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(FORM UPDATED: 08/11/2010)

WISCONSIN STATE LEGISLATURE ... PUBLIC HEARING - COMMITTEE RECORDS

2009-10

(session year)

Assembly

(Assembly, Senate or Joint)

Special Committee on Clean Energy Jobs...

COMMITTEE NOTICES ...

- Committee Reports ... **CR**
- Executive Sessions ... **ES**
- Public Hearings ... **PH**

INFORMATION COLLECTED BY COMMITTEE FOR AND AGAINST PROPOSAL

- Appointments ... **Appt** (w/Record of Comm. Proceedings)
- Clearinghouse Rules ... **CRule** (w/Record of Comm. Proceedings)
- Hearing Records ... bills and resolutions (w/Record of Comm. Proceedings)
(**ab** = Assembly Bill) (**ar** = Assembly Resolution) (**ajr** = Assembly Joint Resolution)
(**sb** = Senate Bill) (**sr** = Senate Resolution) (**sjr** = Senate Joint Resolution)
- Miscellaneous ... **Misc**

* Contents organized for archiving by: Stefanie Rose (LRB) (December 2012)



Advocates for Creating Renewable Energy

The Eau Claire Leader Telegram published the following editorial by Dionne Lummus, business development coordinator for Wave Wind of Sun Prairie, an ACRE member. As a Wisconsin-based company with projects throughout the United States, Wave Wind has experienced first-hand the benefits of effective policy for renewable energy development. As Dionne discusses in the article, the Enhanced Renewable Portfolio Standard included in the Clean Energy Jobs Act will encourage new investment and good paying jobs in Wisconsin.

ACRE is a broad coalition of renewable energy businesses, labor groups, and environmental organizations advocating for passage of an Enhanced Renewable Portfolio Standard and Customer-Owned Renewable Energy provisions included in the Clean Energy Jobs Act. For further information on ACRE, contact Shaina Kilcoyne at (608) 251-0101 or kilcoyne@cwpb.com.

Wisconsin is Falling Behind in Transition to Green Energy

February 28, 2010

We have been flooded with a deluge of “sky is falling” statements from certain political groups that oppose the Clean Energy Jobs Act introduced in the state Legislature in January.

These groups are employing the same scare tactics they have used in the past to stop new policies that would provide jobs and other significant benefits for our state. They are marching out the same purportedly “independent” research studies to provide biased and unsupported job statistics and economic analysis. They argue we are better off relying on the status quo rather than embracing new approaches to job growth.

In the midst of this, let’s ask ourselves what is better for the future of our state—clinging to increasingly antiquated forms of energy production and manufacturing, or embracing a clean energy future and the immediate economic benefits it will provide.

One provision of the Clean Energy Jobs Act, in particular, will provide major employment and other economic benefits, as similar provisions have done in states throughout the country. An Enhanced Renewable Portfolio Standard (E-RPS) would set us on a path to provide 25 percent of our electricity from renewable energy by 2025, *including* at least 10 percent from renewable energy resources in our state. This provision would spur new investment in Wisconsin, good jobs in manufacturing, construction, operation and maintenance, low, stable fuel costs and clean, efficient, and cost-effective energy.

Opponents argue that the forward-looking provisions of the Clean Energy Jobs Act would eliminate jobs. They cite a study published by the Wisconsin Policy Research Institute. The misrepresentations and flawed assumptions in the WPRI study have been well-documented and undermine its credibility.

We will miss out on thousands of new jobs in the renewable energy industry if we fail to enact favorable energy policies. Wisconsin currently ranks last among 28 states that have renewable portfolio standards in terms of percentage goals, despite the fact that Wisconsin has great renewable energy potential.

This disparity has real and direct impacts on all of us. During the past several years, renewable energy manufacturers have created thousands of new jobs in states with more favorable energy policies. For example, Vestas Wind Systems, a Danish wind turbine manufacturer, opened three new manufacturing facilities in Colorado, a state with a renewable portfolio standard of 20 percent by 2020, creating 1,750 new manufacturing jobs.

The Wisconsin Office of Energy Independence projects that 15,000 new jobs will be created by the Clean Energy Jobs Act. As the Colorado example illustrates, this projection is realistic, if not conservative.

Several renewable energy projects completed recently and planned for the near future in the state further illustrate the job creation potential of renewable energy. Construction of the Blue Sky Green Field Wind Energy Center and the Forward Wind Energy Center in Dodge and Fond du Lac counties resulted in hundreds of thousands of labor hours by some 300 skilled construction workers, including electricians, engineers, iron workers and equipments operators. The Glacier Hills Wind Park in Columbia County will have similar benefits.

A report published by the Blue Green Alliance in November found that nearly five jobs are created in manufacturing, installation, operation, and maintenance for each megawatt of new wind power capacity. The report concludes that Wisconsin could have over 35,000 new jobs by 2025 in the manufacturing sector alone, in addition to new jobs in other sectors, as a result of the E-RPS.

As another example, Ingeteam, a manufacturer of wind turbine generators, recently announced plans to build a new manufacturing facility in Milwaukee, creating 100 to 200 jobs. Other manufacturers in our state with a stake in renewable energy include Bassett Mechanical of Kaukauna, CalStar Products of Caledonia, Cooper Power Systems of Waukesha, and Wausaukee Composites.

The E-RPS will expand this kind of economic development and job growth and make it sustainable. It will encourage long term investment by utilities and generators. Further, renewable energy facilities can easily be deployed over a large geographic area, thereby spreading the economic and employment benefits to rural communities.

A commitment to an E-RPS will provide a strong, secure foundation for Wisconsin job growth and economic development well into the future.



Proposed Structure to Pare Down the Clean Energy Jobs Bill

1. Conservation and Efficiency (C&E)
 - a. Nelson/Thilly changes per memo to authors of 1/26.
 - b. Direct the PSC in overseeing the enhanced C&E programs to target programs and funding to the commercial and industrial sectors to achieve the most cost effective C&E measures available that have the greatest potential for long term savings. To do so, combine Sections 126 and 127 - §196.374(5m) (a) and (am) into a single new section that provides that, regardless of the relative funding by different customer classes, the Commission shall ensure that adequate funding and programs are targeted to the commercial and industrial sectors (including schools and public buildings) in order to achieve the most cost effective conservation and efficiency measures available with the greatest potential to enable the state to meet its goals at the lowest cost, provided that programs and funding must be made available on a equitable basis to meet the reasonable needs of all-customer classes for conservation and efficiency services, grants and benefits. Reasonable provisions should be added to address the concerns of labor that large C&E and renewable projects produce high quality, well paid jobs. See attached labor standards suggestions. **[Would lower cost and increase effectiveness on the initiative and create better jobs.]**

2. RPS
 - a. Of the 2013 requirement of 10% provide that up to 2.5% (that is, ²⁵20% of the RPS) may be met by conservation and efficiency projects in the commercial and industrial sectors approved and verified by the PSC (i.e., at least 7.5% must be met by renewables). By 2015 the full 10% must be met by renewable projects. **[Leaves current law intact, provides relief from the proposed 2013 RPS requirement and accelerates high quality C&E jobs.]**
 - b. Provide that utility applications for large customer C&E projects to be used to meet the 2013 RPS should be processed by the PSC expeditiously without waiting for a broader policy rulemaking and that such C&E projects should be evaluated on their merits, not in competition with renewable project alternatives. **[Needed given time constraints.]**
 - c. For 2020, of the required 20% allow up to 4% to be met by verified C&E projects in the commercial and industrial sectors, with no credit against the in-state requirement. An RPS floor of 16% would be the result. **[Would reduce cost of RPS and promote high quality C&E jobs.]** *WPS?
MGE?*
 - d. By 2025, of the required 25% allow up to 5% to be met by verified C&E projects in the commercial and industrial sectors, with no credit against the in-state requirement. An RPS floor of 20% would be the result. **[Same.]**
 - e. Delete the provision that certificates for non-electric energy expire after one year and permit those technologies to transition to RECs when accepted into the MRETS system. Section 202 (§196.378(3m) **[Orion fix.]** } *close?*

- f. Delete requirement of PSC review of Manitoba consultation process if WPS agrees to actively support the bill. **[Subject to negotiation by the interested parties.]**
- OK* g. For compliance with the 2025 standard, cap each utility's compliance obligation at 25% or its baseline percentage, whichever is greater. **[Addresses Xcel and small western IOU concerns that they could be forced to over 30% without this cap.]**
- h. In accordance with the Task Force recommendation, modify the cost off-ramp to allow PSC waiver of the in-state RPS requirements. **[See p. 113 of TF report.]**

3. ARTS

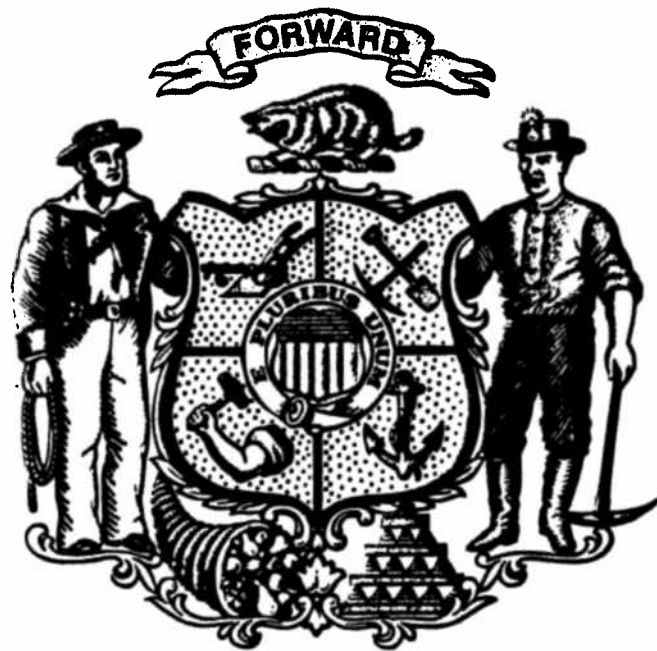
- a. Delete the current provision.
- Example* b. Increase the annual floor for statewide programs from 1.2% to 1.4%, with the additional 0.2% (plus the existing \$4 million) targeted for grants and loans for small scale renewable generation ~~—digesters,~~ wind and solar. **[Eliminates ARTs mandate and would provide substantial funding (\$18-20 million per year, plus existing \$4 million) for small scale WI renewable projects through Focus.]**

4. Nuclear

- a. Delete the language that requires “use” in Wisconsin and substitute the current CPCN requirement that the proposed facility must satisfy the reasonable needs of the public for an adequate supply of electric energy. This will put nuclear plants under exactly the same test as all Wisconsin public utility power plants. To do so, strike the word “use” in Section §196.493(1g)(i) and substitute the CPCN language above in Section 250/§196.493(2)(am)4. for current language. **[Resolves constitutionality issue and preserves basic task force intent.]**
- b. Delete the non-severability clause. **[Not needed.]**

5. Other

- a. Insert agreed on forestry and agriculture provisions.
- b. Other provisions to consider modifying or deleting:
 - i. Cal Cars
 - ii. Low Carbon Fuel Standard - Clean Wisconsin is discussing modifications with interested parties.
 - iii. Freight Idling – Consider Hulsey language
 - iv. Boiler Inspections
 - v. Consumer Electronics



March 3, 2010

TO: The Senate and Assembly Select Committees on Clean Energy

FR: The Coalition for Clean Energy:

Wisconsin Council of Churches
Citizens Utility Board
1000 Friends of Wisconsin
Clean Wisconsin
Wisconsin Community Action Program (WisCAP)
League of Women Voters of Wisconsin
Environmental Law & Policy Center
Wisconsin Environment
Midwest Environmental Advocates
Physicians for Social Responsibility
Sierra Club, John Muir Chapter
Wisconsin League of Conservation Voters

RE: Priorities for improvements to the Clean Energy Jobs Act (SB 450 and AB 649)

Thank you for your dedication in holding five hearings on this critical legislation involving more than 30 hours of testimony from more than 200 citizens. That testimony was overwhelmingly in support of the Clean Energy Jobs Act (CEJA).

The draft, as introduced, already reflects a significant compromise from the Global Warming Task Force (GWTF) recommendations. To make even close to half of the pollution reductions recommended, and to maximize the job creation and economic recovery benefits of the legislation, we respectfully offer the following focused priorities for your consideration.

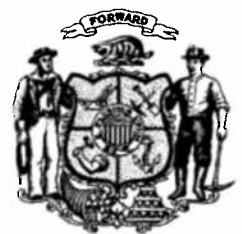
1. **Protect the integrity of the Renewable Electricity Standard (RES).** (a.k.a. "Renewable Portfolio Standard" in the current draft). The draft already has four obvious compromises to the definition of the RES but the RES should only be used for those technologies which are truly renewable – excluding fossil fuels of any sort and municipal solid waste. The existing statute already includes safety valves for ratepayer cost considerations. For this bill to be successful, it is imperative that there be separate clean energy standards for renewable energy and energy efficiency.

2. **Strengthen the Energy Efficiency Standard.** Energy efficiency is the cheapest, cleanest and fastest way to cut fossil fuel pollution. Strengthen the language to ensure that Wisconsin meets the 2 percent energy efficiency goal by **requiring** the Public Service Commission to direct efficiency investments necessary to reach that 2 percent goal. This is also consistent with what the GWTF recommended. We suggest that geothermal heat pumps should be included under the Energy Efficiency Standard, not the RES.
3. **Maintain strong Advanced Renewable Tariffs** (a.k.a. Renewable Energy Buyback Rates). ARTs broaden benefits across society by providing farmers, homeowners and small businesses with a fair price for their clean power. To assure legislators of rate protection, you could place a cap of 1.5% on the percentage of power from ART contracts.
4. **Preserve local transportation planning improvements.** Give local Wisconsin communities the authority to reduce taxes and plan more pedestrian and transit friendly development by requiring Metropolitan Planning Organizations to implement greenhouse gas reduction plans.
5. **Require in-state renewable energy generation for jobs benefits.** The requirement for facilities to be sited in Wisconsin should be at least half of renewable electricity generation requirements (i.e. 12.5% in 2025) -- and preferably more. This is very important to make sure your legislation creates as many clean energy jobs as possible in manufacturing, design and construction. **Support labor standards and requirements for the clean energy policies.** This is critical to maximizing the number of good quality, family-supporting jobs created by this legislation.
6. **Protect the most vulnerable.** Include provisions to protect Wisconsin's low-income public benefits program from any future funding 'raids.' Improve rural benefits by expanding the bill's provisions to include LP gas and heating oil users in energy efficiency programs.

Thank you for your time and consideration of these important policies. We look forward to working with you to make this the strongest legislation possible for Wisconsin's employment and environment.



WISCONSIN STATE LEGISLATURE





Clean, Responsible Energy for Wisconsin's Economy

March 3, 2010

Dear Legislator,

Sunday's editorial in the Milwaukee Journal Sentinel (attached) called for the Clean Energy Jobs Act to be passed. The article cited "economic and environmental reinvention" while debunking the study from the Wisconsin Policy Research Institute that has been contradictory and misleading in regards to the bill.

Besides the Journal Sentinel, many other media, trade groups and voters are asking lawmakers like yourself to work quickly to reach consensus on a bill so that this important opportunity is not lost. Keep in mind that passing the Clean Energy Jobs Act is a win-win situation for Wisconsin—AB 649/SB 450 will help our economy and our climate.

Sincerely,

A handwritten signature in black ink, appearing to read "Thad Nation", with a long horizontal flourish extending to the right.

Thad Nation
Executive Director
Clean, Responsible Energy for Wisconsin's Economy (CREWE)

THIS ACT IS NOT JUST ABOUT JOBS; IT'S ABOUT THE FUTURE

It's about whether the quality of our future is seriously diminished by climate change. Wisconsin must do its part. Tweak it, but approve the Clean Energy Jobs Act.

EDITORIAL
Sunday, Feb. 28, 2010

The tone and tenor of the debate over the Clean Energy Jobs Act was determined the moment the legislation was named.

Supporters built into the name what they, not unreasonably, believed would be one of the bill's principal virtues: job creation. But, with recession-induced trauma still fresh in everyone's minds, it is simply too easy and expedient - facts be damned - to call virtually any new legislation a jobs killer, from health care reform to even a jobs bill.

We believe the jobs will be there, but it is important at this juncture to recognize that this bill is not really intended as an economic stimulus measure. In very real terms, it is an attempt at economic and environmental reinvention - done with the specter of climate change and all its effects looming.

Yes, climate change, with humanity as a major contributor, is real. But even if you don't believe that, there is little to no downside to a future in which a good portion of our energy comes from renewable sources - 25% by 2025 - and no downside to a future in which energy efficiencies mean we are doing the same or more with less energy.

The reinvention comes in two other goals: growing new technologies and fostering

energy independence. Doing this will have far more enduring effects on those bottom lines in the future than any short-term benefit derived from doing nothing now to cushion today's corporate bottom lines.

On jobs, there are two dueling studies cited most often on whether the Clean Energy Jobs Act will actually create jobs.

One is by researchers at Michigan State University and the University of Southern California for the Center on Climate Strategies, the results of which are similar to findings by various state agencies. It forecasts a net increase of more than 16,200 new jobs in Wisconsin by 2025. It predicts a boost to the state's economy of \$4.85 billion total "in net present value" from 2011 to 2025.

The other study was done by the Wisconsin Policy Research Institute. It contends that policies similar to those in the bill would kill 43,000 Wisconsin jobs. The problem: It did not model the actual policies in the bill.

The Michigan study is more believable. Our guess is that some jobs will be lost and some will be gained, but we believe that in the end there will be a net gain. The Michigan study, after all, looked at what's in the bill. Those who disagree with its conclusions will likely pin their doubts on the fact that the study was commissioned by the state, whose governor has made passage of this legislation one of his key goals for the remainder of his term. He is not running for re-election.

But we invite the critics to read the study and, if they're going to criticize, to focus instead on the assumptions built in and the methodology.

Here's one assumption we're making: Whether or not

Congress ever enacts some form of carbon tax (it should), the cost of carbon will continue to rise.

Already, the Environmental Protection Agency has said greenhouse gases pose a danger to public health, which led to a decision in December to regulate carbon dioxide emissions. This is another way of saying that the cost of diminishing resources - fossil fuels - will continue to rise and that even the cost of a resource touted as plentiful - coal - will as well.

You want to talk about job killers? Energy dependence, rising energy costs, inefficiencies allowed to continue unfettered, environmental changes wrought by climate change - these are viruses deadlier than anything government could impose.

The Clean Energy Jobs Act, including its requirement for low-carbon fuels, is a hedge the state should enact against that.

And even if you don't believe that the Clean Energy Jobs Act will result in lower utility rates over time (predicated on some form of carbon tax), does anyone think all those maladies above won't also result in higher rates?

The efficiencies alone in this bill should compel approval. The state will develop new building codes for residential, commercial, agricultural and its own buildings.

This is not to say that this bill can't be improved. The bill would allow construction of new nuclear plants, no longer requiring a site for long-term disposal of spent nuclear fuel to be developed before a nuclear plant could be built. However, the bill also requires that power generated from any new nuclear plant built in the state be used only in Wisconsin.

This is unworkable. Wisconsin electricity is part of a larger pool of Midwestern electricity.

The bill also says that if any part of the nuclear measure is determined to be unconstitutional, all of the nuclear changes go away. That's like having a loaf of bread with a bad slice at the end but throwing the entire thing away.

Other tweaks will be necessary as well.

Worried about whether the state's utilities can meet that 25% by 2025? It's a realistic goal. But we also know that the bill provides for delays if the price gets too hefty. In any case, let the energy savings created by efficiencies count toward the renewable energy goal.

This bill is said to be dead. If so, it will be in fine company. The same is said of other legislation - on Milwaukee Public Schools governance, for instance.

We hope it isn't true. We hope this Legislature doesn't share with its counterparts on the Potomac that syndrome that affects the ability to accomplish much of anything - if the issue is important and excites passions.

At bottom, this bill is about just such a topic, climate change - doing our part to moderate its effects. Broader federal legislation would be preferable, but it would be irresponsible for the state to wait.

Change the bill to cushion impact and cost where advisable. But deal with it.



To: Rep. Spencer Black; Rep. Jim Soletski
From: Rep. Jeff Smith
Date: March 5, 2010
RE: Assembly Bill 649, Clean Energy Jobs Act

I want to thank you and your staff for the significant amount of time and effort you have spent drafting the Clean Energy Jobs Act. I appreciate the tremendous legislative undertaking drafting a bill of this importance and magnitude entails.

I support an enhanced Renewable Portfolio Standard moving Wisconsin to a 25x25 standard including a 10 percent in-state requirement. I believe an enhanced RPS will enable Wisconsin to position itself competitively for job creation and economic development in the clean energy market.

I'd like to encourage you to continue to work on finding a compromise on Advanced Renewable Tariffs. I have heard concerns about the ARTs provision from utilities and electric cooperatives in my district. I do believe that distributed generation is important for job creation in Wisconsin and am confident you will work to forge a compromise that doesn't burden utilities and electric cooperatives.

Based on feedback from interest groups in the 93rd Assembly District Below are some changes I would encourage you to adopt in a substitute amendment to Assembly Bill 649.

Biomass

- Remove the proposed changes to the biomass definition and request that you maintain the existing statutory definition.

RPS

- I request that you change the baseline calculation that was established in Act 141 so as to not disadvantage utilities that made early investments in renewable energy technology. A way to address this would be to cap the Enhanced RPS requirement at each increment as to not require any one utility to go over the required mandate. This would address concerns utilities that serve north and western Wisconsin (see page 2 for sample language).

Thank you for your consideration.

Sincerely,



Jeff Smith
State Representative
93rd Assembly District

Draft Amendment Language for the 25% Renewable Portfolio Standard Cap

The changes to the bill that hold the other utilities harmless but that also address this inequity are set forth below, with the section referencing the bill section and the double underline reflecting proposed changes:

10 Percent: SECTION 181. 196.378 (2) (a) 2. d. of the statutes is amended to read:

196.378 (2) (a) 2. d. For the year ~~2015~~ 2013, each electric provider shall increase its renewable energy percentage so that it is at least 6 percentage points above the electric provider's baseline renewable percentage, or to an overall 10 percent level for that electric provider, whichever is lower.

20 Percent: SECTION 183. 196.378 (2) (a) 2. f. of the statutes is created to read:

196.378 (2) (a) 2. f. For the year 2020, each electric provider shall increase its renewable energy percentage so that it is at least 16 percentage points above the electric provider's baseline renewable percentage, or to an overall 20 percent level for that electric, whichever is lower, and shall ensure that its in-state percentage is not less than 30 percent of the renewable energy percentage required under this subd. 2. f.

25 Percent: SECTION 185. 196.378 (2) (a) 2. h. of the statutes is created to read:

196.378 (2) (a) 2. h. For the year 2025, each electric provider shall increase its renewable energy percentage so that it is at least 21 percentage points above the electric provider's baseline renewable percentage, or to an overall 25 percent level for that electric provider, whichever is lower, and shall ensure that its in-state percentage is not less than 40 percent of the renewable energy percentage required under this subd. 2. h.





WisBusiness: Rep says businesses are cutting energy use without legislation

3/8/2010

By Brian E. Clark
For WisBusiness.com

Major businesses will continue to reduce energy consumption to save money, regardless of what Congress or the Wisconsin Legislature do about climate change legislation, the head of the Wisconsin Industrial Energy Group (WIEG) said today.

"The companies I represent are already doing this just to remain competitive," said Todd Stuart, WIEG executive director. He spoke on a "Changing Business Practices in a Sustainable World" panel at the WisPolitics.com-sponsored Focus on Midwest Energy III Conference held today at The Madison Club.

WIEG represents industries that are the state's biggest power consumers, some with utility bills of \$1 million a month, he said.

Stuart said WIEG members do not want any state or federal mandates and would prefer to have their decisions directed by the marketplace. He said they operate on "thin margins" and fear energy costs will increase significantly because of requirements that utilities produce energy from solar or wind farms.

Still, even if no bills with renewable mandates are passed, state Public Service Commission Chairman Eric Callisto said he will seek to increase funding for the state's Focus on Energy program. The program, which he lauded as extremely successful at helping "pick off low-hanging fruit" such as inefficient light fixtures, motors and heating and air conditioning systems, now raises \$90 million annually from a 1.2 percent levy on utilities.

Callisto also praised efforts to reduce carbon emissions and said he "would love to have price on carbon, the sooner the better.

"We need to transition to a carbon-constrained environment," he said. "But the intent of the legislation is not to break the bank on this. We can do it in a reasonable way."





Northern States Power Company

10 E. Doty Street, Suite 511
Madison, WI 53703
608-280-7303

March 9th, 2010

Representative Jim Soletski
307 West – State Capitol
P.O. Box 8953
Madison, WI 53708

Dear Representative Soletski,

Thank you very much for joining Xcel Energy employees and retirees for our 10th Annual Legislative Day on February, 24th and presenting to our group. I know you had a lot going that day and I greatly appreciate your fitting us into your busy schedule.

We appreciate your leadership on issues that impact our Company and Industry. I received many comments from our employees and retirees that they were impressed by your experience and expertise in the energy industry and felt fortunate to have you as a leader in the Legislature on energy related issues. Our employees also enjoyed the update on the CEJA legislation and your perspective on where the legislation may be headed. We also want to thank you for championing the Streamlined Utility Refund Act (SURE) and advocating for passage of the bill during the budget process and just recently in the Assembly.

Thank you very much for your past efforts and we look forward to working with you on these and other issues going forward.

Sincerely,

A handwritten signature in black ink that reads 'Rebecca Larson' in a cursive script.

Rebecca Larson
Manager, Government Affairs
Xcel Energy



10 E. Doty Street, Suite 511
Madison, Wisconsin 53703
Telephone (608) 280-7303
Fax (608) 280-7359

March 9th, 2010

Representative Jim Soletski
Co-Chair, Special Committee on Clean Energy Jobs
State Capitol - Room 307 West
Madison, WI 53708

Dear Representative Soletski,

Thank you for meeting with Xcel Energy Management and Superior Day participants on February 24th, to discuss issues surrounding the Clean Energy Jobs Act. We know it was a busy day and we appreciate your time and attention to our issues.

As you and the Assembly Special Committee on Clean Energy Jobs deliberate on AB 649, listed below is a summary of Xcel Energy's concerns and requested changes to these bills. Climate legislation at the state and National level will have a dramatic impact on the energy industry going forward and we appreciate the opportunity to provide our perspective on the various proposals within the Clean Energy Jobs Act.

Enhanced Renewable Portfolio Standard

As we have consistently stated, we're generally supportive of an enhanced Renewable Portfolio Standard (RPS) in Wisconsin. However, we are seeking changes to the baseline calculation that was established in Act 141. Due to Xcel Energy's early investments in renewable energy technology, this baseline calculation requires the company to go almost three percent above the statewide average requirement. This additional investment for Xcel Energy's customers penalizes them for the company's early investments in renewable energy technology. **A way to address this would be to cap the Enhanced RPS requirement at each increment as to not require any one utility to go over the required mandate.** This would address Xcel Energy's concerns as well as the concerns of other utilities that serve north and western Wisconsin. **Attached to this letter is a proposed amendment to address this concern.**

Biomass Definition

Xcel Energy opposes the proposed changes to the biomass definition. The proposed changes were not discussed within the scope of the Task Force, and we think the changes severely weaken the current definition going forward. Should an enhanced RPS be passed, energy providers will need a broad range of options to achieve the aggressive renewable energy goals as outlined in the legislation. **We request maintaining the existing statutory definition.**

Advanced Renewable Tariffs

Xcel Energy strongly opposes language in the legislation mandating Advanced Renewable Tariffs for Wisconsin's Investor Owned Utilities. This is a deviation from the Task Force recommendations, and we request the bill be amended to remove the language. Xcel Energy has been working to revise its existing voluntary tariff to make it more attractive to customers who want to own and operate distributed generation technology. However, mandating these contracts at an inflated price to benefit a small percentage of customers which will then be subsidized by our entire customer base would put significant upward pressure on rates. We also believe this violates the construct of Act 141, which states that if an electric provider is meeting its statutory obligation under the RPS, additional renewable investments cannot be mandated by the PSCW. **We ask this language be removed in its entirety.**

Nuclear Language

We expressed concerns in our written testimony over proposed language regarding the nuclear moratorium that would require all of the energy produced from a new nuclear power plant in Wisconsin to be used by Wisconsin ratepayers. Given the way Xcel Energy plans and operates its system and the related multistate cost sharing agreement, if we cannot consider combined load growth of NSP-Wisconsin and NSP- Minnesota when evaluating the construction of nuclear power in Wisconsin, we would not consider a new nuclear facility. Essentially, the moratorium remains in place for our company. **We ask that this language and the non-severability language be removed.**

Energy Efficiency and Conservation

We support the recommendations to enhance energy efficiency in Wisconsin. Xcel Energy is a strong proponent of energy conservation as a way to address the issue of climate change. Increased program funding is something we've supported in all states in which we serve. **However, as the Public Service Commission of Wisconsin (PSCW) sets its budget for Energy Efficiency spending, we feel Joint Finance Committee oversight of that budget should be retained and the impact on ratepayers be considered. We also support the 1.2% funding floor for energy efficiency and conservation programs, consistent with Act 141 as suggested by the former Task Force Group.**

Please do not hesitate to contact me with any questions you may have on the items listed above or other provisions within the legislation.

Sincerely,

Rebecca Larson
Manager, Government Affairs
Xcel Energy

Draft Amendment Language for the 25% Renewable Portfolio Standard Cap

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Date: March 9, 2010

Subject: **Clean Energy Jobs Act Will Prepare State Companies for Carbon Rules**

Dear Legislator,

Whether or not federal climate legislation is passed this year, businesses must prepare for dealing with their carbon output today, as the *Milwaukee Journal Sentinel* pointed out correctly on Sunday (attached). We can put Wisconsin companies ahead of the curve by passing the Clean Energy Jobs Act. Its provisions will help reduce our state's carbon emissions while preparing businesses for federal regulations once they are enacted.

Remember, we need to do everything we can to help our state's businesses because their viability directly affects Wisconsin's economic climate. After a challenging 2009, we can't afford to have our businesses anything but leaders in meeting demands to address their carbon footprint.

Sincerely,

A handwritten signature in black ink, appearing to read "Thad Nation", with a long horizontal flourish extending to the right.

Thad Nation
Executive Director
Clean, Responsible Energy for Wisconsin's Economy (CREWE)

EXPERTS URGE BUSINESSES TO PLAN AHEAD FOR CARBON RULES

Sunday, March 7, 2010
Thomas Content

As Congress moves to enact a federal system to regulate emissions of greenhouse gases, businesses are bracing for a variety of new mandates aimed at disclosing to investors the carbon risks they face.

Conventional wisdom in Washington is that climate legislation likely won't be passed this year by a Congress focused on health care reform and jobs legislation.

But that doesn't mean businesses should put off dealing with their carbon output, experts say.

"Even if you personally don't think it's going anywhere, there's an awful lot going on for something that's dead," said Christine Tezak, energy policy analyst at Robert W. Baird & Co. "Nobody wants to be blindsided, so be aware that it's not dead yet."

And the demands for businesses to address their carbon footprint keep coming:

- Businesses must start measuring their greenhouse gas output, including the carbon released by their use of electricity and natural gas for heating and lighting, under an Environmental Protection Agency rule.

- Under a National Association of Insurance Commissioners initiative led by Wisconsin Insurance Commissioner Sean Dilweg, many insurance companies will have to disclose their carbon-exposure, such as their vulnerability to higher property and casualty insurance costs because of potentially higher losses from extreme-weather events such as hurricanes and blizzards, among others.

- Publicly traded companies will have to disclose their carbon risk, the Securities and Exchange Commission voted earlier this year.

Businesses will have to disclose what it will cost them to curb their emissions. They must also disclose if there is a physical effect on their business from climate change, said Mark Thimke, an attorney with Foley & Lardner. "Do you have facilities located in at-risk areas of disruption - from hurricanes or high water, for example?"

Other carbon-risk pressures are coming from the private sector and the courts:

- Suppliers need to reduce their carbon output under initiatives Wal-Mart Stores Inc. and Kohl's Corp. have put in place. Wal-Mart has vowed to use cuts in carbon output by suppliers to help it reduce its own emissions profile.

- A record 95 shareholder resolutions on climate change will be presented by institutional shareholders concerned about global warming during annual shareholder meetings this year.

- Several recent federal court cases have opened the door to potential class-action lawsuits linked to climate change, said Art Harrington, an attorney with Godfrey & Kahn in Milwaukee.

"Uncertainty in the greenhouse gas area about regulation and litigation equals risk, and that is what everybody is trying to struggle with," Harrington said. "There actually is going to be a critical demand for something to be done at the federal level to solve what otherwise are going to be intractable problems."

Pressure on suppliers

Big companies that have made greenhouse gas mitigation pledges are going to be pressuring their suppliers to do the same.

More than half of large companies that disclose their climate strategies to the global Climate Disclosure Project said they would stop doing business with suppliers that don't address their own carbon output, according to a recent supply chain report.

Many small and midsize companies aren't prepared.

A survey of manufacturers last fall by software firm IFS North America found that 73% of the companies surveyed are not tracking their carbon footprint, said Chuck Rathmann, marketing manager at IFS in Brookfield.

"What we saw most among our customers was a lot of companies are being affected by green supply-chain mandates," he said. "A lot of the big-name companies are saying we're going to become more environmentally sustainable, and the single easiest way to do that is to force that down on your supply chain."

Kohl's, with more than 1,000 department stores, is taking steps at stores across the country to cut energy use and carbon. Kohl's generates solar power from panels mounted on the rooftops of 81 stores. What it doesn't generate, Kohl's buys from renewable sources such as wind turbines.

The Menomonee Falls retailer plans to be carbon-neutral from its entire operations for the next three years.

"It's just the natural next step ... to show that we're serious about sustainability and that it can be achieved," said Ken Bonning, executive vice president of logistics for Kohl's. "There are a lot of companies that say it can't be done, and we would like to show that, certainly from our perspective, it is an attainable and achievable goal."

The retailer has established a rigorous process for suppliers, asking them to measure their efforts on topics such as water use and carbon mitigation,

Bonning said. Within several years, scorecards developed from tracking suppliers' progress could be used to drop vendors who don't measure up.

Ready or not

Two reports analyzing carbon risk found some large Wisconsin companies ahead of the pack - and others lagging - in assessing their preparedness for a price to be put on carbon.

Maplecroft's Climate Innovation Index ranked Glendale-based Johnson Controls Inc. sixth among 318 firms in the country because of its technologies aimed at reducing energy use and emissions, both from batteries for hybrid and plug-in hybrid vehicles and from systems that stop energy waste by buildings.

Many companies aren't prepared to invest in energy efficiency because of the high initial cost that makes for a longer payback period than they want, said Paul von Paumgarten, an executive at Johnson Controls and green-building advocate who recently joined HY-Brid, the environmental-marketing business of advertising and public relations firm Hoffman York.

He joined the firm to help convince more companies that they can take advantage of carbon savings and reduce their energy costs by changing lighting, modernizing boilers, adding motion sensors and taking other steps to make factories or office buildings more energy efficient.

"Right now, it's the calm before the storm. Most businesses are holding tight. There's almost a siege mentality," von Paumgarten said. But supply-chain pressure, mandates and the specter of rising energy prices from fossil fuels will motivate businesses to act."

Businesses are going to have to make a lot of changes, he said. "But the good news is that green can pay for itself, and that's a revelation for most folks."





ANTHONY J. STASKUNAS

STATE REPRESENTATIVE • 15th ASSEMBLY DISTRICT

SPEAKER PRO TEMPORE

March 11, 2010

Representative James Soletski
Room 307 West
State Capitol

Dear Representative Soletski,

In response to Representative Black's email asking for member input on Assembly Bill 649, the Clean Energy Jobs Act, I am writing you to share some of my thoughts and concerns with this bill.

I am disappointed in the initial drafting of AB649, as well as the manner in which this bill is moving through the legislative process. There is a tremendous amount of pressure on the Assembly to consider this important bill in a short period of time. It seems to me that members deserve more time to review and consider the implications of this proposal.

I also find it curious that nobody is claiming authorship of Assembly Bill 649. Perhaps it is because, in my view, this bill was drafted taking the wrong approach. Many of the items that were included in the original draft appear to me to be nonstarters and will be removed from future drafts. However, many of my constituents view this bill negatively because of the language contained in the original draft. It will be very difficult to convince my constituents that the bill has been fixed in a positive and constructive manner.

In an attempt to clarify my concerns, I have compiled a list of questions regarding certain provisions in AB649, as well as some suggestions.

1. How was the 25% RPS number arrived at? It seems to me that this is an arbitrary number plucked from the sky to utilize the phrase "25 by 25". Furthermore, there does not seem to be a clear road map or plan on how to achieve this goal.
2. I have great concerns regarding the increased dependence on wind power created in the bill. Our state has very few places where prevailing winds are strong enough to generate substantial amounts of power. I do not believe that wind will help us reach the "25 by 25" goal.

3. My main focus in this bill is whether or not passage of AB649 will significantly increase utility rates for ordinary residents and businesses in my district. I still need to be convinced that this bill will not significantly increase utility rates.
4. I am concerned with the severability language as it pertains to the construction of new nuclear power plants. This language must be revised to keep nuclear power on the table as a viable power generating option.
5. I feel that changes must be made so that more money can be directed towards helping lower income individuals pay their utility bills and that weatherization fund needs to be capped.
6. I understand that some alternative versions of this bill place more emphasis on energy efficiency rather than renewables. I support all efforts to increase energy efficiency.

The concerns listed above all assume that the most objectionable aspects of the bill, including all references to California emissions and low carbon fuel standards, advanced renewable tariffs and cap and trade are removed from the bill in the substitute amendment that is currently being drafted.

Let me reiterate my concern that we are going to attempt to pass a complicated piece of legislation that will greatly affect all Wisconsin residents and businesses without adequate time for legislators to study and become more familiar with this potential impacts of this piece of legislation.

Thank you for your time and consideration on this matter.

Sincerely,



ANTHONY J. STASKUNAS
State Representative
15th Assembly District

AJS/eth



To: Senate Select Committee on Clean Energy
Assembly Special Committee on Clean Energy Jobs

Copy: Members, Wisconsin Legislature

From: Aggregate Producers of Wisconsin
Associated Builders & Contractors of Wisconsin, Inc
Associated General Contractors of Wisconsin
Eau Claire Area Chamber of Commerce
Fond du Lac Association of Commerce
Forward Janesville, Inc.
Fox Cities Chamber of Commerce & Industry
Green Bay Area Chamber of Commerce
Heart of the Valley Chamber of Commerce
Independent Business Association of Wisconsin
La Crosse Area Chamber of Commerce
Marshfield Area Chamber of Commerce & Industry
Menomonee Falls Chamber of Commerce
Metropolitan Builders Association
Metropolitan Milwaukee Association of Commerce
Midwest Equipment Dealers Association
Midwest Food Processors Association
National Federation of Independent Businesses – Wisconsin Chapter
Oshkosh Chamber of Commerce
Racine Area Manufacturers & Commerce
Wausau Region Chamber of Commerce
West Bend Area Chamber of Commerce
Wisconsin Automobile & Truck Dealers Assn.
Wisconsin Automotive Aftermarket Association
Wisconsin Automotive Parts Association
Wisconsin Builders Association
Wisconsin Cast Metals Association
Wisconsin Economic Development Association
Wisconsin Engine Manufacturers & Distributors Alliance
Wisconsin Housing Alliance
Wisconsin Independent Businesses
Wisconsin Industrial Energy Group
Wisconsin Manufacturers & Commerce
Wisconsin Motor Carriers Association
Wisconsin Paper Council
Wisconsin Petroleum Council
Wisconsin Petroleum Marketers & Convenience Store Association
Wisconsin Potato & Vegetable Growers Assn.
Wisconsin Restaurant Association
Wisconsin Retail Council
Wisconsin Utility Investors, Inc.

Date: March 11, 2010

Subject: SB 450 & AB 649, relating to recommendations of the Governor's Task Force on Global Warming

As representatives of Wisconsin's manufacturing, agriculture, construction, transportation and economic development communities, we write to register our collective opposition to the state global warming legislation. While we support the goals of energy efficiency and renewable energy, the costly and prescriptive mandates in this legislation will significantly increase the cost of energy, and harm key sectors of our economy at a time when businesses and homeowners can least afford it.

Affordable and reliable energy is the lifeblood of our economy. Unfortunately, this legislation will lessen our economic competitiveness by increasing energy costs at a time when our electric rates have climbed faster than those of any Midwest state. Beyond hiking electric rates, these bills will increase the cost of gasoline automobiles and trucks, transportation infrastructure improvements, and commercial and home building construction projects. Imposing these burdens on struggling businesses and citizens will come at great costs while having no meaningful impact on global temperatures or greenhouse gas emissions.

Although we are encouraged that the authors appear to recognize certain policies such as the low carbon fuel and California vehicle emission standards should be removed from the bill, the most expensive and economically damaging policies would remain in the proposed legislation. Specifically, the renewable portfolio standard (RPS) and energy efficiency surtaxes will be tremendously expensive, and will result in double-digit increases for Wisconsin utility customers.

For example, the Public Service Commission of Wisconsin (PSC) concluded that meeting a 25 percent RPS would require the addition of at least 400 megawatts of new renewable generation each year until 2025, with a likely capital cost of \$2.32 million per megawatt. This adds up to a total cost of \$15 billion, without considering the billions of dollars needed to construct new transmission lines to accommodate the new generation. Recent wind project costs in Wisconsin are consistent with these projections. Thus, there is no disputing the fact that a 25 percent renewable mandate will be extraordinarily expensive for Wisconsin families and businesses.

Forcing customers to pay for new electric generation, which may be fairly characterized as a renewable energy tax, is particularly inappropriate given our state's substantial excess generation capacity. We have invested billions of dollars in recent years to improve our electric generation and transmission infrastructure, resulting in a *30.9 percent surplus of electricity*. Rather than forcing homeowners and businesses to pay for additional electricity we do not need, ratepayers should be given time to cash out the equity in investments already made.

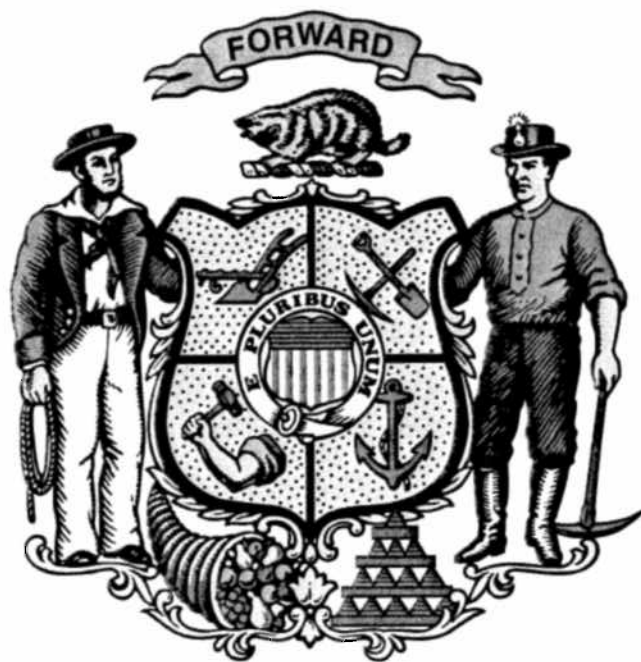
We also have great concerns and thus oppose the new energy efficiency surtaxes on monthly energy bills. The bill gives the PSC virtually unlimited authority to set energy taxes at a level necessary to fund government spending on energy efficiency programs to reduce electric consumption by 2 percent statewide. This "tax and spend" policy approach ignores the fact that Wisconsin businesses helped drive a five-fold economy-wide increase in energy efficiency over the past four decades.

A report issued last year by the Energy Center of Wisconsin highlights the staggering cost of these new energy taxes on homeowners and businesses. Commissioned by the PSC, the study found it would cost at least \$700 million per year to fund energy efficiency programs to achieve a 1.9 percent reduction in electricity consumption – still short of the 2 percent goal. We believe, and history has shown, that businesses and homeowners have sufficient economic incentives to conserve energy without the need for \$700 million per year in stealth energy taxes on monthly electric bills.

Finally, we object to the residential and commercial building code provisions contained in this legislation, which apply to new construction. Even though Wisconsin already has stringent energy codes, these bills would, with very limited exceptions, require the adoption of an international code developed outside of Wisconsin. Moreover, the legislation eliminates the ability to consider costs and benefits associated with adopting these provisions. This approach abrogates the ability of Wisconsin policymakers to adopt codes that they believe are best for Wisconsin, and likely will hurt housing affordability by eliminating the ability to consider costs.

It is increasingly clear that the costs associated with this legislation will be enormous, and the benefits nominal. We urge the committees and the entire Legislature to reject these proposals, and instead focus on advancing policies that make Wisconsin more competitive by reducing, rather than increasing energy costs. We look forward to working with lawmakers to improve our overall business climate to provide permanent, family-supporting jobs for all sectors of our economy.

*Per Capitol Mailroom requirements, this memo was distributed on behalf of the 41 listed organizations, by:
Scott Manley, smanley@wmc.org, PO Box 352, Madison, WI 53701, 608-258-3400.*





Public Service Commission of Wisconsin

Eric Callisto, Chairperson
Mark Meyer, Commissioner
Lauren Azar, Commissioner

610 North Whitney Way
P.O. Box 7854
Madison, WI 53707-7854

March 12, 2010

Senate Select Committee on Clean Energy
Wisconsin State Senate
State Capitol
P.O. Box 7882
Madison, WI 53707-7882

Assembly Special Committee on Clean Energy Jobs
Wisconsin State Assembly
State Capitol
P.O. Box 8952
Madison, WI 53708

Re: Clean Energy Jobs Act

Dear Committee Members:

Yesterday, several interest groups wrote legislators urging opposition to the Clean Energy Jobs Act. The groups warned that the cost of renewable energy standards and enhanced energy efficiency programs would be "enormous" and the benefits only "nominal." Once again, the clean energy naysayers have it wrong. Enhanced renewable portfolio standards and increasing our efforts in energy efficiency reduce our dependence on imported energy, keep more of our energy dollars here at home, and help to ensure that Wisconsin and our country is competitive in the global energy economy.

You should know that the memo from clean energy opponents includes some key factual errors.

In particular, it claims that enhanced energy efficiency programs will add \$700 million in new costs for consumers, citing a report by the Energy Center of Wisconsin (ECW). In reality, we will save money on our energy bills the more we do on energy efficiency. It is common sense – the less energy we consume, the less we pay on our utility bills.

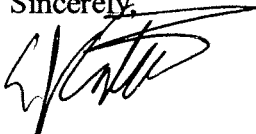
As for the ECW report, what it actually concludes is that Wisconsin consumers will save \$900 million per year in energy costs if we invest between \$350 and \$400 million in energy efficiency programs; and if we invest roughly \$700 million in energy efficiency, Wisconsin consumers will save \$2 billion per year in energy costs. For comparison, the state's *Focus on Energy* program returns \$2.30 to energy consumers for every \$1.00 invested on energy-saving programs. By any measure, those are healthy returns on our investment. Incidentally, ECW also found that enhancing our energy efficiency programs would support between 7000 and 9000 new jobs. The bottom line is that if we don't invest in energy efficiency, we will be spending significantly more on new generation.

The memo also claims that meeting a 25 percent renewable portfolio standard will add more than \$15 billion in extra costs for consumers. Increasing our renewable energy portfolio can reduce Wisconsin energy costs in the long run, particularly when implemented alongside enhanced energy efficiency programs – as the Clean Energy Jobs Act envisions. The enclosed, recent Public Service Commission analysis confirms that. Wisconsin relies far too heavily on imported fossil fuels for our energy needs, sending billions of dollars out of state every year. Our fossil fuel reliance will get even more expensive as carbon pollution regulation takes effect. To stay competitive, Wisconsin needs to invest more in clean energy generation sources that better support our local and regional economy.

Across the state, companies like Virent, Johnson Controls, Orion Energy, Wind Capital Group, Waukesha Electric, ZBB Energy, Helios USA, Cardinal Glass, Renewegy, Nature Tech, Energy Performance Specialists, Greenwood Fuels, Tower Tech and many others provide good jobs for people producing alternative forms of energy. None of these companies would be producing these jobs without good public policy, aggressive energy efficiency efforts, and renewable energy standards.

The longer we wait on clean energy policies, the farther behind we fall. The global clean-energy market could by 2020 be one of the world's largest industrial sectors, totaling as much as \$2.3 trillion. Already, China spends \$8 billion a month on renewable energy. Wisconsin is well-positioned to capture a significant share of the growing clean energy market. We cannot and should not wait any longer. The Clean Energy Jobs Act makes sense for Wisconsin businesses, our workers and families, and for generations to come.

Sincerely,



Eric Callisto
Chairperson

cc: Members, Wisconsin Legislature

Enclosure (Feb. 19 letter to Assembly Special Committee)



Public Service Commission of Wisconsin

Eric Callisto, Chairperson
Mark Meyer, Commissioner
Lauren Azar, Commissioner

610 North Whitney Way
P.O. Box 7854
Madison, WI 53707-7854

February 19, 2010

Assembly Special Committee on Clean Energy Jobs
Wisconsin State Assembly
State Capitol
Madison, WI 53702

Re: Utility and Ratepayer Costs Associated with the Clean Energy Jobs Act

Dear Committee Members:

I am writing in response to a letter dated February 9, 2010 from Representatives Huebsch, Montgomery, and Gunderson requesting a Commission analysis of the expected costs to utilities and ratepayers of meeting a 25% by 2025 Renewable Portfolio Standard (RPS) as proposed in the Clean Energy Jobs Act. As I have testified to both the Assembly and Senate Select Committees, the electric utility sector policies in the proposed legislation – namely, the enhanced RPS and energy efficiency provisions – represent sound energy policy for Wisconsin. The Commission's analysis shows that if we continue with business as usual, if we decide to do nothing, we are taking on great financial risk in a changing world, and our ratepayers will be leaving substantial dollars on the table.

As our nation recovers from the worst economic crisis since the Great Depression, we of course must continue to support Wisconsin's bedrock industries like agriculture and manufacturing. But we must also position Wisconsin to lead in emerging sectors like clean energy. Numerous third party reviews, independent studies, and industry recognized research all show that the Clean Energy Jobs Act will create more than 15,000 net new jobs in Wisconsin, not just in new fields, but in construction, manufacturing, forestry, and agriculture.

Four years ago, the Wisconsin legislature passed renewable portfolio standards with strong bipartisan support. As a result, the state has seen a rapid expansion in renewable energy production and real growth in clean energy jobs. Wisconsin is now the seventh leading producer of ethanol, and there are more than 300 companies and thousands of jobs in the state's wind industry.

Across the state, companies like Virent, Johnson Controls, Orion Energy, Wind Capital Group, Waukesha Electric, ZBB Energy, Helios USA, Cardinal Glass, Renewegy, Nature Tech, Energy Performance Specialists, Tower Tech and many others provide good jobs for people producing alternative forms of energy. None of these companies would be producing these jobs without good public policy, aggressive energy efficiency efforts, and renewable energy standards.

Seizing the opportunity to build on our successes and continue fostering a clean energy economy cannot be a partisan issue. We cannot afford to hold back the economic development and job creation that is possible with a clean energy economy.

Much has been said about what will happen to the cost of electricity if the Clean Energy Jobs Act (CEJA) becomes law. As I said in my recent testimony before both relevant committees, electricity costs likely will rise over time, whether or not the CEJA is enacted into law. Virtually every commodity in commerce increases in cost over time, and electricity is no different. It is also true that enhanced renewable portfolio standards will require new capital investments in renewable facilities construction, and those investments will be significant.

However, understanding the true cost of the proposed legislation is far more complicated than simply estimating the capital costs associated with new renewable facilities and multiplying that estimate by an amount of new capacity needed to meet the standards. What must be considered is what the future cost of doing nothing is versus the future cost of the CEJA. The cost difference between those two futures is what matters, viewed against the likely benefits. That is the question for policy-makers.

Public Service Commission (PSC) staff has modeled two of the major policies included in the CEJA, in particular the potential cost implications of both the energy efficiency and RPS components of the legislation. It is critical to consider these policies in tandem, as they both influence the cost picture for electricity customers. The legislation also provides several new compliance options associated with an enhanced RPS, and those too are an appropriate part of any responsible cost analysis.

At the Commission, we use an electricity forecasting tool called EGEAS to model various electricity futures. The EGEAS model was developed not by the government but by the electric utility industry's research group, the Electric Power Research Institute (EPRI). Computer modeling, especially of something as complicated as today's partially regulated electricity markets, is an inexact science. The EGEAS model, like any other model, cannot predict the future. However, EGEAS is the best tool currently at our disposal for forecasting future costs and wholesale prices for electricity. When we start talking about future retail rates, forecasting becomes even more speculative because rates are influenced by an even larger set of variables. As you know, retail electric rates are subject to continuing regulatory oversight and the CEJA includes a variety of "off ramps" that ensure the PSC can, if necessary, relax or delay RPS requirements if the rate impacts become unacceptable.

Preliminary modeling suggests that while future electricity costs are dependent on many variables, the one variable that is probably more important than all others is the demand for electricity. All of the cost calculations can change dramatically, depending on whether we assume electric demand will grow at historic levels, grow more slowly, remain constant, or decrease.

Another critically important variable is the potential cost of complying with greenhouse gas (GHG) regulations. When federal regulation of GHGs takes effect, electricity generated from fossil fuel plants that are subject to regulation will become more expensive, and utilities may seek to build or buy renewable generation not just to satisfy RPS laws, but also to reduce their GHG compliance costs. The net effect of this phenomenon is that the higher the price on GHG emissions, the more renewable capacity we will see, and the more beneficial energy efficiency spending becomes.

Some argue that electric sector modeling should not monetize carbon (or GHG emissions) until Congress enacts cap and trade legislation or some type of carbon tax. That view ignores the regulatory effort that is already underway at the U.S. Environmental Protection Agency (EPA). PSC staff assumes that electric generators will face future GHG regulatory compliance costs in light of the U.S. Supreme Court's decision in *Massachusetts v. EPA* and, more importantly, the EPA's subsequent final determination that GHG emissions endanger human health.¹ Barring a change in federal law – or the U.S. Supreme Court overruling itself – GHG emissions from electric generators will be regulated through performance standards and those regulations will impose costs. Accordingly, status quo assumptions include carbon monetization.

With that in mind, what follows is a summary of preliminary PSC cost modeling of the RPS and energy efficiency components of the CEJA. PSC staff modeled the costs of the RPS and energy efficiency policies together, because the RPS requirements are expressed as a percentage of retail electricity sales. It would be unrealistic to estimate the costs of the RPS requirements in the proposed legislation while ignoring that the same legislation seeks to reduce the growth in demand for electricity. The two policies are inherently connected.

The modeling shows that in every case in which GHGs are monetized (i.e., there is a compliance cost associated with emitting GHGs), the cost of the CEJA is *less* than the cost of the status quo over the long run. **That is, we will in all likelihood be spending more on electricity in the long run if we don't act now and enact enhanced renewable portfolio standards and take more aggressive action on energy efficiency.**

Modeling Assumptions

The EGEAS model is detailed and comprehensive. It requires that dozens (if not hundreds) of assumptions be made about the costs of different technologies, costs of fuels, inflation rates, etc. PSC relied on recent dockets, construction applications, rate cases, and utility industry reports to select values for each variable. It would not be practical to list all of PSC's modeling

¹ The PSC is not an outlier in taking this approach. The Edison Electric Institute, the trade association for the country's investor-owned utilities, is advocating for a comprehensive energy bill in Congress, one that will significantly reduce carbon emissions by placing a regulatory price on carbon (*Electricity 2010: Opportunity Dressed as Hard Work*, remarks of Thomas R. Kuhn, President, and David Owens, Executive Vice President, Edison Electric Institute, February 10, 2010). Moody's Investor Service, in a report released this month, concluded that greenhouse gas regulation is "inevitable" (Moody's Investor Service, *Special Report*, February 2010).

assumptions in this response, nor would it be possible to do so without divulging some confidential information provided to PSC by utilities. The modeling was conducted by PSC professional staff who collectively have decades of experience forecasting electricity futures for Wisconsin.

At the most fundamental level, PSC considered two sets of modeling assumptions as follows:

- 1) If the Clean Energy Jobs Act is not enacted (**Status Quo**):
 - a. 10% by 2025 RPS
 - b. Annual average demand growth = 0.7%²
- 2) If the Clean Energy Jobs Act is enacted (**CEJA**):
 - a. 25% by 2025 RPS
 - b. Annual average demand growth = -0.2%³

Summary of Preliminary Modeling Results

Using the EGEAS model, PSC forecasted electric generation production costs sufficient to meet Wisconsin demand for every year through 2025.⁴ This was done for both the Status Quo and the CEJA assumptions. Under each set of assumptions, PSC forecasted how generation production costs might vary depending on whether the cost of compliance with GHG regulations equals \$10 per ton of emissions or \$20 per ton.⁵ The results are summarized below.

Table 1 compares the forecasted electric generation production costs under the CEJA assumptions to the costs under the Status Quo assumptions. Values are shown for the years 2015, 2020, and 2025 under each assumed GHG emission price. Positive numbers indicate that statewide costs in that year would be higher under CEJA than under the Status Quo. Negative numbers indicate that costs in that year would be lower under CEJA than under the Status Quo.

² The U.S. Department of Energy forecasts approximately 1.2% average annual growth nationally from 2008-2025. Wisconsin's status quo energy efficiency programs have historically shaved approximately 0.5% off of the growth rate in our state. The value used for modeling is $1.2\% - 0.5\% = 0.7\%$.

³ The CEJA would require the PSC to set efficiency program goals based on studies of achievable potential, with a nonbinding goal of 2%. The most recent such study indicated that savings of 1.6% were achievable, but for modeling purposes PSC conservatively assumed that actual results would be only 1.4%. The value used for modeling is thus $1.2\% - 1.4\% = -0.2\%$.

⁴ These production cost forecasts include the estimated costs of building additional transmission lines to integrate new out-of-state wind farms into the grid.

⁵ For simplicity, GHG compliance costs are expressed as a cost per ton of GHG emitted. This value represents the total costs to comply with GHG regulations, averaged over the total number of tons emitted. The \$10/ton and \$20/ton scenarios represent possible values for compliance costs based on available data. Specifically, GHG emission allowances traded in Europe for almost \$19/ton at the end of 2009. Recent EPA estimates of proposed cap and trade legislation passed by the House of Representatives include per ton emission prices of between \$13 and \$33 for the 2012 to 2030 timeframe. Also note that virtually all observers have concluded that compliance costs for electric utilities will be higher if emissions are regulated through performance standards than if they are regulated through a cap and trade system.

For example, generation production costs in 2025 will be 1.4% lower under CEJA than under the Status Quo if GHG emissions cost \$10/ton.

Table 1: Approximate Change in Total Statewide Electric Generation Production Costs

	Assumed GHG Emission Price	
	\$10/ton	\$20/ton
2015	0.1%	0.0%
2020	3.9%	-5.2%
2025	-1.4%	-9.0%

For Table 2, PSC calculated the cumulative present value of all of the generation production costs statewide through 2025.

Table 2: Present Value of Cumulative Generation Costs through 2025 (in 2008 \$)

	Assumed GHG Emission Price	
	\$10/ton	\$20/ton
Status Quo	\$66.1 billion	\$79.8 billion
CEJA	\$65.6 billion	\$74.4 billion
Incremental Cost of CEJA	-\$0.5 billion	-\$5.4 billion
% Change in Generation Costs	-0.7%	-6.8%

Generation costs (which include fuel and transmission costs) are only one of the utility costs that ultimately determine ratepayer bills, comprising about two-thirds of what is included on electric utility bills. Ratepayers also have to cover the costs of the utility's distribution system, customer services, and many other things that are unaffected by the proposed legislation. By adding those costs to the modeled generation costs, PSC staff has completed a preliminary analysis of the impact of CEJA on customer bills. Those results are summarized below.

Table 3 shows the forecasted difference in bills under the CEJA assumptions as compared to the Status Quo assumptions. Positive numbers indicate that bills in that year would be higher under CEJA than under the Status Quo. Negative numbers indicate that bills in that year would be lower under CEJA than under the Status Quo. For example, bills in 2020 will be 2.8% lower under CEJA than under the Status Quo if GHG emissions cost \$20/ton.

Table 3: Approximate Change in Ratepayer Bills for All Customer Classes⁶

	Assumed GHG Emission Price	
	\$10/ton	\$20/ton
2015	0.0%	0.0%
2020	2.0%	-2.8%
2025	-0.7%	-5.4%

Table 4 shows the forecasted impact of the proposed legislation on monthly electricity bills for an average residential customer. As in previous tables, these values show the incremental impact of the CEJA compared to the Status Quo. For example, the table indicates that monthly bills will be \$1.08 lower under CEJA than under the Status Quo if GHG emissions cost \$10/ton. Monthly bill impacts were not calculated for commercial and industrial customers because bills in those customer classes vary more widely than residential bills. Note once again that the percentage changes in Table 3 could be applied to any type of customer to estimate monthly bill impacts.

Table 4: Approximate Monthly Residential Bill Impacts (in 2008 \$)

	Assumed GHG Emission Price	
	\$10/ton	\$20/ton
2015	+\$0.05/month	\$0.00/month
2020	+\$2.41/month	-\$3.80/month
2025	-\$1.08/month	-\$9.09/month

Tables 1 through 4 all demonstrate that a status quo future (i.e., doing nothing) is more expensive for electricity customers than a CEJA future in the long run, assuming some regulation of GHG emissions. This is because as Wisconsin adds more renewable capacity, the need for new fossil fuel capacity and the proportion of fossil fuel generation that contributes to Wisconsin's generation mix will both decrease. That translates into an incremental cost savings, particularly when coupled with aggressive energy efficiency efforts, because Wisconsin is spending less on coal and natural gas fuel (both volatile commodities), GHG compliance costs fall because the fossil fuel units are being dispatched at a lower rate, costly environmental upgrades may be avoided, and customers are using less energy.

⁶ EGEAS modeling allows PSC to estimate total utility costs, but not rates. PSC makes decisions in every utility rate case about how to apportion total utility costs among customer classes. To simplify this analysis, a 1% decrease in total utility costs (for example) was assumed to translate into a 1% decrease in costs for each customer class. In practice, a 1% change in total utility costs might translate into different changes for each customer class. For example, in the 2009 rate case for Wisconsin's largest utility, the Commission approved rate increases that averaged 3.3% across all customer classes, but the increase for most residential customers was 4.9% while the increase for large industrial customers was 1.6%. In recent cases, industrial customers generally have seen lower rate increases than residential customers.

Other Issues Raised in the February 9 Letter

In addition to requesting a PSC cost analysis of the CEJA, Representatives Huebsch, Montgomery, and Gunderson, in their February 9, 2010 letter, appear to have made cost estimates of their own. They cite the WPRI/Beacon Hill Institute estimate, as well as a previous PSC Strategic Energy Assessment (SEA), in support of claims that the CEJA's RPS provisions would cost between \$13.9 billion and \$16.2 billion. As I have testified to both Committees, those claims are wrong.

First, regarding the WPRI/Beacon Hill Institute study: 8 of the 13 policies it analyzed are not included in the CEJA; it modeled a 30% RPS instead of a 25% RPS; it didn't account for the 5% of electricity that Wisconsin is already getting from renewable resources; it didn't account for the fact that Wisconsin already requires 10% renewable energy by 2015; it assumes that all new renewable generation will be built in Wisconsin; it apparently doesn't take into account the costs that would be avoided by an enhanced RPS; and it assumes electricity demand growth that is remarkably inconsistent with both U.S. Department of Energy estimates as well as the energy efficiency, conservation, and demand-side management requirements of the CEJA. As a result, the WPRI/Beacon Hill Institute study is of near zero value in evaluating the CEJA's utility sector policies.⁷

Second, regarding our most recent SEA, PSC did estimate the average cost of wind generation at \$2.3 million per MW, and the SEA did say that installing 400 MW of wind generation per year (which would equal 6400 MW over 16 years) would be adequate to meet a 25% by 2025 RPS. But the PSC's Strategic Energy Assessment is in no way an analysis of the CEJA's electric utility sector policies.⁸ Using only estimates for capital costs associated with constructing new wind facilities neglects to consider all of the avoided costs that otherwise would be associated with doing business as usual (e.g., building new fossil fuel generation, purchasing fossil fuels, installing environmental upgrades, complying with GHG regulations, etc.). Such an approach also assumes the RPS is met entirely through wind generation, thus ignoring the CEJA's many and varied RPS compliance options (e.g., biomass, Canadian hydro,⁹ solar, combined heat and power and other non-electric renewable energy applications), not to mention the legislation's preservation of RPS "off ramps" and its authorization of a more robust use of renewable energy credits.

Additionally, the SEA estimates an amount of new generation that is far in excess of what will be needed if the CEJA becomes law. For example, the 400 MW per year figure cited in the SEA

⁷ The PSC is not alone in this conclusion. Others, including a coalition of Wisconsin companies – CREWE (Clean, Responsible Energy for Wisconsin's Economy) – have also discounted the WPRI/Beacon Hill Institute study. For reference, see <http://wicrewe.com/wp-content/uploads/2009/07/wpri-report-fact-sheet.pdf>.

⁸ The SEA is a statutorily required report that PSC produces every two years. It was published prior to the existence of even the earliest draft of the CEJA, and the assumptions PSC used were not based on the actual provisions of the CEJA. Stated simply, the SEA was not an analysis of the cost of the RPS policy as proposed in the CEJA.

⁹ One Wisconsin utility has already publicly expressed an interest in purchasing 500 MW of capacity of Canadian hydro power that could equal the output of more than 1000 MW of wind power and cost much less.

was based on status quo assumptions about demand growth. When the RPS policy is coupled with aggressive energy efficiency policies, as proposed in the CEJA, far less renewable generation is required.

As I said at the outset, to evaluate the cost of the CEJA's electric utility sector policies, the appropriate question is what the cost difference is between doing nothing and enacting legislation. Adding up the capital costs of new wind generation is only one piece of the answer. The modeling results I have included in this letter supply a fuller and more complete analysis.

Wisconsin is at a crossroads. If we continue down a path that values old ideas before new, we are destined to spend ratepayer dollars on infrastructure that is outdated before it is even operational. I reject that flawed route, and so should you. The electric utility sector policies in the CEJA will provide the necessary avenue to ensure that Wisconsin's energy future remains flexible, reliable, and affordable. I hope you find this response to be clear, informative and useful as you confront the very important challenge before you. Please let me know if you have any questions or if there is anything I can do to further support the Committee's work.

Sincerely,



Eric Callisto
Chairperson

cc: Senate Select Committee on Clean Energy



† AMERICAN LUNG ASSOCIATION.

IN WISCONSIN

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March 12, 2010

Dear Members of the Special Committee on Clean Energy Jobs:

As you continue your deliberations on the Clean Energy Jobs Act, the American Lung Association in Wisconsin asks you to consider why natural gas should be part of your final equation for the bill.

Yes, natural gas is a fossil fuel, but it's a fuel that continues to grow in supply and it's one of the cleanest burning fuels whether it's used to make electricity, power a vehicle or heat a home or business.

When it comes to protecting the environment and making the air we breathe cleaner, it's far cleaner than some of the biomass fuel composites that are being given a preference as a renewable energy source in the current version of the bill.

Like *The Washington Post*, we believe natural gas can serve as a useful bridge to a cleaner tomorrow, especially if it's used in lieu of coal to produce electricity and oil/gasoline to power our vehicles. We've attached a copy of a recent Post editorial titled "A Natural Choice" and hope you will consider our, and their, recommendations as you continue your work on the bill.

Thank you for your consideration.

Sincerely,

Dona Wininsky
Director of Public Policy and Communications ALA Wisconsin
Randy Radtke
ALA Wisconsin Lobbyist

cc: Members of the Wisconsin State Assembly and State Senate

Fighting for Air

Please remember the American Lung Association in your will and trust.

A natural choice by The Washington Post

Sunday, February 28, 2010

IN AMERICA'S climate debate, one of the most promising developments of recent months has been the growing recognition in Washington that natural gas may play a key role in curbing carbon emissions. The resurgence of gas comes through the discovery of massive deposits in Appalachian shale formations and elsewhere -- a reserve that offers the prospect of stable domestic supplies and relatively low prices. Since burning natural gas produces half the emissions of burning coal, switching the two fuels could put a significant dent in America's carbon footprint.

The rumor this month was that such arguments had swayed the White House and that President Obama would back policy aimed at discouraging coal and encouraging natural gas at a speech he delivered to the Business Roundtable on Wednesday. The rumors didn't bear out. That's too bad. With climate-change legislation still stalled in Congress, nudging gas forward is something that the government can do quickly and relatively cheaply to meet its medium-term emissions goals if current trends persist.

To be sure, America doesn't want to depend too much on one commodity. Drastically ramping up the amount of natural gas burned to generate electricity would require infrastructure investments in certain regions as well as retrofits of certain plants or the construction of entirely new ones.

But existing gas-fired plants are running at only about 25 percent capacity, in part because many are switched on only when demand spikes. The Congressional Research Service reports that doubling the use of existing plants could replace about a third of coal-fired power, getting America a third of the way to its goal for 2020. For reasons of infrastructure, that might be too optimistic a scenario. But BP -- which has a stake in natural gas -- estimates that retiring the 80 dirtiest coal plants and replacing them with gas-fired power would get America 10 percent of the way to its 2020 emissions target and increase domestic gas consumption by only 5 percent.

Even if you don't trust BP's numbers, a range of attractive policy options is available, starting with tax incentives to decommission old coal plants. Natural gas is so competitive, it might not take much more than that. However, policymakers might also consider coupling that with some carrot to switch to gas. States that demand that utilities derive a certain portion of their electricity from clean sources could also allow natural gas to count in such requirements, discounting for the carbon emissions it does produce. Federal legislators contemplating a similar, national standard might also consider this.

In the long term, natural gas is only a bridge fuel as America weans itself off carbon, since it still produces plenty of emissions. With a rising carbon price, natural gas will become too expensive to burn. But it can provide the country some time to bring to market the cleaner technologies on which America eventually must run.



March 17, 2010

Representative James Soletski
Room 307 West
State Capitol

Dear Representative Soletski,

As State Director of The Nature Conservancy in Wisconsin and as a member of the Governor's Climate Change Task Force, I am writing to request that you strongly support passage of the Clean Energy Jobs Act (CEJA), which will result in substantially reduced greenhouse gas emissions and many other associated benefits.

While the impacts of climate change will vary from region to region, it is clear that almost every place on the planet, including Wisconsin, will be affected. To begin to address the most severe and early impacts, it is critical that the CEJA receive your support and that its provisions be implemented as soon as possible.

Wisconsin citizens and conservation organizations like The Nature Conservancy have made substantial investments to protect critical natural resources across the state, from the shores of the Great Lakes to the forests of northern Wisconsin. These investments are jeopardized if emissions of heat-trapping gases continue unchecked. The impacts of climate change on places like the Great Lakes and northern Wisconsin make our efforts to ensure the survival of forest habitats, native plants and wildlife and freshwater resources much more challenging.

Climate change will have major impacts on our state. Below is a sampling of what we can expect:

- Declining water levels and ice cover on inland lakes and the Great Lakes and resulting changes in habitat and species;
- Shifting forest habitat and shrinking of hemlock, spruce and fir-dominated northern forests;
- Increasing water temperatures resulting in the decline in cold-water fish populations including lake trout and whitefish;
- Loss of winter recreation experiences such as ice fishing, skiing and snowmobiling; and
- More extreme heat, storms and floods.

Freshwater Impacts

Wisconsin's freshwater resources are critical for agriculture, recreation, fisheries, wildlife and human consumption. Climate change will result in lower lake levels, increased water temperatures and shorter durations of ice cover on inland lakes and the Great Lakes. Many small streams may dry up, and wetland size and function could be diminished. These changes are likely to lead to increased shipping costs on the Great Lakes, the loss of some cold-water fish species such as lake trout, and less high-quality habitat for waterfowl and other wildlife.

Forest Impacts

Wisconsin's 16 million acres of forests provide recreational opportunities, help clean our air and water, and are important to our economy, generating more than \$18 billion in paper and wood products each year. With warmer temperatures, Wisconsin's northern forests of hemlock, spruce and fir are likely to shrink while other, traditionally southern forest species will shift northward. It is likely that, with the drier conditions, forest fires and droughts will become more frequent. These changes will impact the forest industry and reduce habitat for migratory songbirds and other wildlife.

Economic Impacts

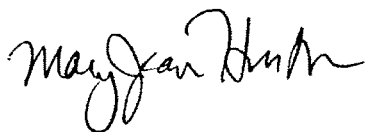
Tourism is one of Wisconsin's largest industries, adding over \$13 billion to the state's economy in 2008, and outdoor recreation is a big part of what draws visitors to the state. Winter sports activities such as ice fishing, skiing and snowmobiling will be the hardest hit by the effects of climate change as winters get shorter and the duration of ice cover on the lakes declines. Warmer water temperatures will mean loss of habitat for some aquatic species, especially cold-water fish like lake trout.

Warmer temperatures would also create more favorable conditions for pest species and could lead to droughts, which would require irrigation of more cropland and increase the competition for water resources.

Land-based provisions in this legislation, including the Energy Crop Reserve Program, would reduce greenhouse gas emissions, provide economic opportunities for landowners and protect wildlife habitat. This, and the other provisions in the Clean Energy Job Act, will be a very important first step in addressing climate impacts in Wisconsin.

Thank you for your work in support of this important legislation.

Sincerely,



Mary Jean Huston
State Director
The Nature Conservancy in Wisconsin

Climate Change Impacts in Wisconsin

A summary of the challenges that climate change poses to the people, businesses and ecosystems of Wisconsin



Oak trees in Dane County © Steve S. Meyer

Increases in carbon dioxide and other greenhouse gases in the atmosphere have caused global temperatures to increase substantially over the past century. This global warming has resulted mainly from human activities such as the combustion of fossil fuels and deforestation. Global temperatures are expected to rise more this century as emissions of heat-trapping gases continue to mount. While the impacts of climate change will vary from region to region, it is clear that almost every place on the planet, including Wisconsin, will be affected.

Wisconsin citizens and conservation organizations like The Nature Conservancy have made substantial investments to protect critical natural resources across the state, from the shores of the Great Lakes to the forests of northern Wisconsin. These investments are jeopardized if emissions of heat-trapping gases continue unchecked. The impacts of climate change on places like the Great Lakes and northern Wisconsin increase our conservation challenges to ensure the survival of forest habitats, native plants and wildlife, and freshwater resources.

WHAT WISCONSIN CAN EXPECT

- Declining water levels and ice cover on inland lakes and the Great Lakes and resulting changes in habitat and species
- Shifting forest habitat and shrinking of hemlock, spruce and fir-dominated northern forests
- Increasing water temperatures resulting in decline in cold-water fish populations including lake trout and whitefish
- Loss of winter recreation experiences such as ice fishing, skiing and snowmobiling
- More extreme heat, storms and floods

Following is a summary of how climate change will affect Wisconsin:

FRESHWATER IMPACTS

Wisconsin's freshwater resources are critical for agriculture, recreation, fisheries, wildlife and human consumption. Climate change will result in lower lake levels, increased water temperatures and shorter durations of ice cover on inland lakes and the Great Lakes. Many small streams may dry up, and wetland size and function could be diminished. These changes are likely to lead to increased shipping costs on the Great Lakes, the loss of some cold-water fish species such as lake trout, and less high-quality habitat for waterfowl and other wildlife.



Cedars along the Pine River © Jeff Richter

FOREST IMPACTS

Wisconsin's 16 million acres of forests provide recreational opportunities, help clean our air and water, and are important to our economy, generating more than \$18 billion in paper and wood products each year. With warmer temperatures, Wisconsin's northern forests of hemlock, spruce and fir are likely to shrink while other, traditionally southern forest species will shift northward. It is likely that, with the drier conditions, forest fires and droughts will become more frequent. These changes will impact the forest industry and reduce



Tenderfoot Forest Reserve © Gerald H. Emmerich, Jr.

habitat for migratory songbirds and other wildlife.

ECONOMIC IMPACTS

Warmer temperatures could extend the growing season in Wisconsin by four to seven weeks, benefiting Wisconsin agriculture in the short-term. But they could also create more favorable conditions for pest species and lead to droughts, which would require irrigation of more cropland and increase the competition for water resources.

Tourism is one of Wisconsin's largest industries, adding nearly \$13 billion to the state's economy in 2006, and outdoor recreation is a big part of what draws visitors to the state. Winter sports activities such as ice fishing, skiing and snowmobiling will be the hardest hit by the effects of climate change as winters get shorter and the duration of ice cover on the lakes declines. Warmer water temperatures will mean loss of habitat for some aquatic species, especially cold-water fish like lake trout.

WHAT THE CONSERVANCY IS DOING ABOUT CLIMATE CHANGE

- Supporting policies that limit greenhouse gas emissions and achieve a 60% to 80% reduction in emissions from current levels by 2050
- Protecting large areas of forestland in Wisconsin and worldwide, helping to reduce carbon emissions caused by deforestation and maintaining carbon sinks that take in and store more carbon (i.e., carbon sequestration) than they release
- Seeking innovative conservation solutions that enable natural areas to cope with and adapt to the inevitable impacts of climate change
- Serving on the Governor's Task Force on Climate Change in Wisconsin as a co-chair of the Forestry and Agriculture Work Group, which is tasked with developing policies, incentives, strategies and actions to enhance the carbon sequestration potential of forests and agricultural lands
- Participating in the U.S. Climate Action Partnership (USCAP), an alliance of major companies and environmental and conservation organizations calling for significant, mandatory reductions in U.S. greenhouse gas emissions

FOR MORE INFORMATION,
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