology; carbon reduction incentives; conservation investment returns; inverted block rates to address low-income and fixed income issues
Time of use electricity rates, advanced metering and other pricing strategies to reduce electricity demand	Electric	medium	low	Peak-related strategies do not necessarily reduce emissions depending on the profile of baseload vs. peak generation units.
Tax or other incentives for energy efficiency/conservation by small businesses, manufacturers, and consumers	Electric	medium	low	
Employment of smart grid technologies to facilitate consumer conservation and efficiency	Electric	low	medium	Is this real-time rate setting and billing? It would be useful to know how this technology will interface with consumer behavior.
Incandescent light bulb sales tax	Electric	low	low	
Phase in a ban on sale of incandescent light bulbs in certain sectors	Electric	low	low	Recently announced in Australia. Being considered in CA and NJ legislation.
Grants for "cool roofs" projects	Electric	low	low	
Generation and Delivery (Supply-Side) Subgroup				
Enhance State Renewable Portfolio Standard (RPS)	Electric	medium/high	low/medium	
Creation of state-financed fund for use of local renewable energy resources by governmental entities, schools, and nonprofits	Electric	low	low/medium	
Tax or other incentives for consumers and businesses for renewable electricity (e.g., PTC, ITC)	Electric	medium	low/medium	Investment tax credit and production tax credit are most common.
State and local tax and rate incentives for utilities investment in renewable resources	Electric	medium	low/medium	
Create funding opportunities for targeted R&D	Electric	low	medium	This is a long-term outcome.
Renewable/clean energy feed-in tariffs	Electric	medium	low/medium	To support customer use of small scale renewables; to mitigate rate impacts of fuel switching and renewable resource focus; to mitigate rate impacts of high capital costs of new generation technology. Common in the European Union; also implemented in Ontario.
Increase reliance on biofuels (biodiesel) for generation	Electric	medium	medium	This could fit in an RPS. Note overlap with policy in Forestry and Agriculture workgroup.
Increase nuclear power generation	Electric	high	medium	
Distributed generation regulatory reform (real-time pricing, net metering, interconnection, standby rates)	Electric	low	low/medium	
IGCC with carbon capture & storage portfolio standard	Electric	medium/high	low/medium	Feasibility and cost; transmission issues
Incentives for construction of new IGCC plants	Electric	high	medium	
Transmission system upgrades to reduce line losses and to support new renewables/low-emitting generation	Electric	medium	medium/high	May need to address on an interstate/regional basis.
Reduce release of SF6 when high voltage equipment is serviced	Electric	low	low	
Incentives to improve energy efficiency of existing power plants	Electric	medium	low	
Imports of synthetic gas (with sequestration)	Electric	medium	medium	Creates displaced emissions. May have limited global environmental benefit.
Change CPCN (Certificate of Public Convenience and Necessity) approval process for new generation to recognize GHG impacts	Electric	medium	medium	Impact will increase if application to new, low, or zero-emitting plants.

Develop tracking system for renewable energy certificates and/or energy efficiency certificates	Electric	low	medium	Regional M-RETS system now operational (http://mrets.net). System could be enhanced to track all generation. This may be a prerequisite for an RPS, but by itself will not yield reductions in emissions.
Carbon performance standards for electricity generation and/or procurement	Electric	high	medium	Environmental and health co-benefits may include reductions in conventional air pollutants. CA requires utilities to refrain from entering into long-term contracts with power generators that exceed an emissions rate comparable to a natural gas combined cycle plant.
Energy Efficiency Portfolio Standard (EEPS)	Electric	medium/high	medium	
Require utilities to factor CO2 into procurement and planning	Electric	medium	low	Need to determine appropriate shadow price of CO2.
Appliance buy-back programs	Electric	low	medium	
Technical assistance to electric plants to assess CHP technology and oversee installation	Electric	low/medium	medium/high	
CHP portfolio standard	Electric	low/medium	low/medium	CT and PA incorporate CHP portfolio standards into their RPS programs.
CHP performance standard	Electric	low	low/medium	CHP plant requirement to meet minimum energy efficiency targets and include state-of-the-art air pollution controls.
Incentives for CHP and boiler construction and upgrades	Electric	medium	low	
Expand transmission capacity for wind power	Electric	medium	medium/high	Wind resource may be largely offshore, raising costs. This could also be used for wind imports from other states.
Siting and monitoring regulations for geologic storage of carbon dioxide	Electric	low/medium	medium/high	EPA working on guidelines. Initial assessment suggests limited capacity in Wisconsin (to be checked).

CARBON TRADING/OFFSET

Cross-sector carbon mitigation offset program for new and/or existing emissions sources	Carbon Trading/Offset	medium	medium/high	Includes large stationary combustion sources. Would need to determine the amount of emissions to be offset and procedures.
Cross-sector carbon tax	Carbon Trading/Offset	high	low	
State-level cap-and-trade system	Carbon Trading/Offset	medium	low/medium	Could also include participation in a regional cap-and-trade. If this is the case, would increase potential impact significantly.
Enhance existing DNR voluntary emission reduction program	Carbon Trading/Offset	low	low/medium	Options: Develop state certified credits to achieve consistency and marketability for regional and/or federal programs; use Green Tier effort in conjunction with this program.
Seek federal funds and other incentives to encourage GHG reductions in Wisconsin	Carbon Trading/Offset	variable	low	Wisconsin delegation may have limited control over this policy.

TRANSPORTATION

"California" GHG emission standards for automobiles	Transport	high	low/medium	California AB 1493 is set to be replicated in about a dozen states.
Require state and municipal fleets to use more fuel efficient/low carbon fuel cars	Transport	low	low	
Funding for ultra low-emission school buses	Transport	low	low/medium	These buses generally are slightly more efficient but have only a marginal GHG benefit compared with the reduction of conventional pollutants.
Incentives for fuel efficient vehicles (hybrids, electric cars, clean diesel)	Transport	medium	low/medium	Options: Tax or financial incentive
Adopt "gas guzzler" taxes/graduated vehicle registration fees based on mpg	Transport	low/medium	low	Revenues could be recycled into GHG reduction projects.
Priority parking for efficient vehicles	Transport	low	low	
Priority travel lanes for efficient vehicles	Transport	low	low	
Increase incentives for bio-fuel research and development	Transport	low	medium	Long-term outcome.
Create incentives to expand availability of more efficient fuels	Transport	medium	medium	Options: incentives for new ethanol and biodiesel production facilities.
Lower upper range speed limit to 55 mph	Transport	low	medium	
Require employers to have transportation demand management programs	Transport	low	low	
Registration fees tied to miles driven per year	Transport	low	low	
Toll roads	Transport	low	low/medium	
Traffic congestion fees and restrictions	Transport	low	medium/high	London has implemented traffic congestion charges.
Adopt restrictions requiring or incenting bus and truck idling reductions	Transport	low	low	
Develop and finance "smart growth" initiatives and expand/improve alternative modes of transport	Transport	medium	medium/high	Environmental co-benefits may include reductions in conventional air pollution and reduced demand for land development.
Establish transportation utilities to fund transportation programs	Transport			Transportation utilities shift the costs of transportation funding to those who generate the most trips.
Support car-sharing programs (such as Community Car)	Transport	low	low	

Parking cash-out programs	Transport	low	low	Employees get rebates for not accepting parking spaces provided by employers.
Increase state funding for local transit programs	Transport	low/medium	medium	
Create state capital fund for transit	Transport	low/medium	medium/high	Capital programs for bus purchase, rail construction, etc.
Tele-commute incentives	Transport	low	low	
Funding for bike/pedestrian programs	Transport	low	low	
New transit system start up funds	Transport	low/medium	medium/high	
Funding for inter-city rail development	Transport	low	high	
Develop state transit plan	Transport	low/medium	low	Likely to have only longer-term benefits.
Develop land use policies that lessen average travel times and encourage greater use of mass transit	Transport	medium/high	low/medium/high	Options: zoning; restriction of residential development in agricultural areas. Likely to have only longer-term benefits.
Incentives for higher density, compact residential developments	Transport	medium/high	medium/high	Effective transit programs require higher density service areas.
Incentives for "walk or bike to work" programs	Transport	low	low/medium	Locate job centers close to residential areas.
Incentives shifting transportation of goods to least-GHG intensive mode	Transport	low	medium	
Address aviation emissions, including possible fees to contribute to offsets	Transport	low	medium	
Carbon audit of all major transportation investments	Transport	low/medium	low	
Require auto insurance companies to offer pay-as-you-drive (PAYD) car insurance option	Transport	low/medium	low	
Measures to improve infrastructure, siting and permitting for biofuels	Transport	medium	medium	
Tax or other incentives for biofuels	Transport	medium	low/medium	
Vehicle "feebates" on retail auto sales	Transport	low	medium	
Incentives to rebuild, repower or replace inefficient trucks and locomotives	Transport	low	low/medium	
Require sale of energy-saving tires (e.g., low rolling resistance tires)	Transport	low	low	
Renewable fuels standard (RFS) and/or low-carbon fuels standard	Transport	medium/high	medium	GHG reductions depend on type of biofuel, feedstocks and production processes.
Accelerated replacement of inefficient passenger vehicles	Transport	medium	medium/high	
Flex-fuel vehicle mandate	Transport	low/medium	low	No statewide mandates; some state government procurement mandates. Depends on efficiency of vehicle required.
Incentives for energy saving tires (e.g., low rolling resistance tires)	Transport	low	low	
Driver education on fuel conservation	Transport	low	low/medium	

OTHER				
Require banks to offer energy efficient/clean energy mortgage products	Residential	low/medium	low	
Encourage or require capture of methane from landfills, wastewater treatment plants, and/or coal mines	Fugitive/Waste	low	low	
Require recycling of construction debris	Fugitive/Waste	low	low	Generally requires a percentage of debris to be recycled, often implemented at the municipal level.
Require that recycling is offered to communities of a certain population threshold	Fugitive/Waste	low	low	
Volume- or weight-based waste disposal fees	Fugitive/Waste	low	low	
Voluntary GHG offset projects	Multi-sector	low	low	
Public education/outreach	Multi-sector	low/medium	medium	
Require water conservation measures	Multi-sector	low/medium	low/medium	Significant environmental co-benefits related to reduced demand for groundwater and wastewater treatment.
Incentives for water conservation appliances and equipment	Multi-sector	low	low	Significant environmental co-benefits, e.g., reduced wastewater flow and reduced demand for groundwater.

(1) "Potential Impact on Wisconsin GHG Emissions" is the relevant extent to which a policy could reduce emissions if applied stringently.

(2) "Implementation and Administrative Costs" are incurred by the state and may include drafting of regulations, program development, staff resources, direct spending, enforcement, and other costs.

Policy Categories	Category Options	Methodology
Policy	Name of Policy	Policy options were taken from the WI Task Force working group strawman proposals of 6/22/07 and generated by surveying state, national and international policy proposals.
Workgroup	Forestry and Agriculture, Industrial, Electric Utility (Demand-side and Supply-side), Carbon Trading/Offset Transportation	This category delineates which workgroups are currently charged with a particular policy option based on the initial workgroup strawman proposals of the Task Force.
Potential Impact on Wisconsin GHG Emissions	high, medium, low	The relevant extent to which a policy option could reduce emissions if applied stringently taking into consideration the affected sector or activity's contribution to total GHG emissions in Wisconsin.
Implementation & Administrative Costs	high, medium, low	These are costs incurred by the state and may include drafting of regulations, program development, staff resources, direct spending, enforcement, and other costs. If implementation is expected to be lengthy and/or administrative resources are expected to be high the policy receives a high score. A medium score indicates that additional state resources are significant but not large. A low score indicates that the policy requires few resources or changes in current structures in order to be implemented and operated (e.g. a change in a utility rate making rules).
Notes		Relevant comments are included here to inform the reader of key aspects or options of a given policy.