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2
3 BEFORE THE
4 PUBLIC SERVICE COMMISSION OF WISCONSIN

5 **Application of Wisconsin Public Service**
6 **Corporation For Authority to Adjust**
7 **Electric and Natural Gas Rates**

Docket No. 6690-UR-119

10
11 **DIRECT TESTIMONY OF MICHAEL J. VICKERMAN**

12
13 **ON BEHALF OF RENEW WISCONSIN**

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16
17 **Q. Please state your name, occupation, and address.**

18 A. My name is Michael J. Vickerman. I am Executive Director of RENEW
19 Wisconsin, an organization whose directors and members support expanding the
20 use of locally available renewable energy resources to meet the state's power
21 needs. RENEW is located at 222 S. Hamilton St., Madison WI 53703.

22
23 **Q. Please describe your professional qualifications?**

24 A. Under my direction RENEW has advocated, and mobilized political
25 support for, several pro-renewable policies adopted in the last 10 years, including
26 the establishment of Wisconsin's Renewable Portfolio Standard and a public
27 benefits fund dedicated in part to renewable energy sources. I have been involved
28 with many issues relating to renewable electricity, ranging from broad policy
29 mandates and customer-driven green pricing programs to such technical issues as
30 renewable energy credit trading and windpower permitting ordinances. I was
31 RENEW's representative on the statewide Task Force on Energy Efficiency and

1 Renewables, which Governor Doyle convened in September 2003, and served as
2 co-chair of the Renewables Workgroup. In that capacity I developed and
3 negotiated several renewable energy policy recommendations for consideration by
4 the full Task Force. These were: (1) a successor Renewable Portfolio Standard
5 (RPS) that would result in a 10% renewable energy content by 2015 and (2) a
6 State of Wisconsin commitment to source 20% of the electricity it uses from
7 renewable energy sources. Both recommendations were included in a consensus
8 package of proposed policy changes that were subsequently incorporated into a
9 bill (SB459) that passed the Legislature and was signed into law in March 2006
10 (2005 Act 141) .

11 I have written and defended testimony in several PSC proceedings in recent
12 years, including We Energies' 2007 rate case (05-UR-1030, Madison Gas &
13 Electric's 2007 rate case (3270-UR-115), Wisconsin Power & Light's application
14 to build the Cedar Ridge wind energy installation (6680-CE-171), We Energies'
15 application to build the Blue Sky Green Field wind energy installation (6630-CE-
16 294), Forward Wind Energy's application to build a 200 MW wind energy
17 installation (9300-CE-100), We Energies' 2005 rate case (05-UR-102), Wisconsin
18 Public Service Corporation's 2005 and 2006 rate cases (6690-UR-117 and 6690-
19 UR-118), and Wisconsin Power & Light's 2005 and 2006 rate cases (6680-UR-
20 114 and 6680-UR-115).

21
22 RENEW has been providing services under contract to Focus on Energy's
23 Renewable Energy program since its launch in March 2002. The services I

1 provide to Focus on Energy include reviewing requests for financial incentives to
2 underwrite the development of customer-sited renewable energy installations in
3 Wisconsin. Over the course of its history, Focus on Energy has paid out more than
4 \$7.5 million in renewable energy grants and incentives.

5
6 In 2007 and 2008 I served on the Electric Generation and Supply working
7 group attached to the Governor's Task Force on Global Warming. In that capacity
8 I was in a position to formulate policy templates for stimulating the installation of
9 low-carbon energy sources. One of the policy templates I formulated addressed
10 the issue of renewable energy buyback rates and proposed a new approach to
11 increasing customer-owned renewable generation.

12
13 **Q. What is the purpose of your testimony?**

14 A. The purpose of my testimony is to show that differences in utility buyback
15 rates for solar electricity are beginning to skew the Wisconsin marketplace,
16 resulting in a concentration of installation activity in those territories that offer the
17 most attractive rates. This asymmetry is a reason for convening a proceeding to
18 set Advanced Renewable Tariffs for distributed renewable generation sources that
19 are technology-specific and are uniform across service boundaries.

20
21 **Q. Did the Governor's Task Force on Global Warming consider a policy**
22 **template to increase buyback rates for distributed renewable energy**
23 **systems?**

1 A. Yes it did. The Electric Generation and Supply Workgroup forwarded to the full
2 body a policy template outlining the establishment of Advanced Renewable
3 Tariffs. In approving the proposal, the Task Force said the following:

4
5 This policy recommends that the PSC establish tariffs to stimulate the
6 deployment of renewable generation projects smaller than 15 MW.... [T]hese
7 tariffs should be based upon the specific production costs of each particular
8 generation technology, include a return comparable to the utilities' allowed
9 returns, and be fixed over a period of time that allows for full recovery of
10 capital costs. If PSC does not currently have authority to establish these tariffs
11 through rate-making, the policy recommends legislation to grant such
12 authority.

13
14 Both the final recommendation and the policy template approved by the
15 GWTF can be found at the link below.

16 http://dnr.wi.gov/environmentprotect/gtfgw/documents/Final_Report.pdf
17

18 **Q. Which utilities offer a special solar electric buyback rate to customers?**

19 A. We Energies (WE) instituted in January 2006 a 22.5 cent/per kWh
20 buyback rate for solar electric installations. The next utility to offer a solar electric
21 buyback rate was Madison Gas & Electric (MGE). Its 25 cent/kWh rate took
22 effect January 2008. Both rates are fixed over a 10-year term. They are available
23 to all residential, commercial and industrial customers of WE and MGE until a
24 certain capacity threshold is reached. WE's experimental solar tariff was initially
25 capped at 500 kW. In 2007 WE raised the cap to 1 MW. MGE initially set a
26 ceiling of 150 kW for its solar electric buyback rate, but has since raised it to 300
27 kW.

1 Wisconsin Power & Light has proposed a 25 cent/kWh rate as part of its
2 pending rate case. If approved by the Public Serviced Commission, it would take
3 effect January 2009.

4 In addition to its 22.5 cent/kWh solar rate, WE provides a significant up-
5 front incentive to nonprofit customers that seek to install solar electric systems.
6 Unlike the solar rates offered by WE and MGE, which are adjuncts of their
7 voluntary renewable energy purchase programs, WE's nonprofit incentive
8 program is supported by all of its customers.

9 **Q. Are the higher buyback rates for solar beginning to influence the**
10 **marketplace?**

11 A. We're starting to see signs that they are. Focus on Energy keeps track of the flow
12 of solar electric incentive checks by utility territory. From May through July
13 2008, Focus incentives supported the installation of 253.8 kW of customer-sited
14 solar generating capacity. Of that total 116.2 kW were installed in WE territory,
15 constituting about 46% of the statewide total. Slightly more than 24 kW of solar
16 were installed in MGE territory during the same time. Taken together, about 55%
17 of Focus on Energy-supported solar electric capacity was interconnected to WE's
18 and MGE's distribution systems during that period. For comparison purposes, WE
19 and MGE make up less than half of the state's electricity sales.

20 I expect the solar buyback rates offered by WE and MGE will attract an
21 even larger share of total installation volume as the year wears on. Bear in mind
22 that MGE's solar buyback rate has existed for less than nine months, and we are

1 likely to see a surge of installations in the second half of 2009. Focus on Energy's
2 August results should be available before the technical hearings begin.

3

4 **Q. During the same three-month period, how many kW of Focus on Energy-**
5 **supported solar electric capacity were completed and interconnected to**
6 **WPS?**

7 A. According to Focus on Energy records, 13 kW of solar electric capacity
8 were added to WPS's system between May 1st and July 31st, 2008. That number is
9 about 5% of the total solar electric capacity supported by Focus on Energy during
10 that time. For comparison purposes, WPS accounts for about 15% of the state's
11 electricity sales.

12 **Q. Does every solar electric generation system installed in Wisconsin receive**
13 **funding through Focus on Energy?**

14 A. No. Focus on Energy does not provide financial incentives to: (1) solar
15 installations greater than 50 kW; (2) solar systems located in the territories of
16 utilities not participating in Focus on Energy; and (3) utility-owned solar electric
17 systems, like those installed through WPS's Solarwise for Schools program.

18 While there have been a few system owners in eligible territories that have not
19 applied for incentives from Focus on Energy's renewable energy program, they
20 are the rare exception.

21

22 **Q. What do these results suggest?**

1 A. Even though the sampling of results is small, the breakdown of solar
2 installations by utility territory suggests that the solar buyback rates now in effect
3 are stimulating solar electric installations at a higher rate than is occurring at
4 utilities that don't offer solar buyback rates.

5 To put it another way, evidence is growing that the combination of Focus
6 on Energy incentives and federal tax credits for solar is by itself insufficient to
7 stimulate more than a few dozen customer-sited solar electric installations
8 statewide per year.

9

10 **Q. What is the value of Focus on Energy incentives for solar electric systems**
11 **relative to total installed cost?**

12 A. Typically, Focus on Energy cover between 15% and 25% of system
13 installation costs.

14 **Q. What is the value of federal tax credit for solar electric installations?**

15 A. Under federal law, a solar energy system owner may apply for a 30% tax
16 credit. For individual taxpayers, however, the federal tax credit is capped at
17 \$2,000 for the entire system. There is no incentive maximum on systems owned
18 by commercial entities.

19 If a typical 1.5 kW system costs \$12,000 to install, the system owner could
20 expect a maximum of \$2,000 for that system, even though 30% of \$12,000 is
21 \$3,600. Thus, a residential system owner that receives a Focus on Energy reward
22 of \$2,400 for his or her solar energy system with a total cost of \$12,000 is entitled
23 to a \$2,000 tax credit. In that example, the effective tax credit is 16.6%. The

1 combined value of the state and federal incentives offsets \$4,400, or 36.6% of
2 total cost.

3

4 **Q. What evidence do you have that higher buyback rates influence customer**
5 **decisions to install solar electric systems?**

6 A. I can cite myself as an example. My wife and I now have a 1.7 kW solar
7 electric system on our house in Madison. That system was installed this summer
8 and started generating electricity on August 20. (Note: it was placed in service too
9 recently be included in the Focus on Energy monthly reports.) The installer
10 estimates that energy production from our 1.7 kW array will average 2,000 kWh
11 annually. Assuming the installer's estimate is accurate, our system will produce
12 \$5,000's worth of electricity over the first 10 years of its existence. In contrast,
13 under a net energy billing arrangement with MGE, that same system would yield
14 an estimated revenue stream of \$3,500 in that same period.

15 The expectation of a 25 cent/kWh buyback rate for 10 years was
16 absolutely critical in motivating us to pursue a solar electric system. With it, the
17 output from the system should produce enough revenue (in nominal dollars) to
18 pay off, within 30 years, the out-of-pocket cost of the system. I expect our
19 installation to be functional after 30 years.

20 Now, if we were living in Green Bay, and wanted to pursue a solar electric
21 system on our residence, the revenue stream from that installation would be set by
22 WPS's residential retail rate. WPS's residential retail rate is less than that of
23 MGE. Under WPS's net energy billing rate, it would take a minimum of seven

1 more years of production to offset the out-of-pocket cost of the system, all other
2 things being equal. Suffice it to say that we would not have pursued a solar
3 electric system on our house in Madison through a net energy billing arrangement
4 with MGE. It would have been our decision to wait until one or more of the
5 following things occur: (1) a 25% decline in installation costs; or (2) a doubling in
6 the combined value of state and federal incentives.

7 It's worth remembering that the cost of solar generation does not vary
8 much from one utility territory to the next. However, when the revenue varies
9 significantly across service boundaries, it will result in concentrating solar
10 installation activity in those territories that offer the most attractive buyback rates.

11

12 **Q. Given the absence of a solar electric buyback rate to stimulate installations in**
13 **WPS territory, what is your recommendation to the Commission?**

14 A. We don't believe that the Commission should require a utility to offer a
15 resource-specific buyback rate until it's ready and willing to order every utility it
16 regulates to adopt the same rate. Before that could happen, the Commission would
17 need to convene a generic docket for the express purpose of establishing resource-
18 specific tariffs that would be applied uniformly across utility boundaries.

19

20 **Q. How important are Advanced Renewable tariffs to an increased renewable**
21 **energy standard, which the Governor's Task Force on Global Warming also**
22 **endorsed?**

1 A. RENEW does not believe that raising Wisconsin's Renewable Energy
2 Standard will by itself stimulate installation activity of projects in the less-than-15
3 MW market. However, we believe that the establishment of Advanced Renewable
4 Tariffs would greatly facilitate utility compliance with a more aggressive
5 Renewable Energy Standard, especially one that has an in-state set aside.

6

7 **Q. Does this complete your testimony?**

8 A. Yes it does.

9