

09hr_ASC-CEJ_ab0649_pt13



(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**

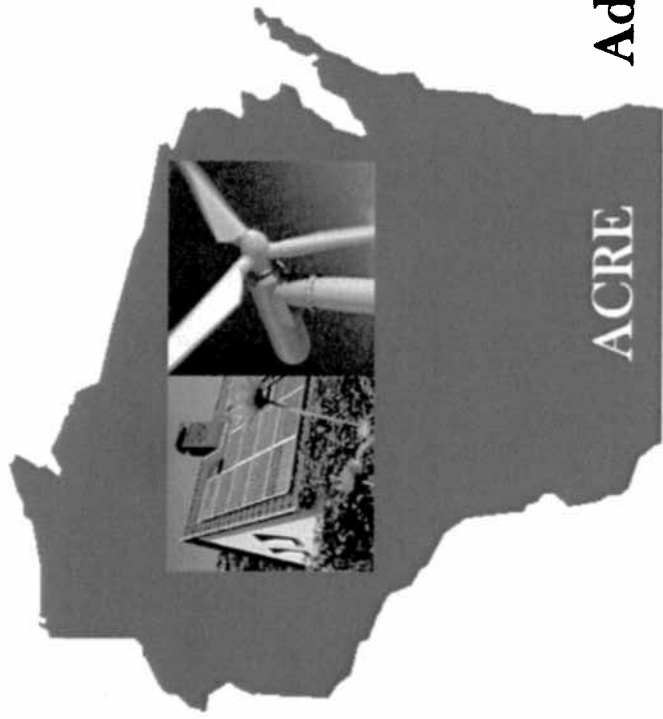
* Contents organized for archiving by: Stefanie Rose (LRB) (December 2012)

Cullen
Weston
Pines
& Bach

*A Limited Liability
Partnership*

Jeffrey L. Vercauteren
Attorney at Law

122 West Washington Avenue
Suite 900
Madison, Wisconsin 53703
(608) 251-0101
(608) 251-2883 Fax
vercauteren@cwpb.com



Advocates for Creating
Renewable Energy

Supporting an Enhanced Renewable Portfolio Standard for Wisconsin

ACRE is a coalition of organizations and companies supporting an E-RPS in Wisconsin in order to provide sustainable economic growth for our state

- Addison Wind, LLC
- American Wind Energy Association
- Badger Transport
- Baldwin Dairy
- Broadwind
- Business Biomass Solutions
- Clean Wisconsin
- Convergence Energy
- D&D Equipment Company
- EcoEnergy
- EcoManity
- Eden Renewable Energy LLC
- Emerald Dairy
- Emerging Energies of Wisconsin
- Energies Direct LLC
- GHD, Inc.
- Green Power Solutions Inc.
- H&H Solar Energy Services
- Helios USA
- IBEW Wisconsin State Conference of Inside Construction Locals
- Institute for Local Self-Reliance
- Invenery LLC
- Kettle View Renewable Energy
- L&S Technical Associates, Inc.
- Legacy Solar
- Michael Fields Agricultural Institute
- Midwest Wind Energy
- Natural Resources Consulting, Inc.
- North Wind Renewable Energy, LLC
- Northern Biogas
- Organic Valley Family of Farms
- Prairie Solar Power & Light
- Procorp Enterprises
- RENEW Wisconsin
- Renewegy
- Ritger Law
- Seventh Generation Energy Systems
- Sierra Club - John Muir Chapter
- StormFisher Biogas
- Sustainable Living Group
- Tower Tech Systems, Inc.
- UrbanRe Vitalization Group
- Uriel Wind
- Wave Wind LLC
- WES Engineering
- Wind Capital Group
- Wind on the Wires
- Wind Wisconsin
- Wisconsin Environment
- Wisconsin Farmers Union

Enhanced Renewable Portfolio Standard (E-RPS)

- Currently 10% of all retail electric sales in Wisconsin must be derived from renewable resources by 2015.
- An E-RPS would amend the current RPS by moving the 10% requirement ahead from 2015 to 2013 and providing that 20% of all electric sales in Wisconsin must be derived from renewable resources by 2020 and 25% by 2025, including 10% from in-state renewable resources by 2025.
- At least two utilities, MG&E and WPPJ Energy, are already compliant with the current 2015 standard. They are not likely to add more renewable energy without an E-RPS.

➤ **Benefits of an E-RPS**

- Economic and energy security from fuel costs
- Clean, efficient, and cost-effective energy
- Well-paying jobs for skilled laborers
- A competitive edge for attracting renewable energy investment in construction and manufacturing
- Supply chain job growth and economic development

➤ **Costs of an E-RPS**

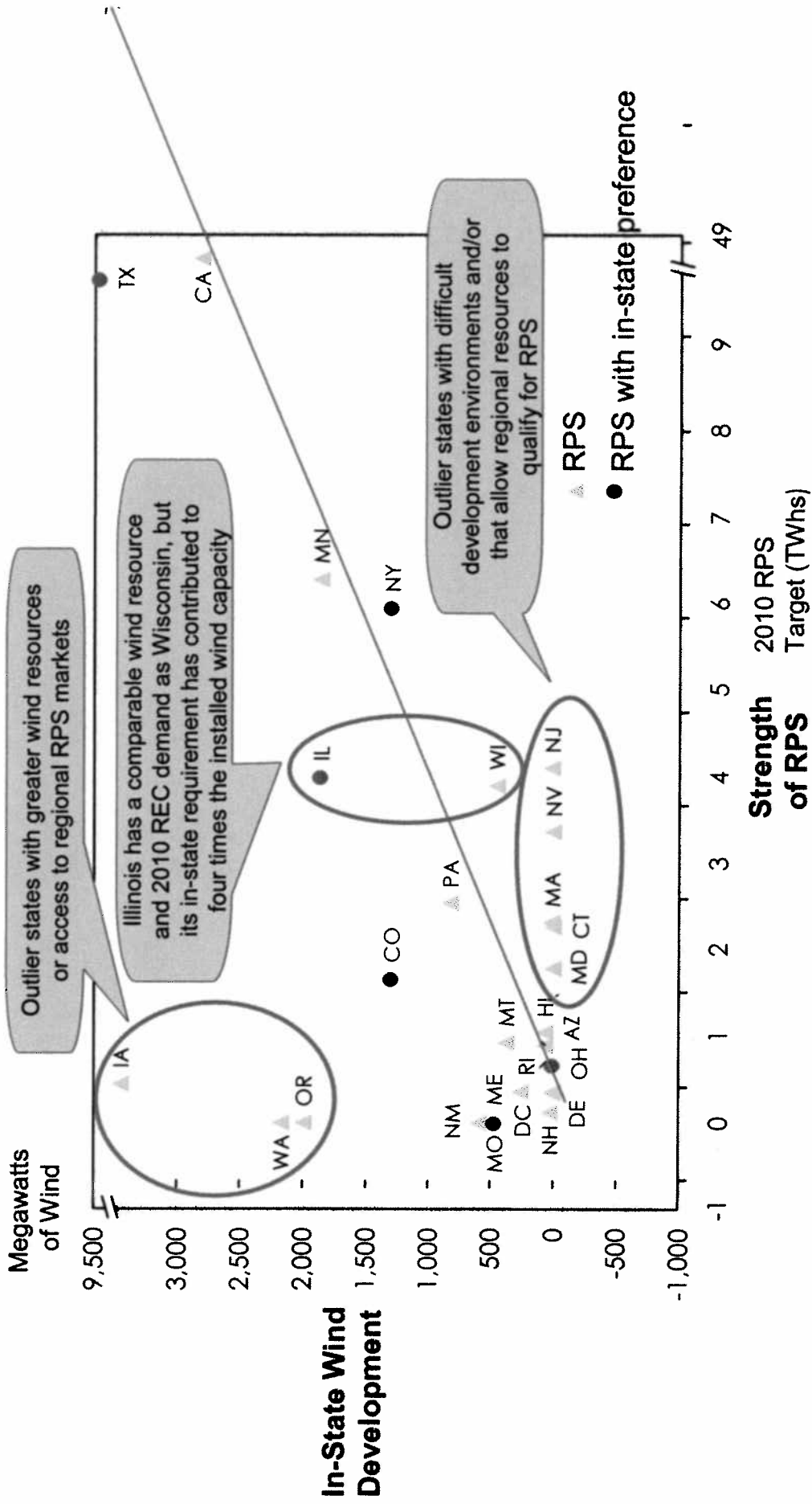
- The PSC estimates that an E-RPS will cost less than three percent more than business as usual
- Other provisions in the Act will increase energy efficiency and reduce future electricity demand to reduce energy costs

Wisconsin is Lagging Behind its Neighbors in Wind Energy

State	Operating (in megawatts)	Under Construction (in megawatts)
Iowa	3253	199
Minnesota	1805	60
Illinois	1123	979
Indiana	730	404
Wisconsin	449	0
Michigan	129	16

Source: RENEW Wisconsin, American Wind Energy Association (November 2009)

A Strong RPS with In-State Preferences Spurs In-State Wind Development



Sources: AWEA Website - megawatts installed or under construction as of 6/27/09; EDPR NA Analysis

State Renewable Energy Competition

- 30 states currently have a mandatory renewable portfolio standard.
- Minnesota and Illinois have already committed to 25% renewable energy by 2025.
- In 2009, wind power will account for 15% of all electricity generated in Iowa.
- The following states, ranked by RPS percentage then date, have a mandatory RPS percentage (Iowa and Texas have a megawatt goal):

- | | | |
|-----------------------------|-------------------------------|-----------------------------------|
| 1. Maine: 40% by 2017 | Oregon: 25% by 2025 | 21. Montana: 15% by 2015 |
| 2. Hawaii: 40% by 2030 | Vermont: 25% by 2025 | 22. Massachusetts: 15% by 2020 |
| 3. California: 33% by 2020 | West Virginia: 25% by 2025 | Washington: 15% by 2020 |
| 4. Connecticut: 27% by 2020 | 14. New Jersey: 22.5% by 2021 | 24. Missouri: 15% by 2021 |
| 5. New York: 25% by 2013 | 15. Delaware: 20% by 2019 | 25. Arizona: 15% by 2025 |
| 6. Illinois: 25% by 2025 | 16. Colorado: 20% by 2020 | 26. North Carolina: 12.5% by 2021 |
| Minnesota: 25% by 2025 | New Mexico: 20% by 2020 | 27. Michigan: 10% by 2015 |
| New Hampshire: 25% by 2025 | 18. Maryland: 20% by 2022 | Wisconsin: 10% by 2015 |
| Nevada: 25% by 2025 | 19. Pennsylvania: 18% by 2020 | |
| Ohio: 25% by 2025 | 20. Rhode Island: 16% by 2020 | |

Sources: Pew Center on Global Climate Change, Renewable Portfolio Standards, December 14, 2009

North American Windpower, April 15, 2009. Windfall for Green Energy In Iowa.

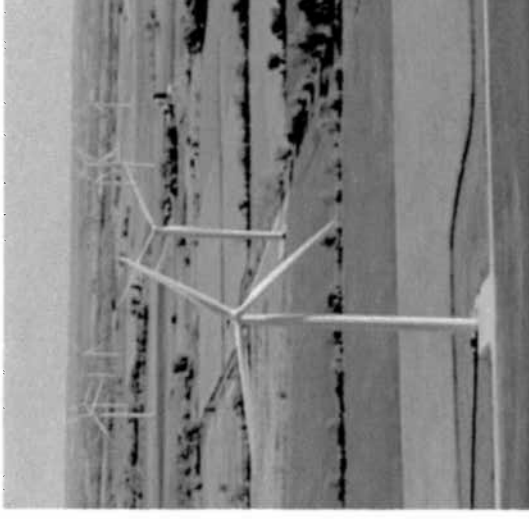


Photo: We Energies Website

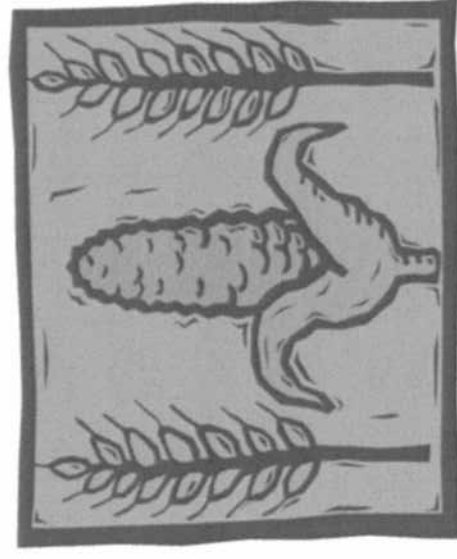
An E-RPS Will Encourage Jobs and Investment in Wisconsin

- A report 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.
- Construction of the Blue Sky Green Field Wind Energy Center and the Forward Wind Energy Center in Dodge and Fond du Lac Counties directly facilitated hundreds of thousands of labor hours by approximately 300 skilled construction workers, including electricians, engineers, iron workers, and equipment operators. The Glacier Hills Wind Park in Columbia County and the Shirley Wind Project in Brown County will have similar benefits.

Sources: Wind Today, Third Quarter, 2009. Volume 4, No. 3, at 34-38.
<http://www.bluetoad.com/publication/?i=21463>

An E-RPS Will Encourage Jobs and Investment in Wisconsin

- The New North, an eighteen-county partnership in northeastern Wisconsin, has compiled a Wind Works Supply Chain Directory, with links to over 200 Wisconsin companies providing products and services to the wind industry.
- A report by the National Renewable Energy Laboratory shows that 1,000 MW of new wind development in Wisconsin would create:
 - 3,041 new local construction jobs
 - 425 new local operation and maintenance jobs
- Wisconsin farmers hosting wind turbines annually earn nearly \$1.3 million in additional income, and local units of government receive an extra \$1,584,000 in tax revenues.



Sources: The New North, 2009. Wisconsin Wind Works Directory. <http://www.thenewnorth.com>

NREL Factsheet, <http://www.nrel.gov/docs/fy09osti/44277.pdf>. * Figures do not account for supply chain jobs.

RENEW Wisconsin, May 2009. Testimony to Legislature on SB185.

An E-RPS Will Help Reduce our Dependence on Fossil Fuels

- More diverse sources of energy production will help protect Wisconsin from volatile energy prices by stabilizing electricity prices.
- Increasing our use of renewable energy resources will keep more money within local economies, which would otherwise be sent out-of-state for coal and natural gas.
- Since 1990, greenhouse gas emissions have increased 22% in Wisconsin.
- Four million metric tons of greenhouse gas emissions are prevented from entering the atmosphere due to renewable energy and energy efficiency measures already in place in Wisconsin.



Source: Wisconsin Office of Energy Independence, 2008. 2008 Wisconsin Energy Statistics, at 3. Wisconsin Environment, June, 2006. Madsen, T., Wholschlegel, K., Kohler, D. Wisconsin's Clean Energy Future: How Renewable Energy and Energy Efficiency Protect our Environment and Create New Jobs, at 2.

The Cost of an E-RPS



- The Public Service Commission has determined that the net present value of the costs our utilities will incur serving their retail customers from now until 2025 – keeping the RPS at 10% – is \$66.2 billion. In contrast, under an E-RPS, that cost would be \$67.9 billion, less than a 3% difference.
- Wisconsin’s RPS includes a credit trading system, which provides a market-based mechanism to allow electric service providers to meet their obligations under the RPS in the most cost-effective way. The current value of a renewable energy credit is half a cent/KWh.
- Strong energy efficiency measures are included in conjunction with the E-RPS in the Clean Energy Jobs Act. This means that overall energy bills will go down even though we may pay a slightly higher rate.
- Many observers agree that federal action will soon be taken to control carbon emissions. Adopting higher clean energy standards will mitigate some costs associated with a carbon constraint.

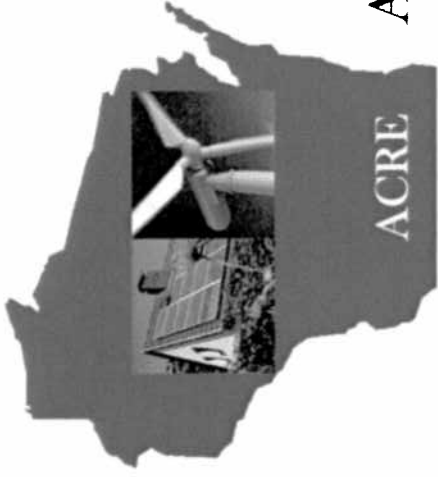
The Clean Energy Jobs Act

The Global Warming Task Force was created of a truly diverse group which prepared a strategy for reducing global warming emissions while creating jobs and improving Wisconsin's economy.

The E-RPS will be considered with numerous other recommendations from the Task Force.

The Task Force members made compromises in order to deliver a strategy with unanimous approval.

As a compromise draft, the Clean Energy and Jobs Act includes trade-offs and concessions.



Advocates for Creating
Renewable Energy

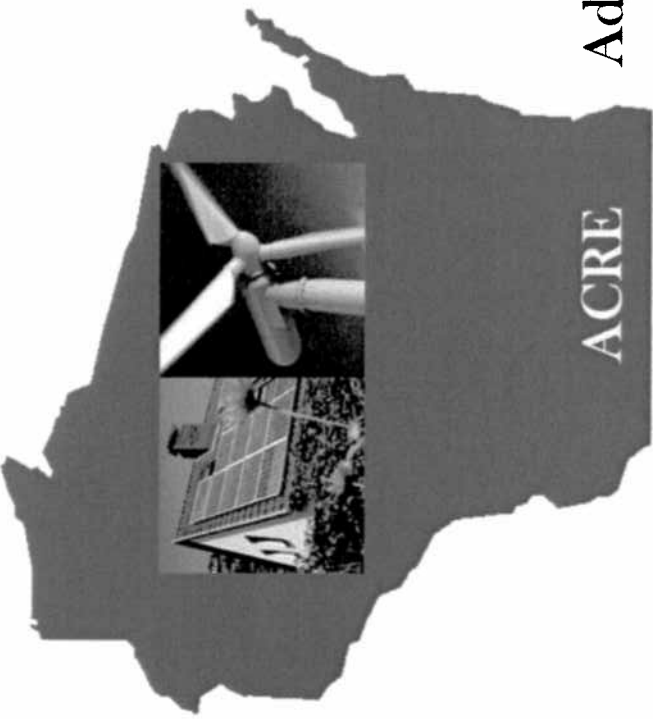
For Further Information Contact:

Jeff Vercauteren, Cullen Weston Pines & Bach LLP

(608) 251-0101, vercauteren@cwpb.com

Michael Vickerman, RENEW Wisconsin

(608) 255-4044, mvickerman@renewwisconsin.org

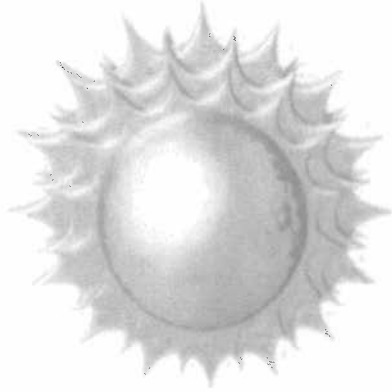


Advocates for Creating
Renewable Energy

Supporting Renewable Energy Buyback Rates for Wisconsin

ACRE is a coalition of organizations and companies supporting Renewable Energy Buyback Rates for Wisconsin in order to provide sustainable economic growth for our state

- Addison Wind LLC
- American Wind Energy Association
- Baldwin Dairy
- Clean Wisconsin
- Clear Horizons LLC
- Convergence Energy
- D&D Equipment Company
- Eden Renewable Energy LLC
- Emerald Dairy
- GHD, Inc.
- Green Power Solutions, Inc.
- H&H Solar Energy Services
- Helios USA
- IBEW Wisconsin State Conference of Inside Construction Locals
- Institute for Local Self Reliance
- Invenery LLC
- Kettle View Renewable Energy LLC
- L&S Technical Associates
- Legacy Solar
- Michael Fields Agricultural Institute
- Natural Resources Consulting, Inc.
- North Wind Renewable Energy, LLC
- Northern Biogas
- Organic Valley Family of Farms
- Prairie Solar Power & Light
- Procorp Enterprises
- RENEW Wisconsin
- Renewegy
- Ritger Law
- Seventh Generation Energy Systems
- Sierra Club – John Muir Chapter
- StormFisher Biogas
- Suring Digester LLC
- UrbanRe Vitalization Group
- Wave Wind LLC
- WES Engineering
- Wind Wisconsin
- Wisconsin Farmers Union



Wisconsin's Current Renewable Energy Buyback Rate

The Problem:

- State utilities currently do not have an incentive to buy small-scale renewable energy generation from customers at rates that are high enough to encourage investment.

The Need for Action:

- Several utilities in Wisconsin offer renewable energy buyback rates. However, their programs have quickly become fully subscribed or discontinued, meaning job losses for small renewable energy businesses, such as solar installers and small wind turbine manufacturers.

Renewable Energy Buyback Rates

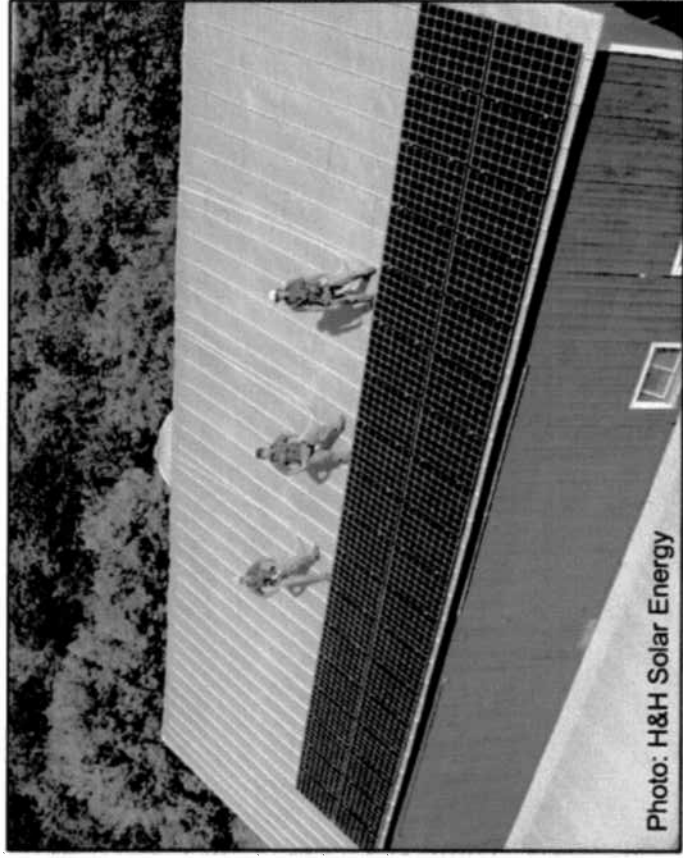


Photo: H&H Solar Energy

- Renewable energy buyback rates, also known as Advanced Renewable Tariffs or Feed-in Tariffs, create jobs by supporting grassroots renewable energy generation through payments of an adequate price for distributed generation systems.
- We recommend targeting distributed generation with a program cap of two to three percent of total energy sales.

The German Success Story

Germany's renewable tariff program has helped it become a world leader in renewable energy generation.

Renewable energy generation comprised over 15% of the market in 2008 and secured \$14 billion in investment in 2007 alone.

More than one-fifth of the solar energy generated in the world is produced in Germany.

As the largest producer of renewable energy in the world, Germany has 280,000 people who are employed in the renewable energy sector, including over 96,000 in the biomass industry.

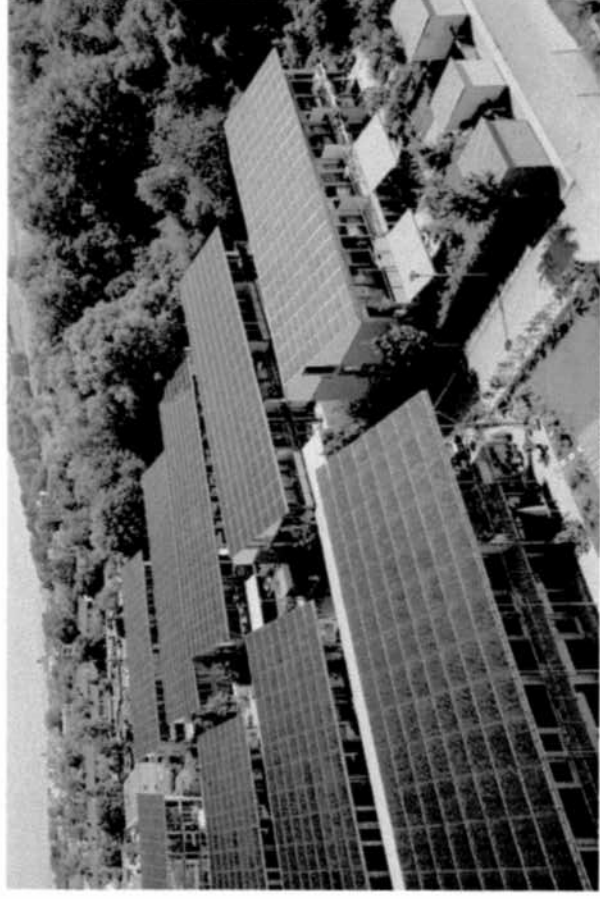
Germany has a climate similar to

Wisconsin that facilitates renewable energy production from a large number of resources, including wind, solar, biomass, and hydro.

Source: National Journal, April, 2009, Stokes, Bruce.

Let the Solar Shine In.

<http://www.aicgs.org/documents/advisor/stokes0509.pdf>



Renewable Energy Buyback Rates in North America

- Five states in the United States (California, Hawaii, Maine, Oregon, and Vermont) have passed renewable tariff policies, with Hawaii seeking to obtain 40% of its energy from renewable sources by 2030.
- Three municipalities have enacted renewable tariff policies.
- Seven states (Illinois, Indiana, Michigan, Minnesota, New York, Rhode Island, and Wisconsin) and four municipalities have proposed renewable tariff legislation.
- Ontario recently enacted an aggressive Feed-in-Tariff policy, drawing applications for 8,000 megawatts of wind and solar contracts.



Source: NREL - adapted from Gipe www.wind-works.org, Sept 2009

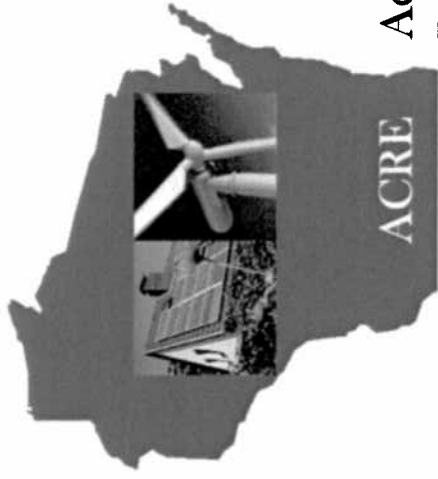
The Clean Energy Jobs Act

The Global Warming Task Force was created of a truly diverse group which prepared a strategy for reducing global warming emissions while creating jobs and improving Wisconsin's economy.

Renewable Energy Buyback Rates will be considered with numerous other recommendations from the Task Force.

The Task Force members made compromises in order to deliver a strategy with unanimous approval.

As a compromise draft, the Clean Energy and Jobs Act includes trade-offs and concessions.



Advocates for Creating
Renewable Energy

For Further Information Contact:

Jeff Vercauteren, Cullen Weston Pines & Bach LLP

(608) 251-0101, vercauteren@cwvpb.com

Michael Vickerman, RENEW Wisconsin

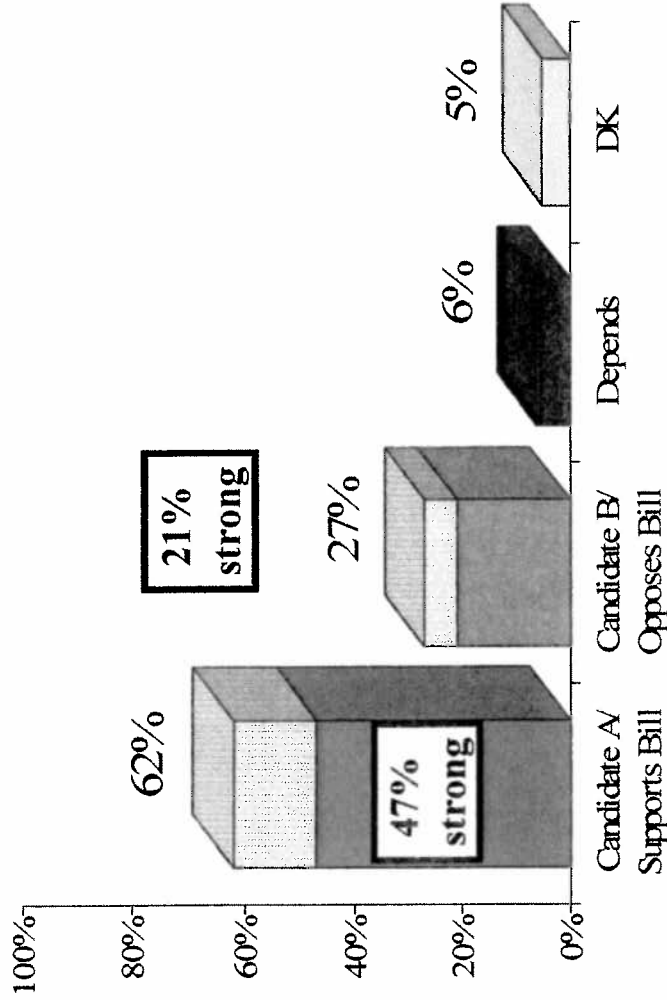
(608) 255-4044, mickerman@renewwisconsin.org



Large Majorities Of Democrats And Independents Prefer A Candidate Who Supports The 25% Renewable Standard Over One Who Opposes It

For which of the following candidates for state legislature would you rather vote:

- Candidate A** supports the bill to require utilities to generate 25% of their electricity from renewable energy sources by the year 2025 because moving the state to clean energy will create whole new industries & thousands of good jobs here in WI while reducing our dependence on foreign energy, & decreasing the carbon pollution that causes global warming.
- Candidate B** opposes the bill to require utilities to generate 25% of their electricity from renewable energy sources by the year 2025 because it will in effect create a new energy tax that will raise energy prices for consumers by thousands of \$ and push WI companies to move out of the state where taxes and regulations are less burdensome.



	A-Supports Bill	B-Opposes Bill
Dem	82%	13%
Indep	59%	26%
GOP	42%	45%
Men	58%	32%
Women	65%	23%
18-39	64%	27%
40-59	58%	31%
60+	67%	21%
Milwaukee County	58%	28%
Total Milwaukee DMA	58%	28%
Madison	77%	17%
Green Bay	60%	27%
Wausau/LaCrosse	61%	31%
Upper-SES	68%	29%
College Middle	63%	25%
Non-College Middle	63%	25%
Lower-SES	60%	30%



**Advocates for Creating
Renewable Energy**

Campaign Statement

We support the expanded use of Renewable Energy Buyback Rates¹ for Wisconsin. Renewable energy buyback rates can boost local production of wind, solar, biogas, hydro and biomass necessary to create sustainable jobs, revitalize our economy, reduce our dependence on imported fossil fuels, and make ourselves more energy independent.

Renewable Energy Buyback Rates support smaller-scale generation by providing owners of distributed energy systems with a fixed flow of revenue over a long enough time to fully recover their investments. These long-term, reasonably priced contracts provide sufficient predictability and incentive to invest in distributed renewable energy like biogas, biomass, solar, hydro, and wind. Furthermore, the economic benefits from this approach would remain within the local community.

Apart from a modest pool of incentive dollars offered by Focus on Energy, Wisconsin does not have a policy for promoting distributed renewable generation. While voluntary renewable buyback programs have proven to be effective, their availability in Wisconsin has been sporadic and limited in scope. For example, two major Wisconsin utilities began offering solar-specific buyback rates in January. By October, their programs were fully subscribed, and their solar initiatives were promptly discontinued.

To maximize the cost effectiveness of buyback rates, we recommend targeting distributed sources of renewable generation and capping the program so as not to exceed 2% (or a small percentage of) Wisconsin's peak demand load.

Provisions to stimulate local renewable energy through buyback rates are part of the proposed Clean Energy Jobs Act, legislation that seeks to codify many of the recommendations of the Governor's Global Warming Task Force. Regardless of one's views concerning climate change and its causes, a policy to expand the contribution of small-scale renewable generation to the utility system mix will yield significant economic and energy security benefits for our state.

¹These are sometimes referred to as "feed-in tariffs" or "advanced renewable tariffs."

CAMPAIGN SUPPORTERS

- Addison Wind LLC
- American Wind Energy Association
- Baldwin Dairy
- Clean Wisconsin
- Convergence Energy
- D&D Equipment Company
- Eden Renewable Energy LLC
- Emerald Dairy
- Energies Direct, LLC
- Full Spectrum Solar
- GHD, Inc.
- Green Power Solutions, Inc
- H&H Solar Energy Systems, Inc.
- Helios USA
- IBEW Wisconsin State Conference of Inside Construction Locals
- Institute for Local Self-Reliance
- Kettle View Renewable Energy LLC
- L&S Technical Associates, Inc.
- Legacy Solar
- Michael Fields Agricultural Institute
- Natural Resources Consulting, Inc.
- North Wind Renewable Energy LLC
- Northern Biogas
- Prairie Solar Power & Light
- Procorp Enterprises
- RENEW Wisconsin
- Renewegy
- Ritger Law
- Seventh Generation Energy Systems
- Sierra Club - John Muir Chapter
- StormFisher Biogas
- SUN & Daughters Renewable Energy
- Suring Digester LLC
- Sustainable Living Group
- UrbanRe Vitalization Group
- Wave Wind LLC
- WES Engineering
- Wind Wisconsin
- Wisconsin Farmers Union



Advocates for Creating Renewable Energy

Campaign Statement

We support an Enhanced Renewable Portfolio Standard (E-RPS) for Wisconsin. Increasing Wisconsin's production of renewable energy, such as electricity from wind energy, solar, and manure digesters, will revitalize our economy, reduce our dependence on fossil fuels, and protect our environment for future generations.

A renewable portfolio standard establishes a percentage of renewable energy our utilities are required to sell to their customers. Wisconsin's current RPS requires that 10% of all retail electric sales in Wisconsin be derived from renewable resources by 2015. In light of the economic and environmental challenges faced by our state, we support an E-RPS that would require by 2025 that 25% of all retail electric sales be derived from renewable energy resources, and that would further require that at least 10% of all retail electric sales be derived from renewable energy resources located in this state.

The E-RPS is part of the Clean Energy Jobs Act, legislation that seeks to codify many of the recommendations of the Governor's Global Warming Task Force. Regardless of one's conclusions concerning climate change and its causes, an E-RPS will bring significant benefits for our state.

Renewable Energy Investment Will Stimulate Statewide Economic Growth

Given the state's prolonged economic downturn, passage of the Clean Energy Jobs Act is critical in encouraging investment in Wisconsin. It is no secret that international renewable energy companies seeking to expand their manufacturing facilities in the United States look for states with supportive policies for wind and renewable energy. With the adoption of an E-RPS to complement the state's new wind siting law (2009 Wis. Act 10), Wisconsin would send a powerful signal to the world that it is open for business for wind power and other renewable energy producers and manufacturers.

And there will be other supply chain benefits. Each wind turbine consists of at least 19 major components.¹ Increasing demand for wind energy will play directly to important strengths of Wisconsin's economy—its manufacturing expertise and skilled workforce. Already, 157 firms in Wisconsin manufacture components used in renewable energy systems that could be converted for

¹ Renewable Energy Policy Project Technical Report, January 2006, Sterzinger, G., Svercek, M., Stevens, J. Component Manufacturing: Wisconsin's Future in the Renewable Energy Industry, at 8.

this purpose.² In fact, when the American Wind Energy Association hosted a supply chain conference in Appleton earlier this year, more than 600 people from a wide array of Wisconsin businesses attended.

An E-RPS will also help rural residents become national leaders in renewable energy products. Whether the energy is produced from such bioenergy sources as perennial grasses, tree crops, wood residues, or from gas captured at landfills, wastewater treatment plants, dairy farms and food processing plants, greater use of these organic fuel sources would provide new economic opportunities to farmers, local governments, and rural residents. In fact, Wisconsin generated 1.2 billion kWh of electricity from wood residues in 2007.³ Furthermore, Wisconsin's newest wind projects provide nearly \$1.3 million a year in additional income to farmers in the state. These same installations, which account for nearly 90% of the state's total wind generation, yield an extra \$1,584,000 in tax revenues annually to local governments.⁴

An E-RPS Will Help Reduce Our Dependence on Fossil Fuels

Wisconsin is spending \$21 billion annually for fossil fuels to supply our energy needs.⁵ Because Wisconsin has no known reserves of coal, oil or natural gas, that money leaves the state. It is important that we shift to energy sources that can keep more of our money here in Wisconsin in the form of jobs and investment.

While there will always be a role for fossil fuels to drive our state's economy—at least for the foreseeable future—diversifying our generation portfolio is sound risk management. Prior to the ongoing economic recession, the price of coal and natural gas continued to rise and remain volatile, much to the detriment of both Wisconsin consumers and the utilities that serve them. In contrast, the price of fuel for renewable energy generation such as wind and solar will always remain the same—free.

Moreover, there is a high likelihood that federal action will soon be taken to control carbon emissions, thus imposing new costs on our state's economy. Adoption of an E-RPS reduces the increasing regulatory risk associated with heavy reliance on fossil-fueled electric generation.

Critics of an E-RPS suggest it will increase electric rates. Make no mistake about it, whether we keep our current 10% RPS (“the business-as-usual approach”) or move to a 25% E-RPS, electric rates are sure to increase. In fact, the Public Service Commission of Wisconsin has determined that the net present value of the costs our utilities will incur serving their retail customers from now until 2025—keeping the RPS at 10%—is \$66.2 billion. In contrast, under an E-RPS future, that cost would be \$67.9 billion, less than a 3% difference.⁶

Many studies have been conducted concerning the cost impacts of a national or state renewable portfolio standard. For instance, the American Wind Energy Association has concluded that a

² Blue Green Alliance, 2007. Wisconsin's Road to Energy Independence.

³ Energy Information Administration, June 2009. Wisconsin Renewable Electricity Profile.

⁴ RENEW Wisconsin, May 2009. Testimony to Legislature on SB 185.

⁵ Wisconsin Office of Energy Independence, 2008. Wisconsin Energy Statistics, at 113. Includes petroleum, electricity, coal, natural gas.

⁶ Public Service Commission of Wisconsin, April, 2009. Strategic Energy Assessment, at 21.

national RPS would reduce total utility bills by \$100 billion, driving down demand for fossil fuel—and hence, prices—for natural gas.⁷

Finally, the Clean Energy Jobs Act—while proposing to increase the RPS to 25%—would retain the off-ramps under our current 10% standard.⁸ If for any reason a utility or energy consumer advocacy group concludes that rates under the E-RPS would be too high, it can petition the Commission for relief.⁹ That is a sound and sensible policy which should be maintained.

Future Generations Will Enjoy a Cleaner, Healthier Environment

All forms of electric generation, even renewable energy, present environmental trade-offs. That said, fossil fuel use poses unique problems relating to carbon emissions.

An E-RPS is a powerful mechanism to reduce Wisconsin's emissions of greenhouse gases. Producing almost 5% of our electricity from renewable resources, combined with energy efficiency measures, Wisconsin is currently preventing more than 4 million metric tons of greenhouse gas emissions.¹⁰ According to a preliminary analysis, achieving the goals of an enhanced RPS could reduce emissions of carbon dioxide (one of the main components of global warming pollution) by 15.2 million metric tons (factoring in enhanced conservation and energy efficiency policies).¹¹

Expanding Wisconsin's renewable energy production is smart economic policy which will bolster our economy, reduce our dependence on fossil fuels, and improve the quality of our environment. It is time for our state to cultivate our unique assets and commit to a clean energy future.

⁷ "According to a major study by a widely respected energy research firm, a national RPS would save American consumers as much as \$100 billion in lower electricity and natural gas bills (from *Impact of a Federal Renewable Portfolio Standard*, Wood Mackenzie, March 2007)." American Wind Energy Association, December, 2007, Renewable Portfolio Standard Fact Sheet.

⁸ Wis. Stat. § 196.378(2)(e) provides off ramps for issues associated with reliability, unreasonable increases in rates, permitting delays and transmission availability.

⁹ *Id.*

¹⁰ Wisconsin Environment, June, 2006. Madsen, T., Wohlschlegel, K., Kohler, D. Wisconsin's Clean Energy Future: How Renewable Energy and Energy Efficiency Protect our Environment and Create New Jobs, at 2.

¹¹ Governor's Task Force on Global Warming, July 2008. Wisconsin's Strategy for Reducing Global Warming, at 113.

CAMPAIGN SUPPORTERS

- Addison Wind LLC
- American Wind Energy Association
- Badger Transport
- Baldwin Dairy
- Broadwind
- Business Biomass Solutions
- Clean Wisconsin
- Convergence Energy
- D&D Equipment Company
- EcoEnergy
- EcoManity
- Eden Renewable Energy LLC
- Emerald Dairy
- Emerging Energies of Wisconsin LLC
- Full Spectrum Solar
- GHD, Inc.
- Green Power Solutions Inc.
- H&H Solar Energy Services, Inc.
- Helios USA
- Horizon Wind Energy
- IBEW Wisconsin State Conference of Inside Construction Locals
- Institute for Local Self-Reliance
- Invenergy LLC
- Kettle View Renewable Energy
- L&S Technical Associates, Inc.
- Legacy Solar
- Michael Fields Agricultural Institute
- Midwest Wind Energy
- Natural Resources Consulting, Inc.
- North Wind Renewable Energy, LLC
- Northern Biogas
- Organic Valley Family of Farms
- Prairie Solar Power & Light
- Procorp Enterprises
- RENEW Wisconsin
- Renewegy
- Ritger Law
- Seventh Generation Energy Systems
- Sierra Club - John Muir Chapter
- StormFisher Biogas
- SUN & Daughters Renewable Energy
- Sustainable Living Group
- Tower Tech Systems, Inc.
- UrbanRe Vitalization Group
- Uriel Wind
- Wave Wind LLC
- WES Engineering
- Wind Capital Group
- Wind on the Wires
- Wind Wisconsin
- Wisconsin Environment
- Wisconsin Farmers Union



**Presentation Of Findings From A Statewide
Survey Of 600 Likely 2010 General Election
Voters In Wisconsin**



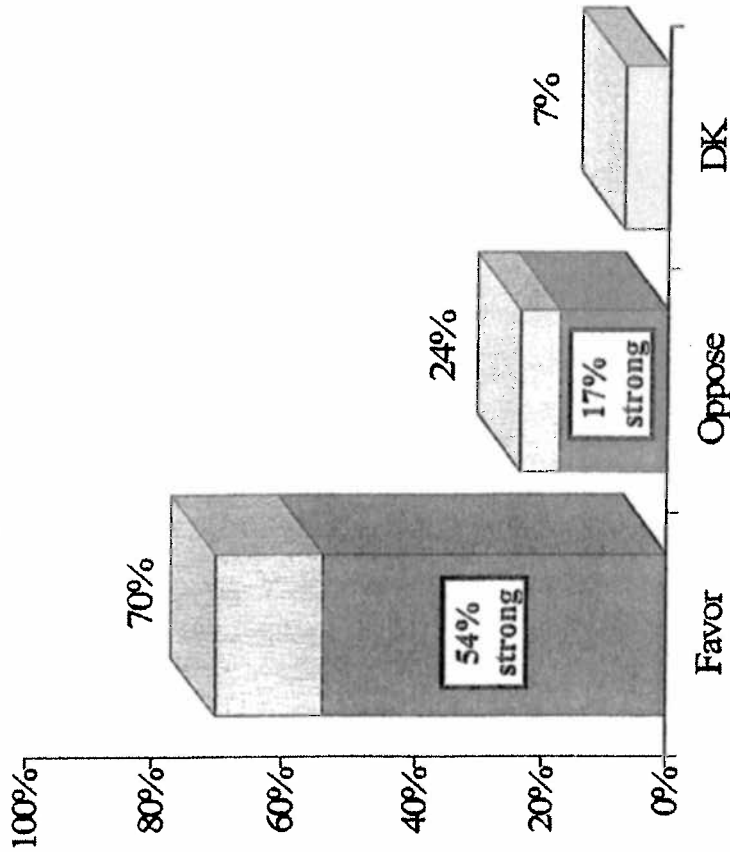
Methodology

- 600 Likely Voters Statewide
- Interviews Conducted September 1-4, 2009
- Margin Of Error +/-4.0% Overall, Higher For Subgroups



Large Majorities Favor State Action To Reduce Carbon Emissions

Do you favor or oppose the State of Wisconsin taking action to reduce (its) emissions of gases like carbon dioxide in Wisconsin that cause global warming?



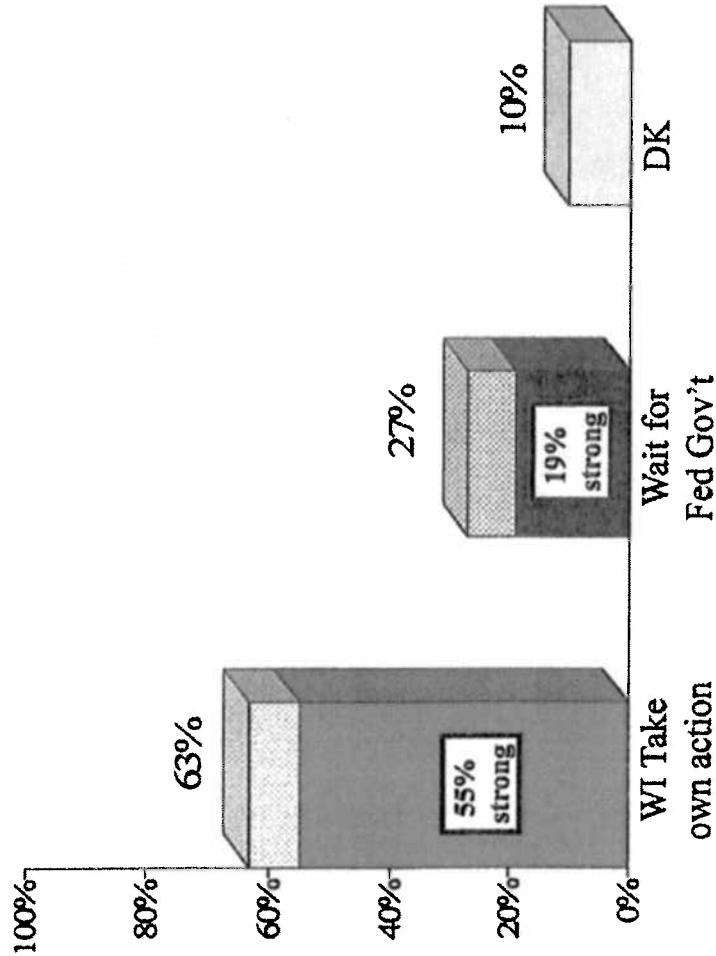
	Strong Favor	Favor	Oppose
Dem	73%	87%	8%
Indep	52%	67%	26%
GOP	34%	53%	39%
Men	52%	67%	28%
Women	55%	73%	20%
18-39	58%	70%	22%
40-59	51%	68%	28%
60+	55%	73%	18%
Milwaukee County	56%	70%	21%
Total Milwaukee DMA	53%	66%	25%
Madison	65%	81%	16%
Green Bay	51%	70%	25%
Wausau/LaCrosse	51%	73%	22%
Upper-SES	62%	70%	25%
College Middle	58%	72%	23%
Non-College Middle	54%	69%	23%
Lower-SES	49%	72%	23%



A Majority Favors Wisconsin Taking Its Own Action On Global Warming

Which of the following statements comes closer to your point of view:

- Wisconsin should take its own action to reduce global warming
- Wisconsin should wait until the federal government acts to reduce the carbon pollution that causes global warming



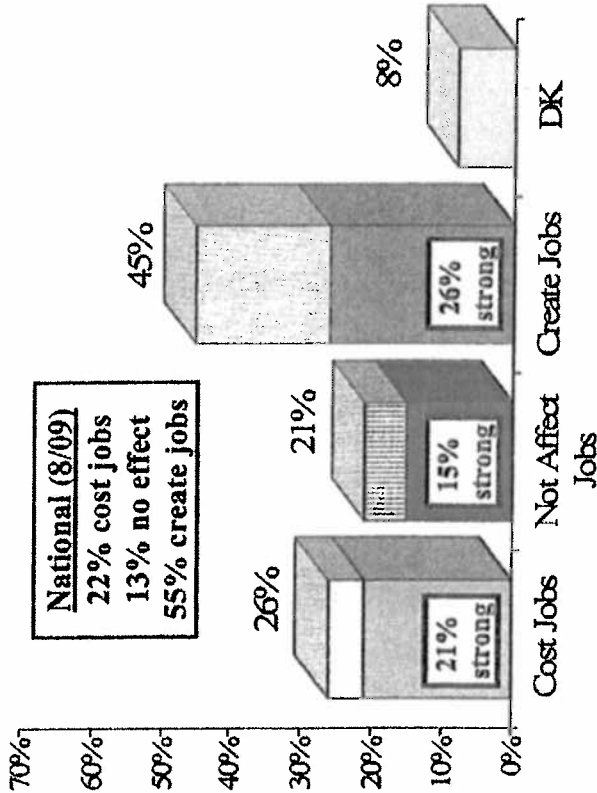
	Take Own Action	Wait For Fed Gov't
Dem	77%	19%
Indep	64%	27%
GOP	47%	36%
Men	59%	29%
Women	67%	25%
18-39	66%	26%
40-59	62%	25%
60+	62%	31%
Milwaukee County	59%	25%
Total Milwaukee DMA	59%	28%
Madison	74%	23%
Green Bay	60%	29%
Wausau/LaCrosse	69%	23%
Upper-SES	65%	22%
College Middle	67%	24%
Non-College Middle	66%	26%
Lower-SES	59%	32%



By Large Margins, Democrats And Independents Believe Addressing Global Warming Will Create Jobs

Which comes closer to your point of view:

- Efforts to reduce global warming will cost American jobs.
- Efforts to reduce global warming will not affect American jobs.
- Efforts to reduce global warming will create new American jobs.



National (8/09)
 22% cost jobs
 13% no effect
 55% create jobs

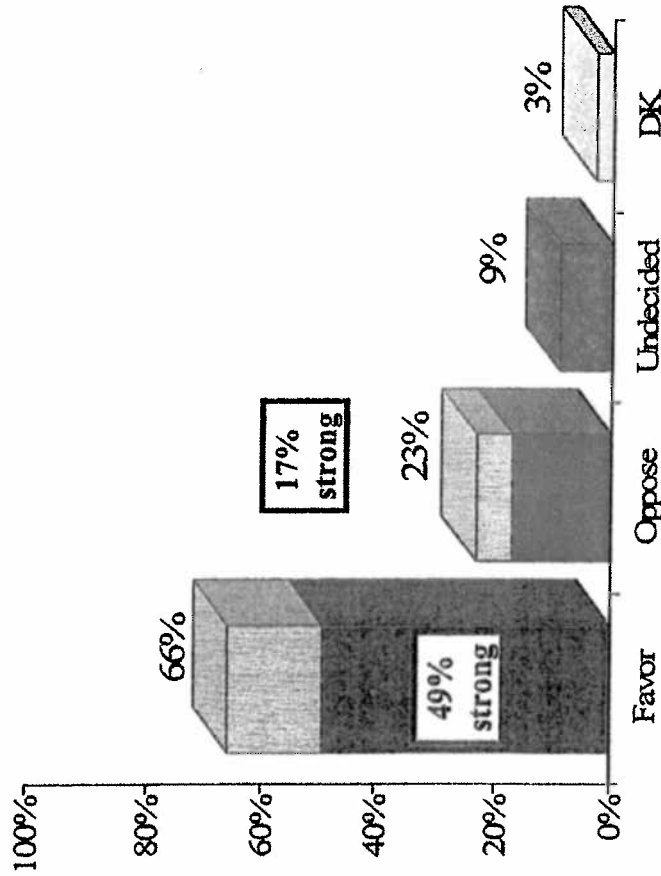
	Cost Jobs	Not Affect Jobs	Create Jobs
Dem	22%	20%	60%
Indep	22%	21%	40%
GOP	31%	21%	32%
Men	33%	24%	37%
Women	29%	18%	52%
18-39	22%	26%	45%
40-59	31%	17%	44%
60+	22%	22%	46%
Milwaukee County	22%	22%	41%
Total Milwaukee DMA	22%	20%	44%
Madison	21%	21%	52%
Green Bay	32%	22%	40%
Wausau/LaCrosse	22%	23%	49%
Upper-SES	25%	20%	46%
College Middle	20%	21%	41%
Non-College Middle	25%	18%	50%
Lower-SES	22%	25%	41%



Two-Thirds Favor Requiring Utilities To Generate 25% Of Their Electricity From Renewable Sources By 2025

The Renewable Energy Standard Earns Bi-Partisan Support

As you may know, the State of WI currently has a law requiring utilities that operate in WI to generate 10% of their electricity from renewable energy sources by the year 2015. Would you favor or oppose increasing this standard to require WI utilities to generate 25% of their electricity from renewable energy sources by the year 2025?

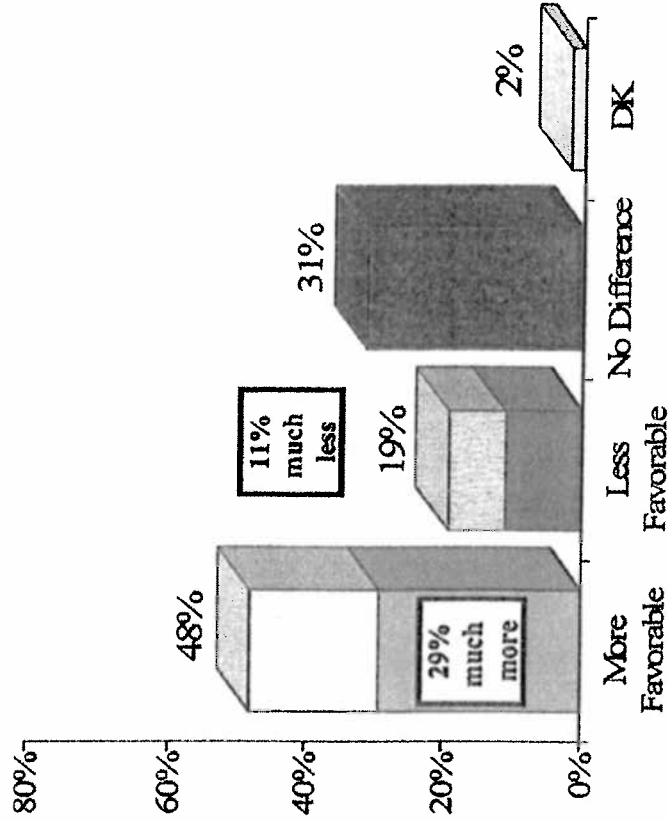


	Favor	Oppose
Dem	82%	7%
Indep	60%	28%
GOP	54%	36%
Men	61%	30%
Women	71%	17%
18-39	63%	24%
40-59	64%	26%
60+	72%	15%
Milwaukee County	63%	23%
Total Milwaukee DMA	63%	24%
Madison	79%	12%
Green Bay	60%	28%
Wausau/LaCrosse	64%	22%
Upper-SES	63%	27%
College Middle	71%	20%
Non-College Middle	67%	19%
Lower-SES	63%	27%



Voters Say They Would Feel More Favorably Toward A State Representative Who Supports The Renewable Energy Standard

How would you feel about your state representative if they voted for a plan to require utilities to generate 25% of their electricity from renewable energy sources by the year 2025 – would it make you feel more favorable toward them, less favorable toward them or would it make no difference?



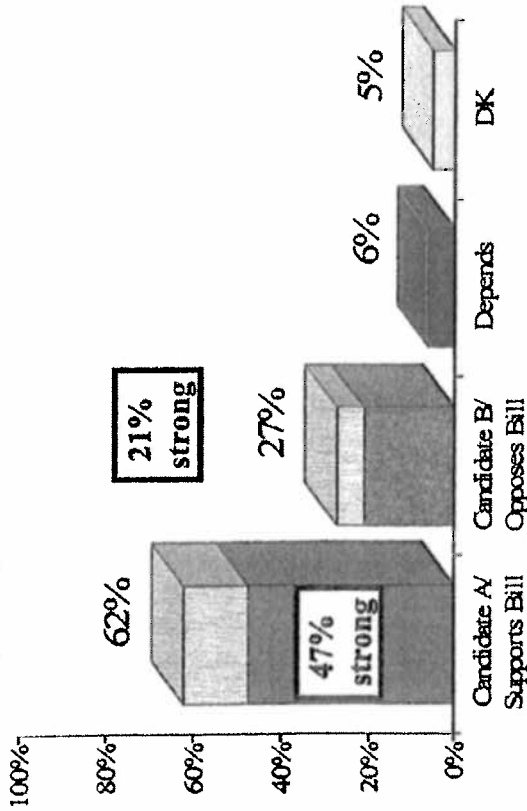
	More Favorable	Less Favorable
Dem	66%	5%
Indep	42%	27%
GOP	32%	29%
Men	48%	26%
Women	48%	14%
18-39	40%	18%
40-59	49%	23%
60+	53%	16%
Milwaukee County	44%	21%
Total Milwaukee DMA	44%	21%
Madison	61%	12%
Green Bay	39%	27%
Wausau/LaCrosse	46%	15%
Upper-SES	53%	28%
College Middle	55%	18%
Non-College Middle	41%	16%
Lower-SES	48%	20%



Large Majorities Of Democrats And Independents Prefer A Candidate Who Supports The 25% Renewable Standard Over One Who Opposes It

For which of the following candidates for state legislature would you rather vote:

- Candidate A supports the bill to require utilities to generate 25% of their electricity from renewable energy sources by the year 2025 because moving the state to clean energy will create whole new industries & thousands of good jobs here in WI while reducing our dependence on foreign energy, & decreasing the carbon pollution that causes global warming.
- Candidate B opposes the bill to require utilities to generate 25% of their electricity from renewable energy sources by the year 2025 because it will in effect create a new energy tax that will raise energy prices for consumers by thousands of \$ and push WI companies to move out of the state where taxes and regulations are less burdensome.



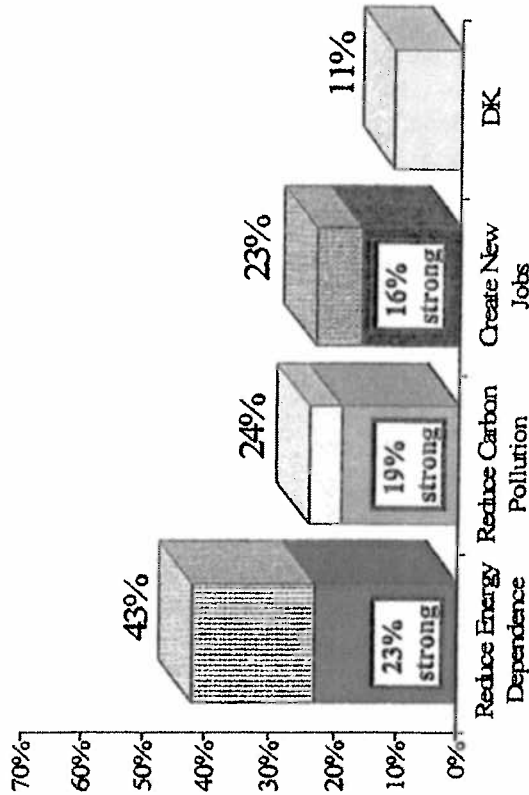
	A-Supports Bill	B-Opposes Bill
Dem	82%	13%
Indep	59%	26%
GOP	42%	45%
Men	58%	32%
Women	65%	23%
18-39	64%	27%
40-59	58%	31%
60+	67%	21%
Milwaukee County	58%	28%
Total Milwaukee DMA	58%	28%
Madison	77%	17%
Green Bay	60%	27%
Wausau/LaCrosse	61%	31%
Upper-SES	68%	29%
College Middle	63%	25%
Non-College Middle	63%	25%
Lower-SES	60%	30%

Reducing Our Dependence On Foreign Energy Is The Best Reason To Support The Renewable Energy Standard



Which of the following is the best reason to support requiring utilities in Wisconsin to generate 25% of their electricity from renewable energy sources:

- Because it will help reduce our dependence on foreign energy sources.
- Because it will reduce the carbon pollution that causes global warming.
- Because it will help create new jobs in the clean energy industry here in Wisconsin.



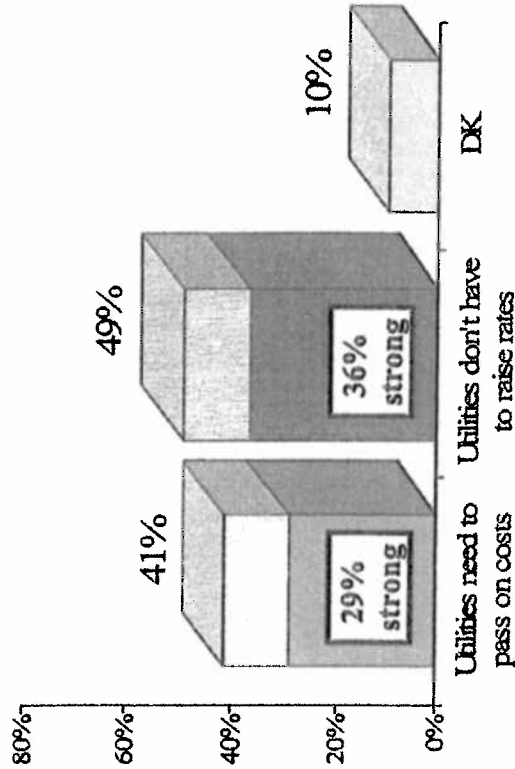
	Reduce Energy Dependence	Reduce Carbon Pollution	Create New Jobs
Dem	33%	34%	28%
Indep	47%	21%	19%
GOP	50%	14%	21%
Men	43%	24%	21%
Women	43%	23%	24%
18-39	38%	25%	28%
40-59	43%	25%	22%
60+	46%	21%	19%
Milwaukee County	30%	24%	35%
Total Milwaukee DMA	38%	23%	26%
Madison	45%	38%	12%
Green Bay	42%	18%	26%
Wausau/LaCrosse	50%	22%	19%
Upper-SES	43%	27%	18%
College Middle	40%	33%	17%
Non-College Middle	43%	23%	27%
Lower-SES	46%	16%	26%



There Is Skepticism About Whether Utilities Have A Legitimate Need To Pass Increased Renewable Energy Costs To Consumers Lower Income Voters Are Least Sympathetic To The Plight Of Utilities

Which of the following statements comes closest to your point of view:

- Generating 25% of their electricity from renewable sources will legitimately increase costs for utilities, and they will have to pass on that cost to consumers.
- Utilities do not really have to increase their rates to be able to generate 25% of their electricity from renewable sources—its just corporate greed.



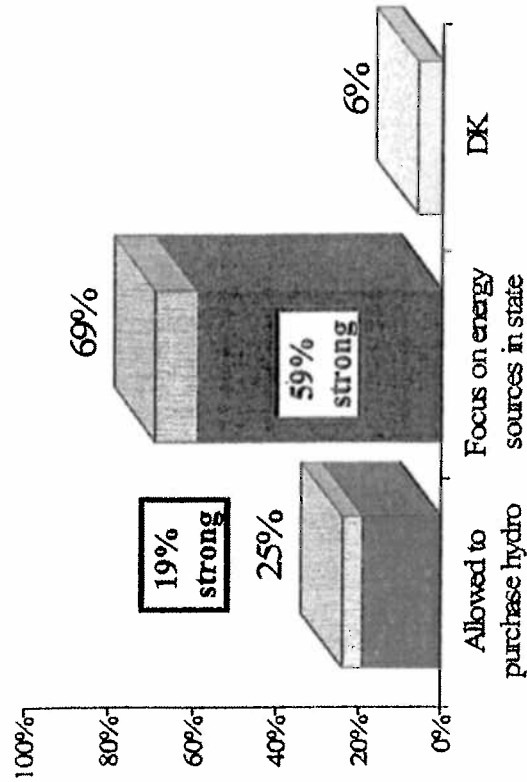
	Need to Pass On Costs	Don't Have To Increase Rates
Dem	38%	51%
Indep	39%	50%
GOP	46%	45%
Men	45%	46%
Women	38%	52%
18-39	51%	41%
40-59	39%	53%
60+	34%	50%
Milwaukee County	39%	54%
Total Milwaukee DMA	40%	52%
Madison	43%	45%
Green Bay	50%	43%
Wausau/LaCrosse	43%	52%
Upper-SES	48%	39%
College Middle	46%	45%
Non-College Middle	42%	47%
Lower-SES	34%	60%



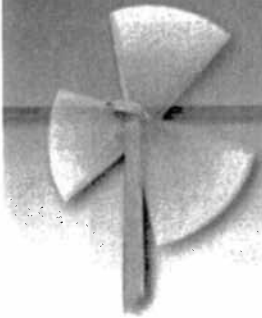
However, Most Voters Want Utilities To Focus On Developing Clean Energy Resources In-State First

Some WI utilities have said that they would like to purchase new hydro-electric power from Canada as a large part of their effort to meet the proposed requirement that at least 25% of all electricity they produce come from renewable sources. Which of the following statements comes closer to your point of view:

- Wisconsin utilities should be allowed to purchase hydro-electric power from Canada
- Before being allowed to purchase hydro-electric power from Canada, WI utilities should first focus on developing clean energy sources here in the state, like wind and solar power.



	Allowed to Purchase Hydro	Focus On Energy Sources In WI
Dem	20%	76%
Indep	27%	67%
GOP	29%	63%
Men	34%	61%
Women	18%	76%
18-39	25%	72%
40-59	27%	65%
60+	24%	72%
Milwaukee County	26%	65%
Total Milwaukee DMA	26%	66%
Madison	23%	73%
Green Bay	34%	61%
Wausau/LaCrosse	17%	79%
Upper-SES	26%	67%
College Middle	27%	70%
Non-College Middle	25%	69%
Lower-SES	24%	71%



Economic Benefits, Carbon Dioxide (CO₂) Emissions Reductions, and Water Conservation Benefits from 1,000 Megawatts (MW) of New Wind Power in Wisconsin

Wind power is one of the fastest-growing forms of new power generation in the United States. Industry growth in 2007 was an astounding 45%. New wind power installations constituted 30% of all new electric power installations. This growth is the result of many drivers, including increased economic competitiveness and favorable state policies such as Renewable Portfolio Standards. However, new wind power installations provide more than cost-competitive electricity. Wind power brings economic development to rural regions, reduces water consumption in the electric power sector, and reduces greenhouse gas production by displacing fossil fuels.

The U.S. Department of Energy's Wind Powering America Program is committed to educating state-level policy makers and other stakeholders about the economic, CO₂ emissions, and water conservation impacts of wind power. This analysis highlights the expected impacts of 1000 MW of wind power in Wisconsin. Although construction and operation of 1000 MW of wind power is a significant effort, six states have already reached the 1000-MW mark. We forecast the

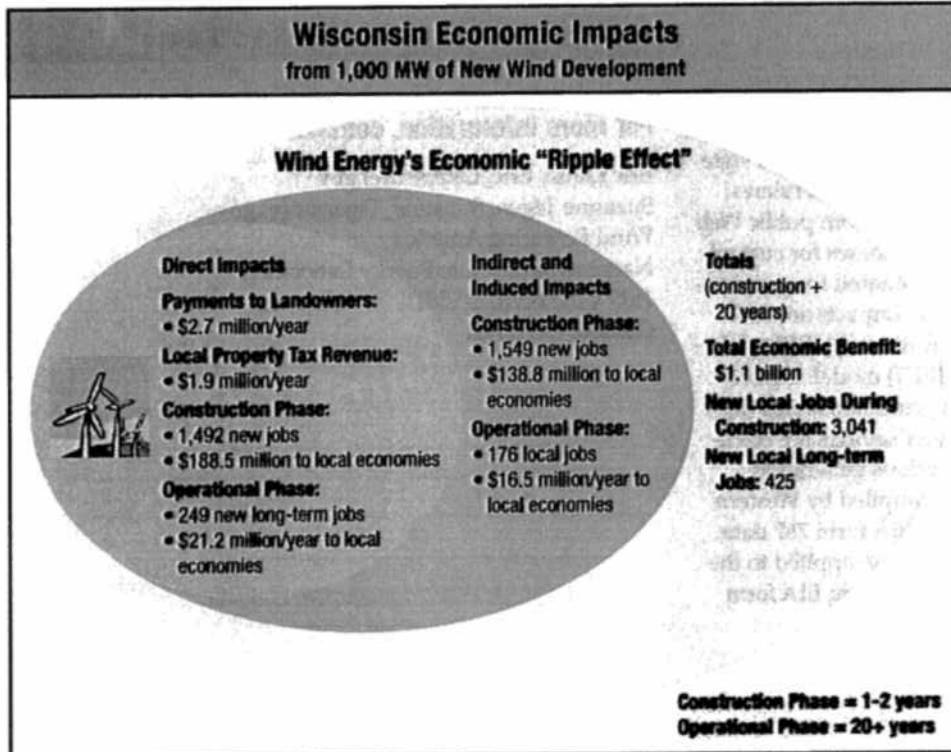
cumulative economic benefits from 1000 MW of development in Wisconsin to be **\$1.1 billion**, annual CO₂ reductions are estimated at **3.2 million tons**, and annual water savings are **1,476 million gallons**.

Economic Benefits

Building and operating 1000 MW of wind power requires a significant investment. But this investment will generate substantial direct, indirect, and induced economic benefits for Wisconsin. Direct benefits include jobs, land-lease payments, and increased tax revenues. Indirect benefits include benefits to businesses that support the wind farm. Induced benefits result from additional spending on goods and services in the area surrounding the development.

Direct impacts result from investment in the planning, development, and operation of new wind facilities. Beneficiaries include landowners, construction workers, O&M staff, turbine manufacturers, and project managers. Indirect impacts reflect payments made to businesses that support the wind facility and include banks financing the project, component suppliers, and manufacturers of equipment used to install and maintain the facility. Induced benefits result from increased spending by direct and indirect beneficiaries. Examples include increased business to restaurants, retail establishments, and child care providers.

Drivers of economic benefits include the use of local construction companies, the presence of in-state component suppliers, local wage structures, local property tax structures, and operation and maintenance (O&M) expenditures. The projected benefits for Wisconsin could be greatly increased by the development of a local wind supply, installation, and maintenance industry within the state.

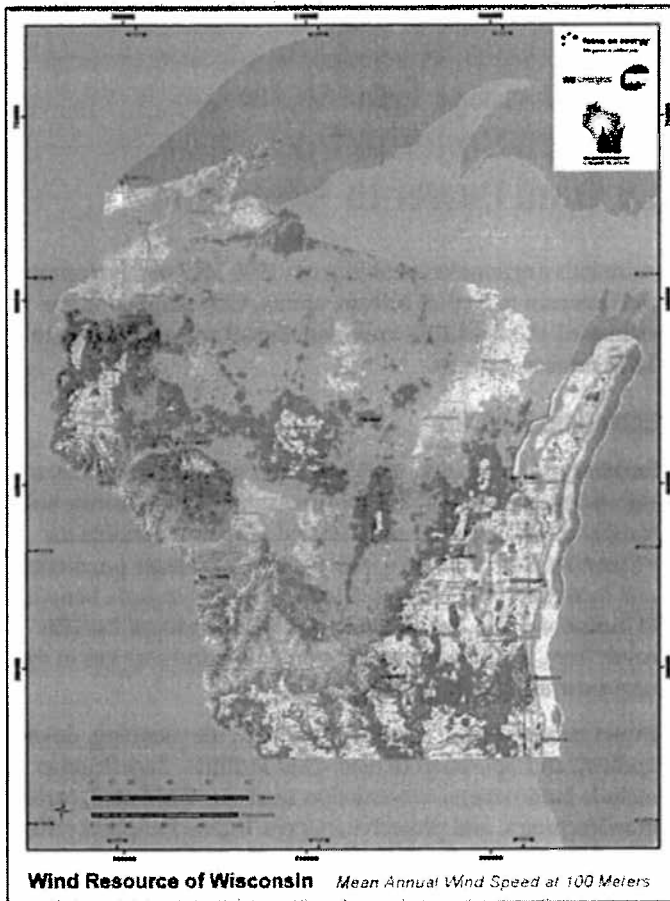


U.S. Department of Energy
Energy Efficiency and Renewable Energy

Bringing you a prosperous future where energy is clean, abundant, reliable, and affordable

Wisconsin

Distribution of Wind Resources in Wisconsin



Methodology

The data for economic analysis are primarily from interviews with state-specific contacts, including developers, power plant operators, contractors, mining and gas associations, and state property tax assessors or administrators. When interviews were not possible, information was obtained from public Web resources, state tax reports, and federal databases for current power plants. Cumulative impacts are estimated for construction and 20 years of operations. Economic impacts are 2007 constant dollars and estimated by application of NREL's Job and Economic Development Impacts (JEDI) model. Carbon estimates apply 2004 non-baseload CO₂ emissions rates (EPA eGRID2006 Version 2.1, April 2007). Water savings are calculated based on consumption rates for various generating technologies. Consumption rates were compiled by Western Resource Advocates and calculated from EIA form 767 data and EPRI publications. Consumption rates are applied to the NERC region generation mix as determined from EIA form 960/920 (2006).

Data Inputs	
Construction Cost	\$1,650/kW
Operations and Maintenance	\$24.70/kW/yr
Property Tax	\$1,939/MW/year
Landowner Lease Payments	\$2,667/MW/year

CO₂ Emissions and Water Conservation Benefits

In 2004, the average Wisconsin resident emitted approximately 9.4 tons of CO₂ from electricity consumption. As a state, Wisconsin ranked 27th in per capita electricity sector CO₂ emissions. CO₂ emissions are increasingly important factors as state and federal government consider policies regarding climate change while drought in the Southeast has underscored the relevance of freshwater supply issues outside of the arid and semi-arid regions of the United States.

Developing wind power in Wisconsin will result in CO₂ emissions reductions and water savings. Choosing to build wind projects results in CO₂ reductions from decreased natural gas consumption. In addition, both fossil- and nuclear-based electricity generation consume large amounts of water. Wind power reduces our reliance on increasingly vital freshwater resources.

Annual Impacts in Wisconsin from 1000 MW of New Wind Power	
Water Savings	CO ₂ Savings
1,476 million gallons	3.2 million tons

For more information, contact:

Eric Lantz, Eric_Lantz@nrel.gov
 Suzanne Tegen, Suzanne_Tegen@nrel.gov
 Wind Powering America
 National Renewable Energy Laboratory
 1617 Cole Blvd. MS3811
 Golden, CO 80401

A Strong Energy Portfolio for a Strong America

Energy efficiency and clean, renewable energy will mean a stronger economy, a cleaner environment, and greater energy independence for America. Working with a wide array of state, community, industry, and university partners, the U.S. Department of Energy's Office of Energy Efficiency and Renewable Energy invests in a diverse portfolio of energy technologies.

Prepared by the National Renewable Energy Laboratory (NREL)
 NREL is a national laboratory of the U.S. Department of Energy
 Operated by the Alliance for Sustainable Energy, LLC

Printed with a renewable-source ink on paper containing at least 50%
 wastepaper, including 30% postconsumer waste

For more information contact:
 EERE Information Center
 1-877-EERE-INF (1-877-337-3463)
www.eere.energy.gov

October 2008 • DOE/GO-102008-2683



Wisconsin and a National Renewable Electricity Standard

How Would a National Renewable Electricity Standard (RES) Affect Wisconsin?

- **Create Jobs and Investment:** An RES will spur growth in Wisconsin's wind manufacturing industry, which would supply in-state and out-of-state wind farms. An RES will also support wind farm operations and construction jobs.
- **Lower Consumer Electricity Rates:** The costs of an RES would be more than offset by the resulting lower prices for natural gas, saving consumers money and protecting them from cost spikes. The cost of homegrown wind is stable, and the fuel is free. According to a UCS analysis, a 25 percent RES would cumulatively save Wisconsin consumers \$1.67 billion by 2025.
- **Reduce Emissions:** A national RES is a powerful tool in immediately reducing emissions cost-effectively. Implementing an RES in Wisconsin could reduce the state's emissions of greenhouse gases by up to 20 percent.
- **Enhance Energy Security:** Renewable resources are plentiful and widely available domestically, reducing our reliance on volatile fuel markets.



Wisconsin Wind Resource Map, showing potential at 70 meters. Light green and darker represent developable utility-scale resources, while purple and orange represent excellent resources.

How Much Wind Power Could Wisconsin Develop to Meet a National RES?

In 2008, Wisconsin had one of the fastest growth rates for wind installations in the country, increasing its installation from 53 megawatts (MW) to around 395 MW, with enormous potential to grow further. Current estimates show that Wisconsin has large wind resources both on and off-shore.

- To meet a 15 percent RES through wind energy alone, Wisconsin would need to install just 3,400 MW, powering nearly one million homes and offsetting around 6.5 million tons of CO₂.
- To meet a 25 percent RES through wind energy alone, Wisconsin would need to install 5,750 MW, powering the equivalent of over 1.6 million homes and offsetting around 11 million tons of CO₂.

Wisconsin has good onshore wind resources and excellent offshore resources. With a combination of onshore and offshore wind power, Wisconsin could not only provide enough plentiful, clean, in-state power to meet any national RES, but could export wind power to other states as well.

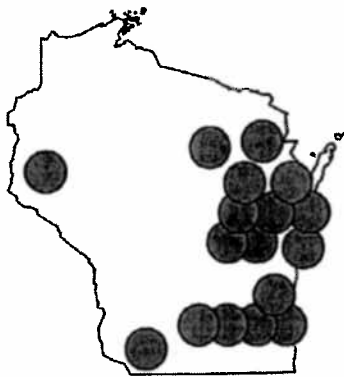
Updated March 2009



What Are the Economic Benefits of 5,750 MW of Wind Power in Wisconsin?

Developing just 5,750 MW of Wisconsin's wind energy would generate 25 percent of its projected 2025 electricity use and provide numerous economic benefits, including:

- Operations and management jobs (around 600)
- Yearly construction jobs (around 350 per year)
- Growth and investment in the manufacturing sector
- Significant lease payments to land owners (over \$17 million per year)
- Positive contributions to the tax base, especially in rural areas
- Cumulatively reduce the energy costs of Wisconsin consumers by \$1.67 billion by 2025



Wisconsin Manufacturing
Map of existing wind
facilities.

What is the Potential for Wind Manufacturing?

Wisconsin has the potential to be a manufacturing powerhouse for the wind industry. Many of the skills Wisconsin workers already have would easily transfer to wind manufacturing, providing thousands of new green collar jobs and spurring billions in investment.

Many Wisconsin component suppliers are already making the switch to supplying the wind industry. Some companies that several years ago were supported almost entirely by other industries are now producing the majority of their product for the wind industry.

Wisconsin already has at least 17 companies that are actively engaged in manufacturing for the wind industry, and countless others have expressed interest in joining the industry. With growth in demand for wind turbines, more companies will join the supply chain. Several hundred Wisconsin companies already produce products similar to those needed in the wind industry.

One wind industry manufacturing success story is that of Tower Tech, in Manitowoc, Wisconsin. Tower Tech was founded in 2003, and took over a facility that had been used during World War II to build submarines. From its strategic location on Lake Michigan, Tower Tech has been providing utility-scale turbine towers since 2004. Tower Tech's success has led it to announce two new facilities in South Dakota and Texas, both expected to open this year.

Wisconsin Wind Facts

Current wind installation: 395 MW (up from 53 MW in 2007), powering 100,000 homes

Current and announced wind-related manufacturing facilities: 17

Construction jobs supported in 2008: 350

Permanent operations and management jobs: 40

For more information, please contact Greg Wetstone, Director of Government Affairs or
Aaron Severn, Energy Legislative Manager at (202)383-2500
Assumptions: 30% capacity factor, \$3,000/MW landowner payments, .9 tons CO₂/ton coal, .9% demand growth

PSC REF#:110982

PUBLIC SERVICE COMMISSION OF WISCONSIN

Public Service Commission of Wisconsin
RECEIVED: 04/03/09, 1:18:23 PM

STRATEGIC ENERGY ASSESSMENT ENERGY 2014

ENSURING THE AVAILABILITY, RELIABILITY AND
SUSTAINABILITY OF WISCONSIN'S ELECTRIC ENERGY SUPPLY

FINAL REPORT



NORTH WHITNEY WAY
MADISON, WISCONSIN

APRIL 2009
DOCKET 5-ES-104

scenario and a regulation scenario in which only clean coal⁶ is allowed to be added after 2013.

Commission staff modeled EGEAS scenarios with the intent that they approximately mirror the MTEP scenarios. Staff's EGEAS scenarios include a base scenario (including CO₂ monetization), a high CO₂-high natural gas cost scenario, a 25 percent renewable scenario, a high DSM scenario, and a high (plus 10 percent) and low (minus 10 percent) fossil fuel cost scenario (instead of a limited supply of natural gas scenario). Table 7 sets out the results of these modeling scenarios. The plan cost is the net present value cost for the entire plan (2006-2035), including extension period.

Table 7 Summary of Modeling Results

Year	Base Model		25% Renewable Model		High CO ₂ -High Natural Gas Cost Model	
	Plants Suggested by EGEAS Modeling *	Total Cost of Base Model **	Plants Suggested by EGEAS Modeling *	Cost Above Base Model **	Plants Suggested by EGEAS Modeling *	Cost Above Base Model **
2008	Wind (1)	\$66.2 billion	Wind (1)	\$1.7 billion	Wind (1)	\$27.2 billion
2009	Wind (2)		Wind (2)		Wind (2)	
2010	Wind (2)		Wind (2)		Wind (2)	
2011	Wind (2)		Wind (2)		Wind (2)	
2012			Wind (1)			
2013			Wind (1)		Wind (3)	
2014			Wind (1)		Wind (3)	
2015	CT (1), Purchase*** (1)		Wind (1), CT (1)		Wind (3)	
2016	CT (1), Purchase (2)		Wind (2), Purchase (2)		Purchase (3)	
2017	CC (1)		Wind (2), Purchase (2), CT (1)		Purchase (5)	
Year	High DSM Model		High Fuel Cost Model		Low Fuel Cost Model	
	Plants Suggested by EGEAS Modeling *	Cost Above Base Model **	Plants Suggested by EGEAS Modeling *	Cost Above Base Model **	Plants Suggested by EGEAS Modeling *	Cost Above Base Model **
2008	Wind (1)	\$-800 million	Wind (1)	\$2.3 billion	Wind (1)	\$-1.9 billion
2009	Wind (2)		Wind (2)		Wind (2)	
2010	Wind (2)		Wind (2)		Wind (2)	
2011	Wind (2)		Wind (2)		Wind (2)	
2012						
2013						
2014			Wind (2)			
2015	Wind (2)		Wind (2), Purchase (2)		CT (1), Wind (2), Purchase (1)	
2016			CC (1)		CT (1), Purchase (2)	
2017			Purchase (2)		CC (1)	

* () indicates number of units installed
 ** Total plan (2006-2035) dollars (NPV 2006)
 *** 1 Purchase = 100 MW

In the above Table 7, the total system NPV cost difference between the base model using a 10 percent RPS requirement and the sensitivity modeling using a 25 percent RPS requirement is stated as \$1.7 billion. Additional discussion of how this number was calculated and its potential on end-user electric rates is necessary.

The additional cost of implementing a 25 percent RPS requirement shown in Table 7 is based on moving to such a future from a near-term base model that includes a 10 percent RPS requirement and CO₂ monetization. In moving to the 25 percent RPS requirement future, some of the cost of the additional renewable energy is offset by the cost associated with the displaced CO₂ emissions.

⁶ Clean Coal means coal combustion technologies that allow the burning of coal with reduced air emissions.

While the base model includes likely near-term assumptions such as CO₂ monetization, this is not the present situation on which current electric rates are based. Moving to a 25 percent RPS requirement future will likely impact current electric rates significantly more than the \$1.7 billion shown in Table 7, as the cost of implementing CO₂ monetization must also be included. The EGEAS modeling performed by Commission staff suggests that moving from the present situation of a 10 percent RPS requirement and no CO₂ monetization to the near-term base model (10 percent RPS requirement and CO₂ monetization) could add several billion dollars to the total system NPV cost. The exact impact on current rates from the monetization of CO₂ could vary significantly and depends on how the CO₂ allowances are distributed, *i.e.* how many allowances are purchased versus how many are allocated. The \$1.7 billion cost of implementing a 25 percent RPS requirement is in addition to this.

Generation Planning Conclusion

Assuming all currently authorized generation is constructed and placed into operation, and electric utilities continue to construct renewable generation in order to meet the requirements of Wis. Stat. § 196.378, Commission staff's EGEAS analysis shows no additional generation for the state as a whole (beyond the renewable generating facilities) is needed in the SEA period (2007-2014). However, the EGEAS modeling results suggest that in the years immediately following the SEA period, additional natural gas electric generating facilities may be needed. This result occurs because the optimization is done on an ATC-footprint basis. Optimization on a specific utility basis could show different results. This is a very important distinction with significant policy implications, because applications for new generation plants that the Commission reviews during construction cases are usually made by an individual utility.

The high CO₂ cost scenario modeled in this SEA is based on climate bills introduced in past sessions of Congress. The impact of CO₂ legislation on the EGEAS modeling assumptions will be incorporated in future SEAs in order to provide as thorough a picture as possible of the impact of CO₂ monetization on Wisconsin utilities and ratepayers.

The escalating costs of all electric generation construction leads to the possibility that increased DSM may result in a lower-cost generation plan, depending on the unit cost of DSM. If the cost of additional transmission facilities is considered, the potential for cost-effective DSM options increases. Wind generation, and possibly biomass, will be constructed to comply with RPS standards. Commission staff has modeled only wind in meeting the RPS, as biomass is more costly at this time. The excess energy could be sold into the MISO market and, at a minimum, will give Wisconsin more flexibility with possible power plant retirements.

Homegrown Renewable Energy Campaign



Renewable Energy Buyback Rates

An innovative way to encourage more smaller-scale renewable energy systems by paying premiums to customers for wind, solar, biogas or biomass electric generation.

How are they different from standard utility buyback rates?

Unlike standard buyback rates, Renewable Energy Buyback Rates provide a fixed purchase price for the electricity produced over a period of 10 to 20 years. They are set at levels sufficient to fully recover installation costs along with a modest profit. Because the purchase price is guaranteed over a long period, Renewable Energy Buyback Rates make it easy for customers to obtain financing for their generation projects.

Why don't utilities pursue these small-scale renewable projects themselves?

In general, the smaller the generating facility, the less likely it is owned by a utility. Utilities tend to favor bulk generation facilities that employ economies of scale to produce electricity at a lower cost. Renewable power plants owned by utilities—such as large wind projects—are sized to serve their entire territory, not just a particular distribution area. For that reason utilities have shown little appetite for owning and operating distributed generation facilities powered with solar, biogas, wind, and hydro.

If utilities won't invest in small-scale renewable projects, how will they get built?

Clearly, the capital needed to build smaller-scale renewable projects has to come from independent sources—either customers or third parties. There is no shortage of investor interest in these systems, and sufficient capital is available. What's needed to finance these projects is a predictable, long-term purchasing arrangement that assures full capital recovery if the project performs according to expectations. That's where Renewable Energy Payments come into play.

Key Points

If adopted systematically in Wisconsin, Renewable Energy Buyback Rates would:

- **Stimulate** job growth and expands business opportunities for local installers, building trades and manufacturing, especially in rural areas.
- **Support** biogas production from manure using anaerobic digester technology.
- **Reduce** dollars flowing out of state to import energy.
- **Displace** generation from CO₂-producing fossil fuels.
- **Enhance** energy security in a state without fossil fuel reserves.
- **Diversify** the energy resource mix and increase system resiliency.

Do any Wisconsin utilities offer Renewable Energy Buyback Rates?

Some utilities have offered special Renewable Energy buyback rates to their customers, but usually in limited quantities. For example, at the start of 2009, three utilities were offering a buyback rate of 25 cents/kWh for solar-generated electricity, almost twice the retail rate. Unfortunately, two of the three utilities (including Alliant Energy) have stopped accepting applications to sell power under those rates. Now, MGE is the only Wisconsin utility that offers a solar buyback rate, and WEPCO is the only Wisconsin utility that has a special wind energy rate (net energy billing for systems up to 100 kilowatts). Three utilities—WPL, WEPCO and Xcel—offer special rates for biogas projects, but their rates are on the low side and vary from 7.3 cents/kWh to 9.2 cents/kWh. It is virtually impossible to finance a biogas energy project at those rates without additional funding from Focus on Energy and the U.S. Department of Agriculture.

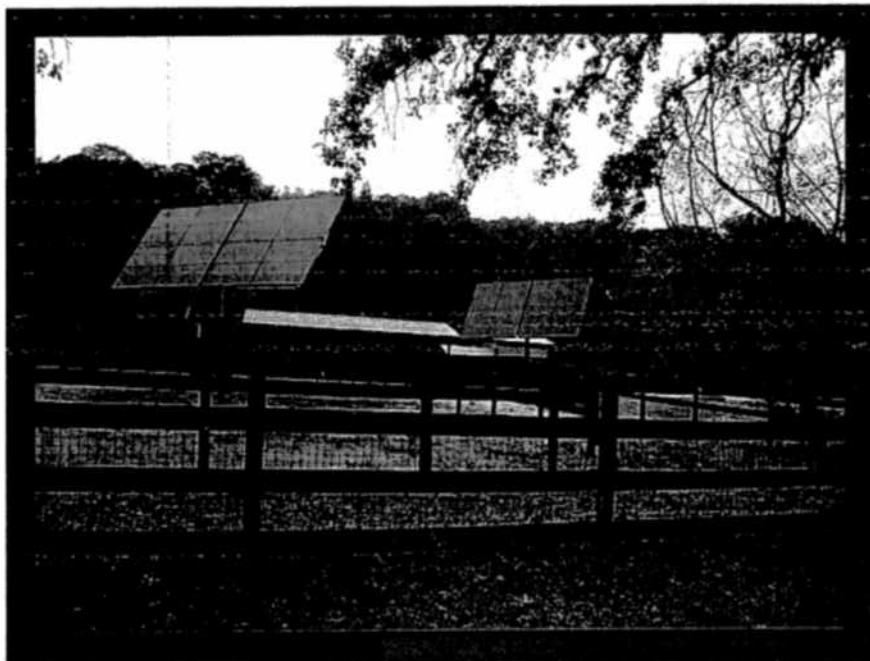
Will Renewable Energy Buyback Rates raise electric rates?

There are two points to consider. The first is that if Renewable Energy Buyback Rates are not set high enough to entice independent investment in small-scale renewable generation, they will not have a measurable effect on utility rates. The second point is that if premium payments are sufficiently attractive to stimulate growth in this market sector, their impact on rates can be controlled through and overall program cap.

What can be done to make Renewable Energy Buyback Rates a reality throughout rural communities in Wisconsin?

The Legislature can pass a bill requiring all Wisconsin utilities to acquire a set percentage of their electricity supplies from renewable energy producers located in their service territories. The same bill would direct the Public Service Commission to

design the terms of the Renewable Energy Payments that each utility would offer to their customers. It is likely that provisions to require Renewable Energy Buyback Rates will be included in the forthcoming Clean Energy Jobs Act, set to be introduced in late 2009.

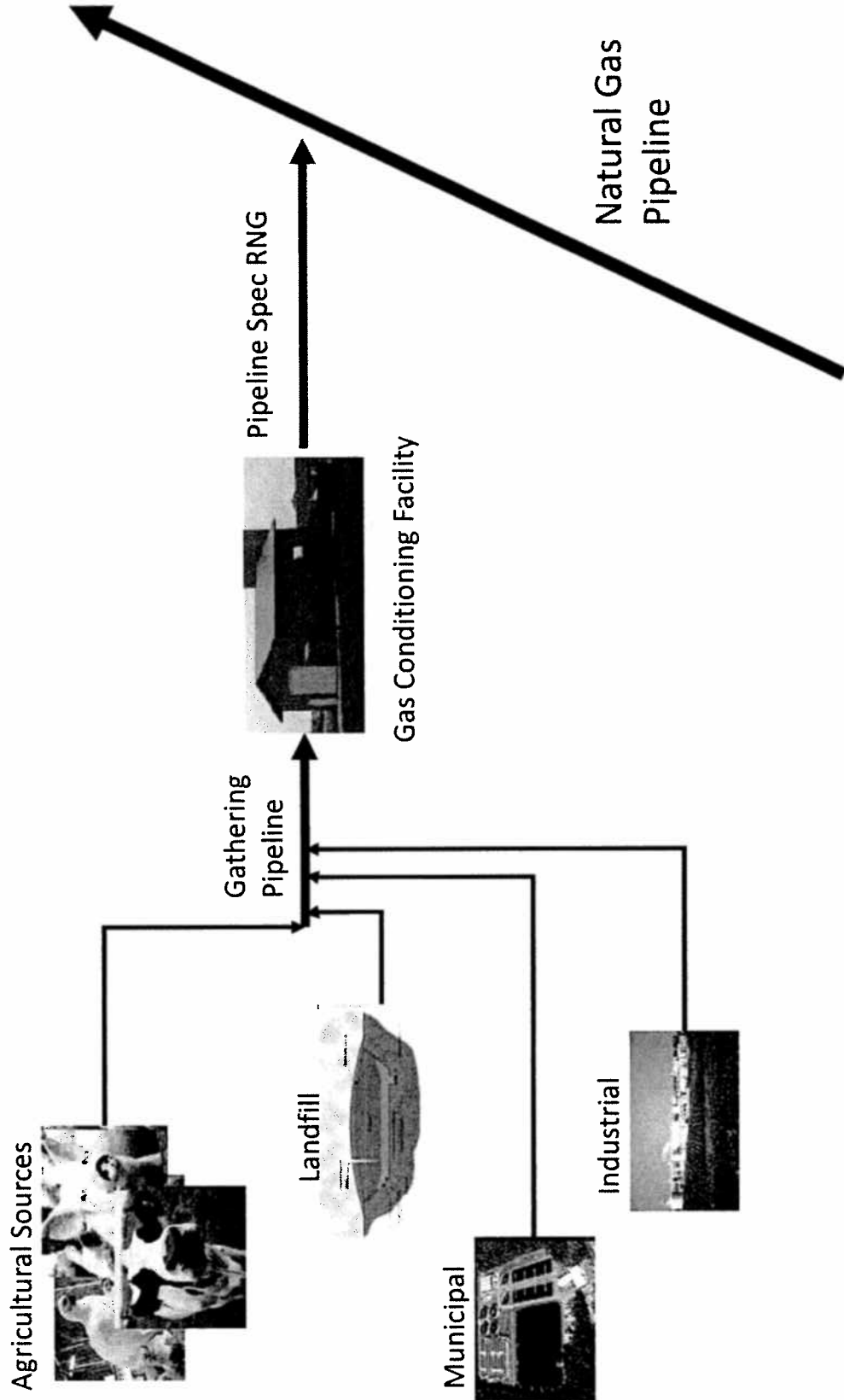


**Prepared for the
Homegrown Renewable Energy Campaign
November 2009**

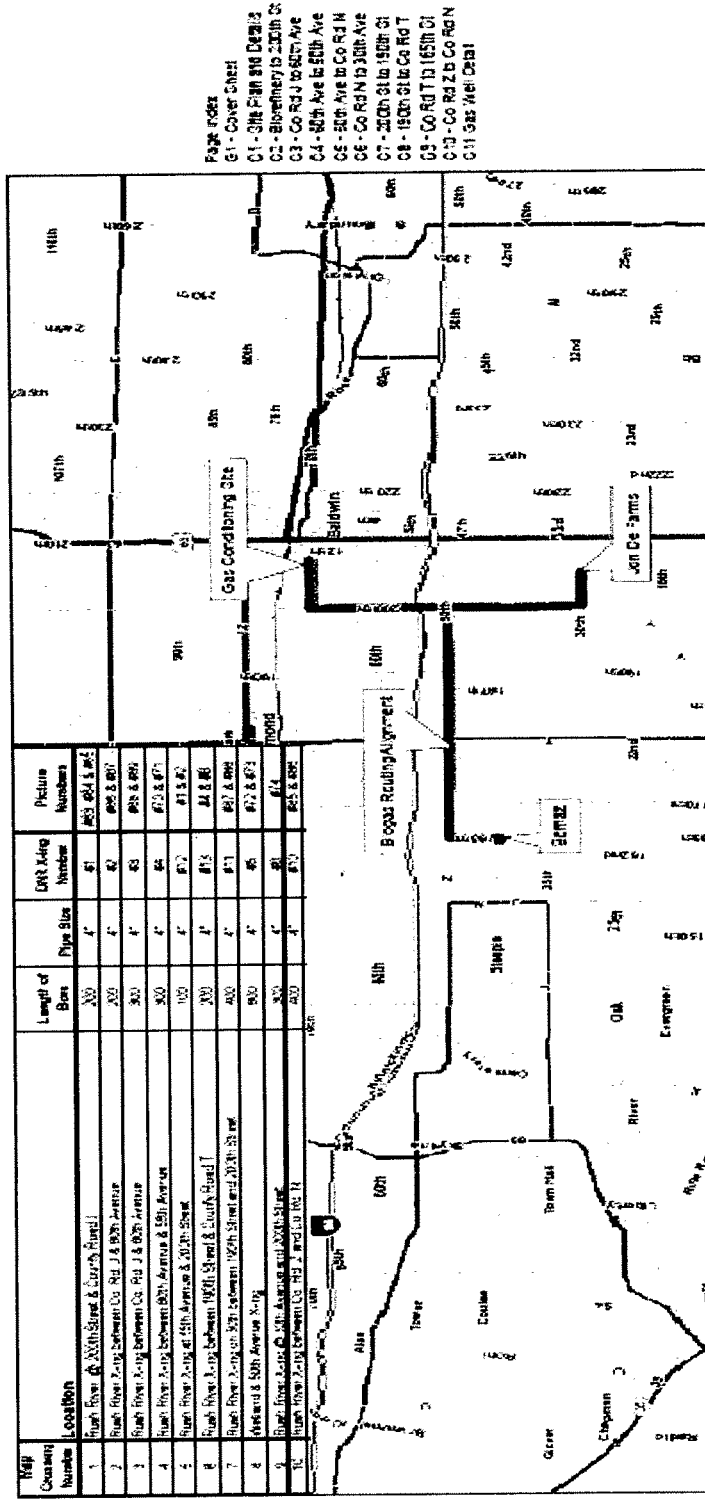
**Contact: Michael Vickerman
RENEW Wisconsin
608.255.4044
mvickerman@renewwisconsin.org**



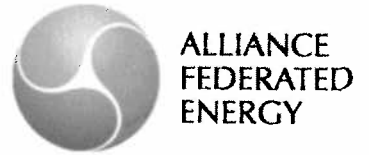
Biogas Basin Concept



AGRI-WASTE ENERGY LOW PRESSURE BIOGAS ROUTING BALDWIN, WISCONSIN







The following is language to be inserting in the Renewable Portfolio Standard list of qualifying renewable energy items in the Clean Energy Jobs Act that will address the needs of Alliance Federated Energy.

Insert into 2009 Senate Bill 450 on page 103 after line 13 (between Section 175 & 176)

SECTION 175m. 196.378 (1r) (fg) 4. of the statutes is created to read:

“A facility producing synthetic gas created by the plasma gasification of waste.”

Notes:

- This inserts the Alliance Federated Energy technology into the list of things that qualifies as renewable energy. Other similar special case resources are listed in this section (i.e. allowing some refuse-derived fuel combustion for old facilities, and the Barron County exception).

Contact:

Bryan Brooks
Brooks Consulting LLC
608-444-4727