

Approved: March 28, 2002 Carl Dean Holmes
Date

MINUTES OF THE HOUSE COMMITTEE ON UTILITIES.

The meeting was called to order by Vice Chairman Tom Sloan at 9:05 a.m. on February 11, 2002 in Room 526-S of the Capitol.

All members were present except: Representative Carl Holmes
Representative Bonnie Huy

Committee staff present: Robert Chapman, Legislative Research
Dennis Hodgins, Legislative Research
Mary Torrence, Revisor of Statutes
Jo Cook, Administrative Assistant

Conferees appearing before the committee: Donna Johnson, Pinnacle Technologies
Bob Courtney, Olathe School District
Christine Casares, Metro Care
Greg Bryant
Scott Keith, UtiliCorp United
Bruce Graham, Kansas Electric Power Cooperatives
Tim Rush, Kansas City Power & Light
Colin Hansen, Kansas Municipal Utilities
Doug Lawrence, Westar Energy
Jon Miles, Kansas Electric Cooperative

Others attending: See Attached List

HB 2713 - Net metering provided for electric utility customer-generators

Vice Chairman Sloan opened the hearing on **HB 2713**. Robert Chapman, Fiscal Analyst, provided an introduction and explanation of net metering (Attachment 1). Mr. Chapman outlined the advantages and disadvantages associated with net metering. He also told of other states that have enacted net metering legislation.

The first conferee appearing in support of **HB 2713** was Donna Johnson, President of Pinnacle Technology, Inc. (Attachment 2). Ms. Johnson stated that the passage of this bill would position Kansas as one of the states actively supporting renewable energy generation. She stated that the primary objective for implementation was to encourage private investment in renewable energy resources.

Bob Courtney, Energy Manager for the Olathe School District, addressed the committee as a proponent of **HB 2713** (Attachment 3). Mr. Courtney explained that the major reason to insist on net metering is to secure the individual's right to make and distribute electric power. He outlined three reasons net metering is important. Mr. Courtney provided a chart showing the other states' net metering programs.

Christine Casares, Co-Founder of MetroCARE, testified in support of **HB 2713** (Attachment 4). Ms. Casares explained that faith based organizations would like the encouragement to install renewable energy systems and this legislation could do that.

Mr. Greg Bryant, Robinson, Kansas, appeared in support of **HB 2713** (Attachment 5). Mr. Bryant stated that he and his wife hoped to install a residential-scale wind turbine at their home to help reduce consumption of natural resources. He said it would provide enormous benefits to him while protecting the utilities and distributors from having to "shoulder too much of the burden."

Bill Griffith, appearing on behalf of the Sierra Club, spoke in support of **HB 2713** (Attachment 6). Mr. Griffith outlined several states' progress in supporting renewable energy and included in his testimony an article about net metering in Utah.

CONTINUATION SHEET

MINUTES OF THE HOUSE COMMITTEE ON UTILITIES, Room 526-S Statehouse, at 9:05 a.m. on February 11, 2002.

Bruce Graham, Vice President of Member Services and External Affairs for Kansas Electric Power Cooperative, testified as an opponent to **HB 2713 (Attachment 7)**. Mr. Graham stated that current law already permits a customer to self generate with any production in excess of immediate needs to be purchased by the utility at 150% of its monthly system average cost. This proposed legislation is asking for more. Mr. Graham also shared their concern about the provision that permits net metering loads to accumulate to one percent of the state's actual peak electricity demand.

Scott Keith, Manager of Electric Tariffs for UtiliCorp United, appeared in opposition to **HB 2713 (Attachment 8)**. Mr. Keith listed three concerns they had about this proposed legislation: 1. The scope is much too broad and grants to the corporation commission the power to contract on behalf of utilities; 2. It appears to exclude a number of utilities; and 3. It would cause a utility to pay more than its avoided cost for energy provided by customer owned generation.

Tim Rush, Director of Regulatory Affairs for Kansas City Power & Light Company, spoke in opposition to **HB 2713 (Attachment 9)**. Mr. Rush stated that this legislation would result in undue subsidization by the utility and customers for customer generation. Mr. Rush outlined portions of the bill they believe are unclear and asked the committee to consider amendments that would clarify them.

Colin Hansen, Executive Director of Kansas Municipal Utilities, testified as an opponent to **HB 2713 (Attachment 10)**. Mr. Hansen also addressed the concerns about cost to customers. He expressed a concern about utility employee safety in the area of untrained customers operating a distribution system.

Doug Lawrence, Vice President for Public Affairs for Westar Energy, appeared in opposition to **HB 2713 (Attachment 11)**. Mr. Lawrence stated that net metering is a one sided transaction that brings no benefits to a utility system or customers, yet increases their expenses.

Jon Miles, Vice President of Governmental and Technical Services for Kansas Electric Cooperatives, spoke in opposition to **HB 2713 (Attachment 12)**. Mr. Miles stated that the compensation in the bill creates a subsidy for the customer-generator at the expense of other consumers, with the utility's loss being covered by the ratepayers.

The conferees responded to questions from the committee.

Vice Chairman Sloan closed the hearing on **HB 2713**.

The meeting adjourned at 10:46.

The next meeting will be February 12, 2002.

HOUSE UTILITIES COMMITTEE GUEST LIST

DATE: February 11, 2002

NAME	REPRESENTING
Jon K Miles	KEC
Joe Dick	BPU Kc
Bill Goff	Sierra Club / HRES
Greg Bryant	self
Scott Keith	UtiliCorp
J.C. Fouy	UtiliCorp United Inc.
Donna Johnson	Pinnacle Technology
Eric Lawrence	Westar Energy
JOAN C. BOTTENBERG	WESTAR ENERGY
MARK SCHREIBER	WESTAR ENERGY
COLIN HANSEN	K K Y
BOB COURTNEY	OLATHE SCHOOL DIST
BUD BURKE	KCPIL
Tim Rush	KCP & L
Dorey Gammier	Westar Energy
Dave Holthaus	KEC
Christine Caseres	Meto CARE
Steve Johnson	Kansas Gas Service
Whitney Dameron	KS Gas Service
TOM DAY	KCC

Stuart Little

Westar Energy

HOUSE UTILITIES COMMITTEE GUEST LIST

DATE: February 11, 2002

NAME	REPRESENTING
Bruce Gaham	ICEPC
Walker Hendrix	CURB
Charles Benjamin	KS Sierra Club

February 11, 2002

To: House Committee on Utilities
From: Robert Chapman, Fiscal Analyst
Re: Net-Metering

Net-metering is where consumers can install small, grid-connected renewable energy systems to reduce their electricity bills. Under net metering, electricity produced can flow into the utility grid, spinning the existing electricity meter backwards.

Disadvantages

- Net-metering does not account for an equitable share of the cost of generation and transmission. There are additional expenses in providing electricity to customers, namely transmission, distribution lines, transformers, meters, and maintenance. Depreciation and labor should be allowed in addition to the price of fuel. Nongenerating customers, in a way, subsidize the equipment and service expenses of the net-metering customers.
- At times, renewable energy production is not worth the premium price. Most customers contemplating investing in a renewable energy source would generate electricity through wind generators. Yet the wind does not always blow when electricity is needed the most. Electricity is worth more during the summer and during the middle of the day, and sometimes the wind does not blow enough to meet those demands.
- Net-metering legislation would impact nonjurisdictional utilities, like municipal utilities and rural electric coops, differently than jurisdictional utilities. For nonjurisdictional utilities, which cover about 70 percent of the geographic area of the state, the shift of expenses from generating customers to nongenerating customers is more substantial because of fewer customers per square mile.
- It involves an indirect cost to the utility—the customer is buying less electricity from the utility, which means the utility is collecting less revenue from the customer.

Advantages

- Net-metering is a simple, low-cost, and easily administered method to encourage direct customer investment in renewable energy technologies.

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- It removes an economic disincentive for potential customers by increasing the value of the electricity generated by renewable energy technologies.
- As a policy option, it provides economic incentives, promotes clean energy production, and encourages renewable energy participation without public funding.
- It does not need constant regulatory interaction or supervision after the program is in place.
- It helps lower the economic threshold of small renewable energy facilities.

What Other States Are Doing

Minnesota was the first state to enact a net-metering statute in 1983. Since then, 33 other states have enacted some type of net metering laws or regulations. Germany, Japan, and Switzerland also have net metering. Many state net-metering rules were enacted by state utility regulators pursuant to state implementation of the federal Public Utility Regulatory Act of 1978 (PURPA). In recent years many states have enacted net-metering laws legislatively, including Arkansas, California, Connecticut, Delaware, Georgia, Hawaii, Maryland, Massachusetts, Montana, Nevada, New Hampshire, New Jersey, New York, Ohio, Oregon, Rhode Island, Vermont, Virginia, Washington, and Wyoming.

History of the Issue in the Kansas Legislature

2001 Session. These bills were introduced:

- SB 299—Promotion of energy efficiency, income tax credits (was introduced, but not recommended by the Committee).
- HB 2267—Generation of electricity by schools; contracts for parallel generation (was introduced, but not recommended by the Committee).
- HB 2245—Parallel generation (contained a net-metering provision which was taken out during the legislative process; the bill was signed by the Governor). Parallel Generation is when the customer interconnects their electric generation facility to the electric grid to be distributed in parallel with the utility's electricity.

RC/aem

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Utilities Committee
Kansas House of Representative
Testimony in Support of HB 2713

By
Donna Johnson, President
Pinnacle Technology, Inc.
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Thank you Mr. Chairman and members of the Committee for allowing me to testify in support of HB 2713. I would first like to start by thanking the members for their strong interest and support of renewable energy technology in the state. As you all know, Kansas has a wealth of renewable energy options, including wind and solar. Today, I would like to address HB 2713, and the benefit of allowing net metering of renewable energy sources in Kansas.

Passage of 2713 would firmly position Kansas as one of a growing number of states actively supporting renewable energy electricity generation. Currently 34 states have passed net metering legislation (see map on the next page). Net metering has been shown to be an easy to administer and highly effective policy to encourage direct customer investment in renewable energy. The basic principle is that the customer-generator has one meter which can "spin forward" when the customer is consuming more power than they are generating, or "spin backward" when the customer is generating more power than they are consuming. The net electricity use is then tallied at the end of the month or year.

The primary objective for states to implement net metering is to encourage private investment in renewable energy resources. Other benefits include stimulating local economic growth, diversifying energy resources, and improving the environment. The major appeal is its simplicity, the use of a single existing meter. After the policy is passed, there is no regulatory supervision required.

Many utilities oppose net metering and have fought it unsuccessfully in most states. The major opposition is that paying retail prices for customer-generated electricity is a subsidy because retail prices include the cost of transmission and distribution, administration and profit. They argue that prices for all consumers will be higher due to net metering. In addition, they argue that it violates FERC and PURPA rules by requiring utilities to pay higher than the avoided cost for electricity.

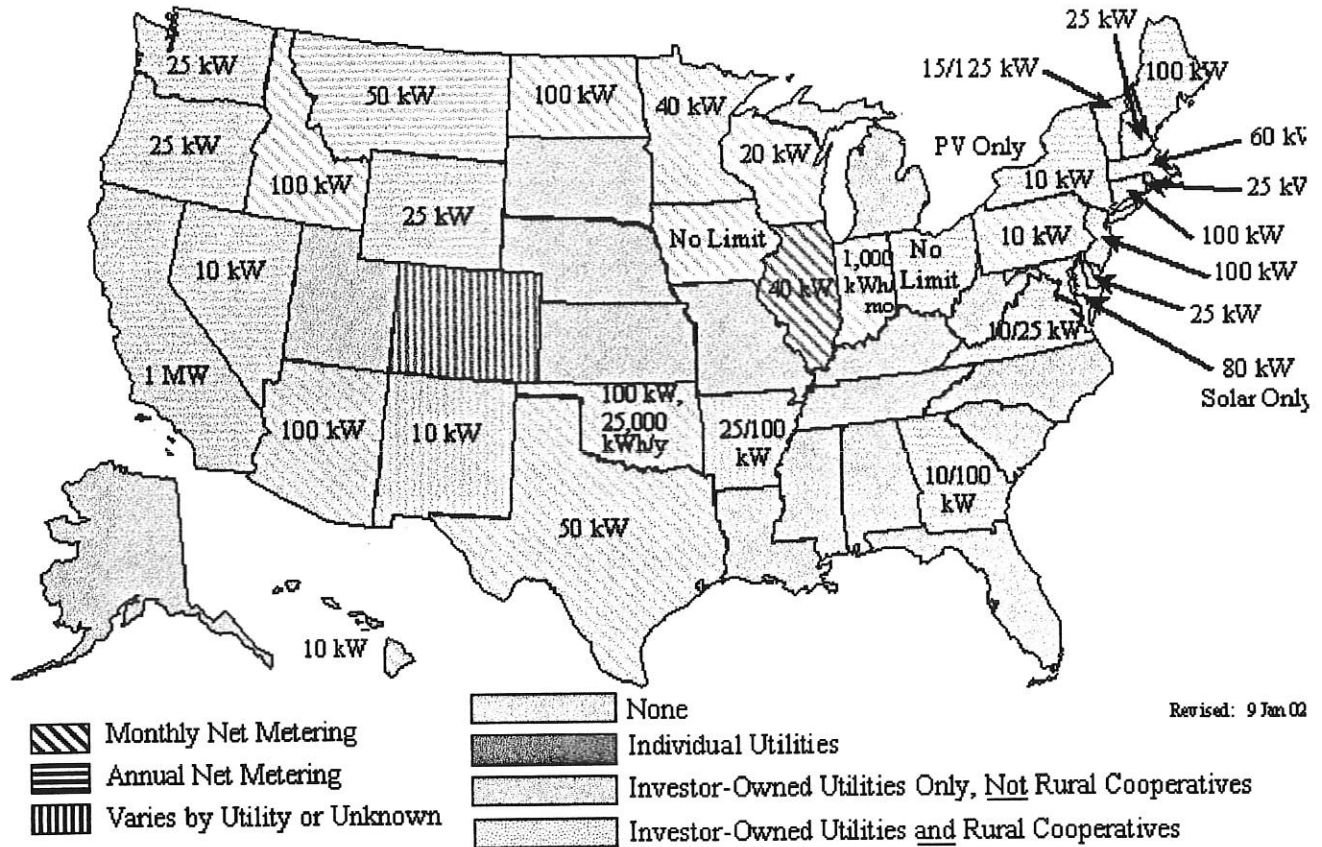
In April 2001, The Federal Energy Regulatory Commission (FERC) rejected a legal challenge to Iowa's net metering policy brought by MidAmerican Energy Company. In an October 1998 petition, MidAmerican, an Iowa-based, interstate public utility, argued that the state's net billing policy for residential renewable energy systems violates previous FERC rulings, which have found that utilities cannot be required to purchase power from renewable energy producers at a price in excess of avoided cost. The utility also argued that the policy violates the Federal Power Act, under which FERC is the appropriate regulatory authority for wholesale electric energy transactions in interstate commerce.

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Net Metering By State



FERC found that "the issue in this case is how to measure the transaction between MidAmerican and those entities that have installed generation on their premises," with MidAmerican arguing that a net billing arrangement constitutes a sale of electricity from the generator to the utility that must be priced according to federal law. However, FERC found that "no sale occurs when an individual homeowner or farmer (or similar entity such as a business) installs generation and accounts for its dealings with the utility through the practice of netting." FERC also found that measuring the netting over the monthly billing cycle for retail customers is "reasonable."¹

Net metering can mean some revenue loss for the utility. Individual renewable systems are still expensive enough, however, that they are not likely to be used by many customers and are unlikely to have much overall effect on utility revenues.

An analysis of net metering in California found that the savings to the utility from avoiding the extra meter reading and billing would be about the same as the revenues lost from net metering.² Similar studies have been done for Texas and Iowa which also indicate that the price increase to the customer base is at the most pennies per month. Net metering can provide additional benefits to utilities by encouraging distributed generation.

¹ Taken from the Department of Energy website, www.eren.doe.gov

² Howard Wenger, *California Net Metering Program Impact: Net Present Value Economic Analysis*, (unpublished paper), January 8, 1995. Available from the Renewable Energy Policy Project, www.repp.org.

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Although the large-scale generation of electricity from renewable resources is now cost competitive with traditional fossil fuel production of electricity in many areas, the cost of electricity from small wind turbines or small solar systems is still very high. The majority of electric customers in the state will find that implementation of small renewable systems is cost prohibitive. However, there are a large number of customers who will adopt small systems for reasons which range from self-sufficiency to concern for the environment. It should be a goal of the state to encourage those who want to generate their own renewable electricity. We can diversify our energy mix, and improve our environment while supporting citizens and communities rights to choose their energy type. This implementation would also position the state well for future changes in our energy economy, which may very well include increased fossil fuel costs.

Our company currently receives 2-4 phone calls every week from individuals, schools, cities, and counties asking for information on how they can they get involved in wind energy. We are happy to provide general information and we encourage them to talk to their legislators about getting a net metering bill passed in Kansas. Net metering provides the basic groundwork for development of small renewable energy systems. It has worked well in other states, and it will work well in Kansas. Kansans want to be proactive about wind and solar energy. Passage of this legislation will allow them to participate in the state's energy future.

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HOUSE UTILITIES COMMITTEE

February 11, 2002
Room 526 S - State House
Topeka, Kansas

I am Bob Courtney, Energy Manager for the Olathe School District. Today, I am speaking on behalf of HB 2713 concerning net metering. **The prime and major reason to insist on net metering is to secure the individual's right to make and distribute electric power.**

In many states, consumers can install grid-connected renewable energy systems to reduce their electric bills using a protocol called net metering. Under net metering, electricity produced by the renewable energy system can flow into the utility grid, spinning the existing electricity meter backwards. Other than the renewable energy system, no special equipment is needed.

There are three reasons net metering is important. **First**, as increasing numbers of customers install renewable energy systems, there needs to be a simple, standardized protocol for connecting their systems into the electricity grid that ensures safety and power quality. **Second**, many residential and commercial customers are not at home or work using electricity during the

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day or night when their systems are producing power, and net metering allows them to receive full value for the electricity they produce without installing expensive battery storage systems. **Third**, net metering provides a simple, inexpensive, and easily-administered mechanism for encouraging the use of renewable energy systems, which provide important local, national, and global benefits.

Net metering provides a variety of benefits for both utilities and consumers. Utilities benefit by avoiding the administrative and accounting costs of metering and purchasing the small amounts of excess electricity produced by these renewable generating facilities. Consumers benefit by getting greater value for some of the electricity they generate, by being able to interconnect with the utility using their existing utility meter, and by being able to interconnect using widely-accepted technical standards.

The only cost associated with net metering is indirect : the customer is buying less electricity from the utility, which means the utility is collecting less revenue from the customer. That's because any excess electricity that would have been sold to the utility at the wholesale or 'avoided cost' price is instead being used to offset electricity the customer would have purchased at the retail price. In

most cases, the revenue loss is comparable to having the customer reducing electricity use by investing in energy efficiency measures, such as compact fluorescent lights and efficient appliances. The bill savings for the customer (and corresponding revenue loss to the utility) will depend on a variety of factors, particularly the difference between the 'avoided cost' and retail prices. In general, the difference will be between \$5 - \$10 a month for a residential-scale PV system (2 kW), and between \$25 - \$50 a month for a farm-scale wind turbine (10 kW).

Moreover, any revenue losses associated with net metering are at least partially offset by the administrative and accounting savings, which are not included in the above figures.

Currently, many states have some form of net metering. Several state's net metering rules were enacted by state utility regulators pursuant to state implementation of the federal PURPA (Public Utility Regulatory Policies Act) statute of 1978. **In recent years, many states have enacted net metering laws legislatively.** The following chart gives a summary of state net metering programs (alphabetical by state) :

SUMMARY STATE "NET METERING" PROGRAMS

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State	Utilities	Eligible Fuels	Eligible Customers	Limit on System Size	Limit on Overall Enrollment	Treatment of Net Excess Generation (NEG) ¹⁾	Enacted	Citation / Reference
Arizona	IOUs and RECs	Renewables & cogeneration	All customer classes	≤ 100 kW	None	Monthly NEG purchased at avoided cost	1981	Ariz. Corp. Comm. Decision No. 52345
Arkansas	All utilities	Solar, wind, hydro, geothermal, and biomass ²⁾	All customer classes	≤ 25 kW (residential); ≤ 100 kW (commercial or agricultural)	None	Not specified	2001	HB 2325 (enacted April 2001, effective October 2001)
California ³⁾	All utilities	Solar and wind	All customer classes	≤ 1000 kW	None	Customers are billed annually; excess generation is granted to the utility. Also allows bi-directional time-of-use metering	1995	Cal. Pub. Util. Code § 2827 (as amended 1998, 2000 and 2001)
Colorado	Individual utilities	All resources	All customer classes	≤ 10 kW	None	NEG carried over month-to-month	1994	Public Service Co. of CO, Advice Letter 1265; Decision C96-901; and various RECs
Connecticut	IOUs	Solar, wind, hydro, fuel cell, sustainable biomass	Residential <u>only</u>	No limit	None	Not specified	1998	Conn. Gen. Stat. 16-243h
Delaware	All utilities	Renewables	All customer classes	≤ 25 kW	None	Not specified	1999	DE Legislature, S Amend 1 to HB 10
Georgia	All utilities	Solar, wind or fuel cells	Residential or commercial	≤ 10 kW (residential); ≤ 100 kW (commercial)	0.2% of previous year's annual peak demand for each utility	NEG credited to following month; at end of annual period any unused credits are granted to utility without compensation	2001	Senate Bill 93
Hawaii	All utilities	Solar, wind, hydro, and biomass	Residential or small commercial	≤ 10 kW	0.5% of each utility's peak demand	Monthly NEG is granted to utility	2001	House Bill 173
Idaho	IOUs	Renewables & cogeneration	Idaho Power only; residential and small commercial	≤ 100 kW	None	Monthly NEG purchased at avoided cost	1980	ID PUC Orders No. 16025 (1980); 26750 (1997)
Illinois	Com Ed only	PV and wind	All customer classes	< 40 kW	0.1% of annual peak demand	All deliveries to the grid are purchased at the utility's avoided cost, but the utility makes an annual incentive payment that brings total payment for energy deliveries up to the retail rate.	1999	Special billing experiment (effective 4/1/00)
Indiana	IOUs only	Renewables & cogeneration	All customer classes	≤ 1,000 kWh/month	None	Monthly NEG granted to the utility.	1985	170 IN Admin Code § 4-4.1-7
Iowa	IOUs only	Renewables	All customer classes	No limit	None	Monthly NEG purchased at avoided cost	1983	IA Legislature & IA Utilities Board, Utilities Division Rules § 15.11(5)
Maine	All utilities	Renewables, fuel cells & recycled municipal solid waste	All customer classes	≤ 100 kW	None	NEG credited to following month; at end of annual period any unused credits are granted to utility without compensation	1998	Code Me. R. Ch. § 313 (1998); see also Order No. 98-621 (December 19, 1998).
Maryland	All utilities	Solar <u>only</u>	Residential customers & schools	≤ 80 kW	0.2% of 1998 peak demand	NEG carried over to following month; otherwise not specified	1997	MD Legislature, Art. 78, Sec. 54M
Massachusetts	All utilities	Renewables & cogeneration	All customer classes	≤ 60 kW	None	Monthly NEG purchased at avoided cost	1997	Mass. Gen. L. ch. 164, § 1G(g); Dept. of Tel. & Energy 97-111
Minnesota	All utilities	Renewables & cogeneration	All customer classes	< 40 kW	None	Monthly NEG purchased at "average retail utility energy rate"	1983	Minn. Stat. § 216B.164(3)
Montana	IOUs	Solar, wind or hydro	All customer classes	≤ 50 kW	None	NEG credited to following month, at end of annual period any unused credits are granted to utility without compensation	1999	S.B. 409
Nevada	All utilities	Solar and wind	All customer classes	≤ 10 kW	100 customers for each utility	Annualization allowed; no compensation required for NEG	1997	Nev. Rev. S. Ch. 704
New Hampshire	All utilities	PV, wind & hydro	All customer classes	≤ 25 kW	0.05% of annual peak	NEG carried over to following month	1998	NH Rev. Stat. §§362A:1-a & 362-A:9
New Jersey	All utilities	Photovoltaic and wind	Residential and small commercial	≤ 100 kW	0.1% of peak or \$2,000,000 annual financial impact	NEG credited to following month; at end of annual period any unused credits are purchased at avoided cost.	1999	N.J. Rev. Stat. § 48:3-87 Sec. 38(e)
New Mexico	All utilities	Renewables & cogeneration	All customer classes	≤ 10 kW	None	At utility's option, customer is credited on the next bill for (1) purchase of NEG at utility's avoided cost; or (2) kilowatt-hour credit for NEG that carries over from month to month.	1999	17 N.M. Admin. Code 10.571
New York	All utilities	PV <u>only</u>	Residential <u>only</u>	≤ 10 kW	0.1% of 1996 peak	NEG credited to following month; at end of annual period any unused credits are purchased at avoided cost	1997	N.Y. Pub. Serv. Law § 66-j
North Dakota	IOUs only	Renewables & cogeneration	All customer classes	≤ 100 kW	None	Monthly NEG purchased at avoided cost	1991	N.D. Admin. Code § 69-09-07-09
Ohio	All utilities	Solar, wind, biomass, landfill gas, hydro, microturbines, or fuel cells	All customer classes	No limit	1.0% of peak demand for each retail electric provider	NEG credited to following month	1999	Ohio Rev. Code. § 4928.67
Oklahoma	All utilities	Renewables & cogeneration	All customer classes	≤ 100 kW <u>and</u> annual output ≤ 25,000 kWh	None	Monthly NEG is granted to utility	1990	Okla. Corp. Comm. Schedule QF-2
Oregon	All utilities	Solar, wind, fuel cell and hydro	All customer classes	≤ 25 kW	No less than 0.5% of utility's historic single-hour peak load, beyond 0.5% eligibility can be limited by regulatory authority	NEG purchased at avoided cost or credited to following month; at end of annual period unused credits shall be granted to low-income assistance programs, credited to customer, or "dedicated to other use" as determined by regulatory authority	1999	Or. Rev. Stat. 757.300
Pennsylvania	All utilities	Renewables <u>only</u> (includes fuel cells)	All customer classes	≤ 10 kW	None	Monthly NEG is granted to utility	1998	52 Pa. Cons. Stat. § 57.34(b)(4), and individual utility tariffs
Rhode Island	Narragansett Electric	Renewables & fuel cells	All customer classes	≤ 25 kW	1 MW	NEG credited to following month; at end of annual period any unused credits are granted to utility without compensation	1998	R.I. PUC, Order, Docket No. 2710
Texas	IOUs and RECs	Renewables <u>only</u>	All customer classes	≤ 50 kW	None	Monthly NEG purchased at avoided cost	1986	Tex. PUC, Substantive Rules, § 25 242(h)(4)
Vermont	All utilities	Solar, wind, fuel cells using renewable fuel, anaerobic digestion	Residential, commercial and agricultural	≤ 15 kW, except ≤ 125 kW for anaerobic digesters ⁴⁾	1% of 1996 peak	NEG credited to following month, at end of annual period any unused credits are granted to utility without compensation	1998	VT. Stat. Ann. § 219a (as amended 1999)

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State	Utilities	Eligible Fuels	Eligible Customers	Limit on System Size	Limit on Overall Enrollment	Treatment of Net Excess Generation (NEG) ⁽¹⁾	Enacted	Citation / Reference
Virginia	All utilities	Solar, wind and hydro	Residential and commercial	≤ 10 kW (residential); ≤ 25 kW (commercial)	0.1% of annual peak demand	NEG is credited to following month; at end of annual period, excess generation is carried over to the next annual period.	1999	Va. Code Ann. § 56-594
Washington	All utilities	Solar, wind, hydro and fuel cells	All customer classes	≤ 25 kW	0.1% of 1996 peak, with no less than half for renewables	NEG credited to following month; at end of annual period any unused credits are granted to utility without compensation	1998	Wash. Rev. Code § 80.60 (amended 2000)
Wisconsin	IOUs only	All Resource	All retail customers	≤ 20 kW	None	Monthly NEG purchased at retail rate for renewables, avoided cost for non-renewables	1993	Wis. PSC, Schedule PG-4
Wyoming	IOUs and RECs, Munis exempt	Solar, wind, and hydropower	All customer classes	≤ 25 kW	None	NEG credited to following month; at end of annual period any unused credits are purchased by utility at avoided cost	2001	WY Legislature, House Bill 195, signed into law February 2001, effective July 2001

Entries in *italics* indicate recent amendments or other revisions

⁽¹⁾In all cases, energy generation is netted against energy consumption on an equal basis, down to zero net energy use during the designated period. Treatment of 'net excess generation' is relevant only when total generation exceeds total consumption over the entire billing period, i.e. the customer has more than offset his/her total electricity use and has a negative meter reading.

⁽²⁾The Arkansas law also extends eligibility to fuel cells or microturbines if the fuel is derived entirely from renewable resources.

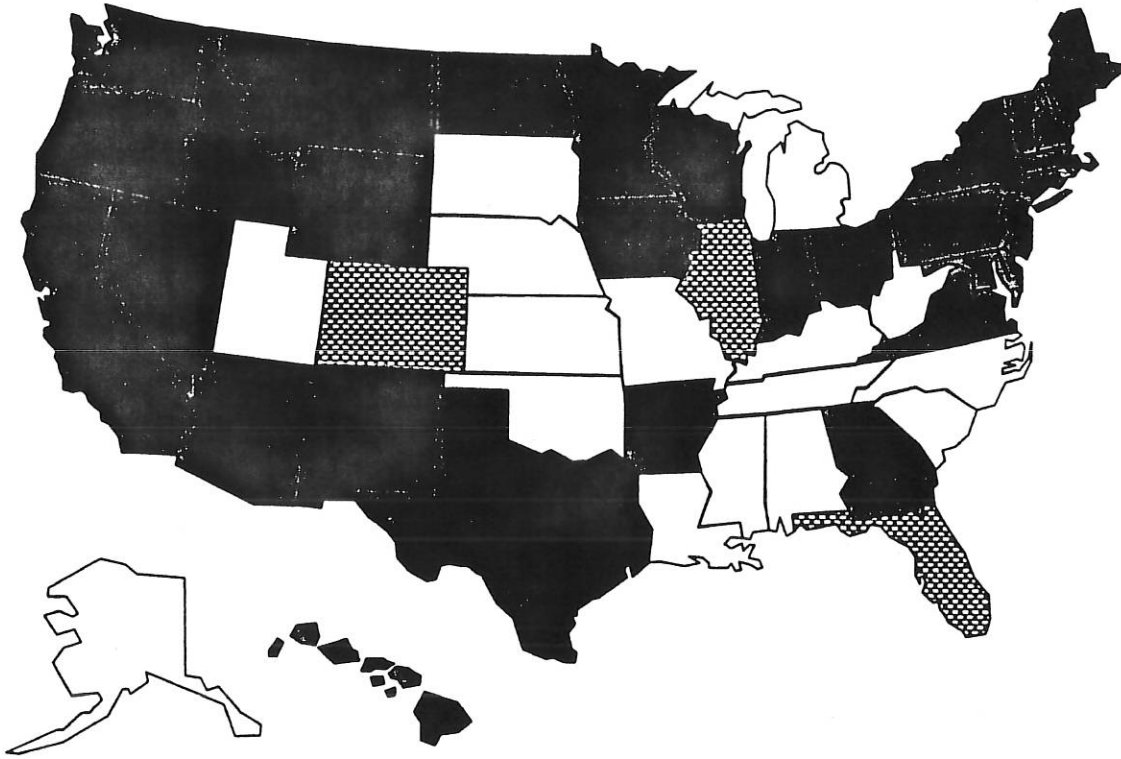
⁽³⁾The 2001 amendments, which (A) extended eligibility to all customer classes, (B) extended the system size limit to 1,000 kW (1 MW), and (C) eliminated the overall 'cap' of 0.1% of each utility's peak demand applies through the end of 2002 only. Absent further amendment these provisions would revert to the pre-2001 requirements.


⁽⁴⁾The Vermont law was amended in 1999 to allow Vermont Public Services Board to permit net metering for up to five systems per year that produce more than 15 kilowatts (AC) capacity, but do not produce more than 100 kilowatts of power and do not use methane gas.


SUMMARY OF PROPOSED OR PENDING "NET METERING" PROGRAMS

State	Utilities	Eligible Fuels	Eligible Customers	Limit on System Size	Limit on Overall Enrollment	Treatment of Net Excess Generation (NEG) ⁽¹⁾	Enacted	Citation / Reference
District of Columbia (authorized)	All utilities	Renewables, cogeneration, fuel cells, microturbines	Residential or commercial	≤ 100 kW	None	Customer-generator "may receive compensation based on the net metering rules established by the Commission."	Pending	Authorized by District of Columbia Enrolled Bill 13-284; requires further Commission action
North Carolina (proposed)	All utilities	Solar, wind, hydro, and biomass	All customer classes	≤ 10 kW (residential); ≤ 100 kW (other)	1.0% of annual peak demand	NEG credited to following month; unused credit is eliminated at end of annual billing period (residential customers only)	Pending	NC Utilities Commission, Docket No. E-100, Sub 83 (November 18, 1998)

State Net Metering Programs



 = State-wide net metering rules

 = Net metering applies to select utilities only

Arizona, Arkansas, California, Colorado, Connecticut, Delaware, District of Columbia, Georgia, Florida, Hawaii, Idaho, Illinois, Indiana, Iowa, Maine, Maryland, Massachusetts, Minnesota, Montana, Nevada, New Hampshire, New Jersey, New Mexico, New York, North Dakota, Ohio, Oklahoma, Oregon, Pennsylvania, Rhode Island, Texas, Vermont, Virginia, Washington, Wisconsin, Wyoming

Source: Database of State Incentive for Renewable Energy (DSIRE)

<http://www.dsireusa.org>

Last Updated: January 2002

On the national level, the U. S. Senate will consider comprehensive energy legislation entitled the "Energy Policy Act of 2002." Introduced by Majority Leader Tom Daschle (D-S.D.) and Jeff Bingaman (D-N.M.), chairman of the Senate Energy Committee, this legislation [S. 1766] contains a number of renewable energy and energy efficiency provisions, including removal of regulatory barriers affecting renewable energy. Senator Bingaman, in his floor remarks on September 6, 2001, said, "**The major topical areas before the Committee as we move forward in our mark-up will include policy proposals to improve energy efficiency, to improve our ability to produce energy from a diversity of sources, and to tackle the tough issues relating to electric deregulation.**" Later in his presentation, Senator Bingaman said, "**The Chairman's Mark also includes a series of provisions to ensure that we have a greater role in our electricity generating system of the future for renewables and distributed generation, while maintaining the contribution made by existing sources of baseload generation, such as hydropower and nuclear. Among the important tools for making sure we have diversity in our sources of electricity is a renewable portfolio standard, uniform interconnection standards to the electric grid, ...**"

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Under the "**Energy Policy Act of 2002**" (also known as **S. 1766**) is found the following :

SEC. 245. NET METERING.

Title VI of the Public Utility Regulatory Policies Act of 1978 is amended by adding at the end the following :

'SEC. 605. NET METERING FOR RENEWABLE ENERGY AND FUEL CELLS.

'(a) DEFINITIONS- For purposes of this section :

'(1) The term 'eligible on-site generating facility' means--

'(A) a facility on the site of a residential electric consumer with a maximum generating capacity of 10 kilowatts or less that is fueled by solar energy, wind energy, or fuel cells ;
or

'(B) a facility on the site of a commercial electric consumer with a maximum generating capacity of 500 kilowatts or less that is fueled solely by a renewable energy source resource, landfill gas, or a high efficiency system.

'(2) The term 'renewable energy resource' means solar, wind, biomass, or geothermal energy.

'(3) The term 'high efficiency system" means fuel cells or combined heat and power.

'(4) The term "net metering service' means service to an electric consumer under which electric energy generated by that electric consumer from an eligible on-site generating facility and delivered to the local distribution facilities may be used to offset electric energy provided by the electric utility to the electric consumer during the applicable billing period.

'(b) REQUIREMENTS TO PROVIDE NET METERING SERVICE- Each electric utility shall make available upon request net metering service to an electric consumer that the electric utility serves.

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FOR IMMEDIATE RELEASE:
January 7, 1999

Contact:
Michelle Montague, (202) 383-2508

According to AWEA, fully developing wind energy's potential in the windiest states in the U.S. could mean billions in economic activity, and tens of thousands of new jobs (see chart below).

THE TOP FIFTEEN U.S. STATES for wind energy potential, as measured by annual energy potential in the billions of kilowatt-hours (kWh), factoring in environmental and land use exclusions for wind class of 3 and higher. Additionally, AWEA provides estimates on potential jobs and economic impact of wind energy.

Rank	State	Billions of kWh	Jobs # Potential	Wind Impact Potential (\$ Revenue)
1	North Dakota	1,210	363,000	30.2 billion
2	Texas	1,190	357,000	29.8
3	Kansas	1,070	321,000	26.8
4	South Dakota	1,030	309,000	25.8
5	Montana	1,020	306,000	25.5
6	Nebraska	868	260,000	21.7
7	Wyoming	747	224,000	18.7
8	Oklahoma	725	217,000	18.1
9	Minnesota	657	197,000	16.4
10	Iowa	551	165,000	13.8
11	Colorado	481	144,000	12.0
12	New Mexico	435	130,000	10.9
13	Idaho	73	21,000	1.8
14	Michigan	65	19,000	1.6
15	New York	62	18,000	1.6
17	California	59*		

**Illustrates that numerous states have greater wind potential than California, where the majority (approximately 90%) of U.S. wind development has occurred to date.*

Source for Wind Potential: *An Assessment of the Available Windy Land Area and Wind Energy Potential in the Contiguous United States*, Pacific Northwest Laboratory, 1991.

Source for job and economic impact figures: AWEA, 1998.

AWEA, formed in 1974, is the national trade association of the U.S. wind energy industry. The association's membership of more than 700 includes turbine manufacturers, wind project developers, utilities, academicians, and interested individuals from 49 states. More information on wind energy is available at the AWEA web site: <http://www.econet.org/awea>

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SOURCES :

Thomas J. Starrs, Kelso Starrs & Associates LLC
Net Metering : Questions and Answers
Summary of State "Net Metering" Programs

Interstate Renewable Energy Council (IREC)
"Connecting to the Grid"

American Wind Energy Association (AWEA)
"Wind Energy FAQ"

Senate Calendar Record

Energy Policy for the 21st Century - Senator Jeff Bingaman
Floor Remarks - September 6, 2001

Hearing of Senate House Bill 2713
Testimony of Christine Caseres
Co-Founder of Metro CARE (Coalition of Area Religious Environmentalists)
February 11, 2002

Thank-you Mr. Chairman and members of the committee for the opportunity to testify in support of Kansas House Bill 2713. My name is Christine Caseres. I'm testifying on behalf of Kansas City MetroCARE (Coalition Area Religious Environmentalists). MetroCARE is a group being formed by various lay religious environmental leaders to share information on how to incorporate environmental stewardship in Kansas City metro churches and among their members. As a lay person, I have formed an environmental stewardship group within my church. Professionally, I'm a stay-at-home mom and a church/elementary school/community volunteer.

It is good to know that there are times when the best approach theologically is also the best approach financially. This is true for the 27 churches in Sacramento, California that have obtained financial energy security by installing solar power. By participating in the Sacramento Municipal Utility District (SMUD) solar experiment called PV Pioneer, these churches have had photovoltaic panels installed on their roofs and are reaping the financial and spiritual benefits. Don Osborn, Superintendent of SMUD's solar program, describes the advantages in a Sacramento Bee article published March 29, 2001, as follows:

"The energy goes to feed their load," Osborn said. "Any excess energy produced becomes 'net metering,' which means that the excess energy spins the meter backwards, giving you full retail credit. What you are buying is a 30-year-supply of inflation-proof energy for a church. (See Attachment A)

In addition to inflationary concerns, an unexpected energy peak provides great difficulty to those estimating facility costs for a church. Last winter provided a dramatic example of how an energy peak can devastate a church's energy budget. My church (Grace Covenant Presbyterian Church in Overland Park, Kansas) spent \$15,400 dollars on energy costs January to March 2001 due to the dramatic increase in the price of natural gas. The previous year the energy cost for that same period of time was \$7,682 dollars. The 2001 winter peak meant that the church had to absorb a \$7,718 increase in energy cost.

My church paid our energy bills, as did other faith-based organizations. As a moral example to others, churches do what is right. Somehow the money is found. This may mean that less money is available for the church's own outreach and mission work. To allow churches to continue their mission work and to allow them to continue providing outreach funds to our community, they need to be shielded from dramatic peaks in energy costs.

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The problem with alternative energy is that it is too costly initially to justify under present conditions. Solar energy cannot compete with traditional energy sources unless net metering is allowed. Some large church campuses could consider energy from wind if they knew that the extra energy during times when the church was not in use would offset the total energy cost. Without net metering, those seeking to install alternative energy will have a difficult time justifying it.

Churches need to be given every encouragement to install renewable energy. If you would please take a look at the picture of the 30kW PV system that has been installed at Wilton Bible Church in Sacramento, California (Attachment B). This photo shows how the roofs of many churches are perfectly suited for PV panels. Churches' roofs tend to be large, appropriately sloped and clear of pipes and obstructions. This traditional design almost makes one wonder if it were not meant for churches to be in the forefront of solar energy production. One may even dare to say it is predestined.

We come to our house of faith to learn how to live. The morals that we know are just and provide protection for all are reinforced there. With only 5% of the world's population, it is not just for our nation to produce over 22% of the greenhouse gases that are causing climate change on our earth. Each church can do its part by installing alternative energy to produce some of its own power in a clean and sustainable way. When faith houses embrace and invest in sustainable energy it will provide not only long term financial security but is a model for others to follow as well. Please vote "yes" House Bill 2713 and know that the benefits of this bill will extend far beyond just providing energy credits.



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SACBEE NEWS



Churches feeling the power of solar: Clergy, SMUD entice more houses of worship to buy rooftop systems

By **Bill Lindelof**
Bee Staff Writer
(Published March 29, 2001)

In the beginning, there was the Wilton Bible Church.

The church near Elk Grove was the first to capture the light – for solar power under an experimental program.

That solar experience six years ago begat another and another until today 27 houses of worship in the Sacramento area are participating.

Now a statewide church group is pushing to make the roofs of churches throughout California mini-electrical production plants.

With rising electricity bills putting pressure on congregations, there is plenty of interest in solar not only to cut energy costs, but to run up energy credits as well for power not used and returned to the grid.

Besides economics, Scott Anderson, executive director of the California Council of Churches, said there are altruistic reasons for churches going solar.

"Church congregations are concerned about God's creation," he said. "They want to do what they can to make sure we are using renewable energy resources."

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At the same time religious leaders are pushing solar, the Sacramento Municipal Utility District wants to expand its solar program.

With the power crunch on, the utility is hoping congregations will find the notion of meters running backward -- cutting church power costs -- too good to pass up.

Some church roofs are perfectly suited for solar panels -- slightly steeped, large and free of pipes or other obstructions.

Last week, 35 people representing congregations met at a luncheon sponsored by the state church council, the Sacramento Interfaith Service Bureau and SMUD to hear the utility's solar panel pitch.

When SMUD's PV Pioneer 1 program first began in the mid-1990s, SMUD installed the systems on church roofs at no cost to congregations. The energy would simply enter the power grid.

PV Pioneer 1 also called for installing SMUD-purchased solar panels on commercial buildings and residences.

The PV stands for photovoltaic panels -- thin, lightweight sheets of silicon and glass that convert sunlight into electrical power.

In addition to converting the solar energy, the panels provide a significant amount of shade for the rooftop, possibility cutting summertime cooling costs.

"More solar churches participate in the program than any other place in the world -- or at least in the known galaxy," said Don Osborn, superintendent of SMUD's solar program.

In April 1999, SMUD instituted the PV Pioneer II program. Under that program, SMUD uses its large buying contracts to purchase improved cells and other equipment for the systems.

SMUD customers can buy the system to generate power for their own use. A 2-kilowatt system, which can supply half the energy for a home, costs \$4,800. A 10-kilowatt system would cost \$24,000. A church system averages about 15 kilowatts, depending on the building size and available roof area.

"The energy goes to feed their load," Osborn said. "Any excess energy produced becomes 'net metering,' which means that excess energy spins the meter backward, giving you full retail credit. What you are buying is a 30-year-supply of inflation-proof energy for a church."

Over at Wilton Bible Church on Dillard Road, where the church solar program saw its genesis, the panels are still in operation.

The second church to get SMUD solar panels, the Northridge Living World Church of God in Fair Oaks, has had no problems.

"We knew we had a big old roof here that had the potential to

benefit the common good," said the Rev. Jay Dudley. "We feel great about it. It is like a silent partner."

Dudley said the panels are more important today than when installed years ago because of possible rolling blackouts this summer.

Grant money is being sought by the religious community to hire someone to promote solar before congregations, presenting the theological reasons for getting involved.

"We think there is a potential for 300 to 400 churches," Anderson said.

Two other church solar pilot projects are planned by the state church council in the Bay Area and Los Angeles. Christian houses of worship wouldn't be the only ones involved – mosques and temples will also be asked to participate.

"We are actually calling it California Interfaith Power and Light," Anderson said.

For more information SMUD customers can call 732-5501.



Problems? Suggestions? Let us hear from you. / Copyright © The Sacramento Bee

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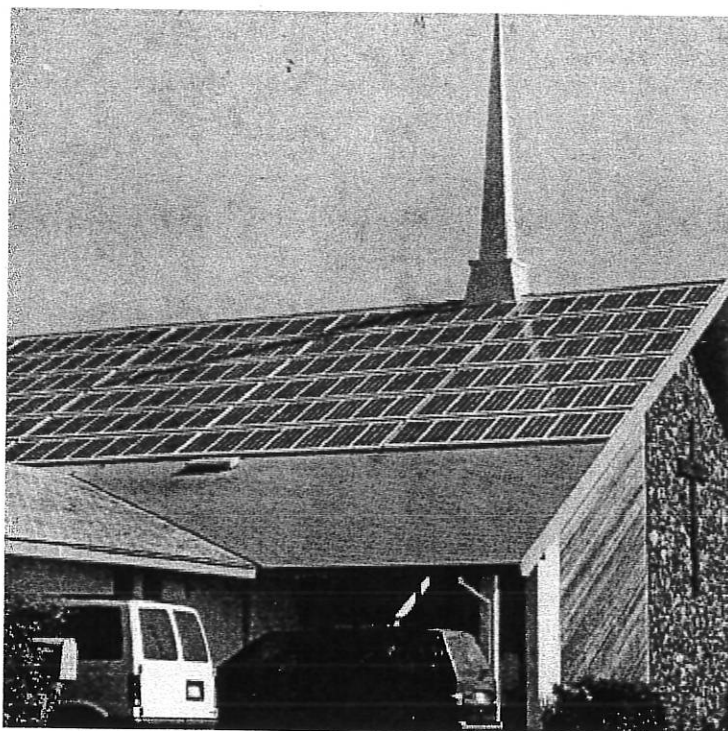


Figure 4. 30 kW Wilton Bible Church Commercial PV Pioneer System.

2.5 Building Integrated and Parking Lot Sited PV Systems

The 1994 PV Program installed a 3 kW building integrated PV demonstration system in partnership with the Western Area Power Administration (WAPA, Figure 5). The PV system is integrated in the roofing structure installed on a WAPA office building. The PV roofing tile system is part of the roofing system installed to insulate and protect the roof membrane. The "Powerguard" PV system is being designed and installed by Powerlight Corporation and Western Single Ply, a commercial roofing contractor. A full size, 40 kW system is scheduled for installation in 1996 on another WAPA building.

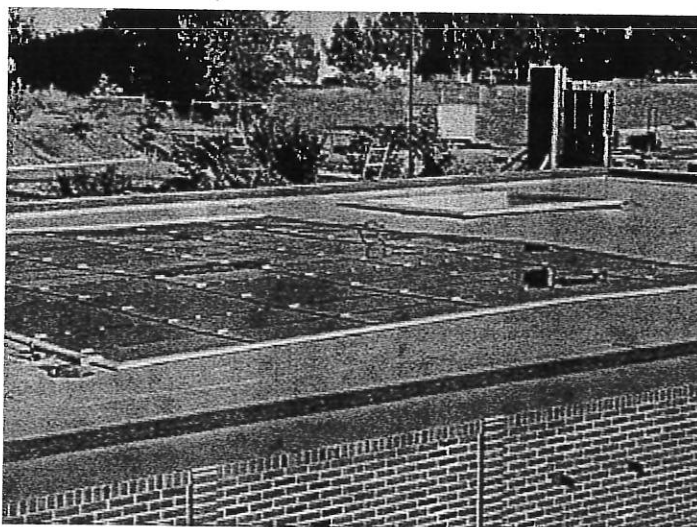


Figure 5. SMUD/WAPA Building Integrated 3 kW PV Roofing System

Solar Design Associates and Solarex are scheduled to complete in early 1996 a demonstration of an AC PV Module system. The AC PV module incorporate the inverter as part of the PV module. This permits the PV system to be built up an AC building blocks. Two residential PV Pioneer systems are being completed with these AC PV modules. This demonstration is part of a DOE PVBONUS supported project.



Utility Grid-Connected Distributed Power Systems

National Solar Energy Conference
ASES Solar 96
Asheville, NC
April 1996

Donald E. Osborn/David E. Collier
Sacramento Municipal Utility District
6301 S Street: MS# A401
Sacramento, CA 95817 USA

ABSTRACT

The utility grid-connected market has been identified as a key market to be developed to accelerate the commercialization of photovoltaics. The Sacramento Municipal Utility District (SMUD) has completed the first three years of a continuing commercialization effort based on the sustained, orderly development of the grid-connected, utility PV market. This program is aimed at developing the experience needed to successfully integrate PV as distributed generation into the utility system and to stimulate the collaborative processes needed to accelerate the cost-reductions necessary for PV to be cost-effective in these applications by about the year 2000. In the first three years, SMUD has installed over 340 residential and commercial building, grid-connected, rooftop, "PV Pioneer" systems totaling over 1.4MW of capacity and five substation sited, grid-support PV systems totaling 860 kW bringing the SMUD distributed PV power system to nearly 5 MW. SMUD also established a partnership with its customers through the PV Pioneer "green pricing" program to advance PV commercialization and to develop rooftops as "PV power plant" distributed generation sites.

1. INTRODUCTION

The Sacramento Municipal Utility District (SMUD) is the fifth largest public utility in the nation and serves a 900 square mile area in and near Sacramento County, California. SMUD plans to have at least half of its energy obtained from energy efficiency and renewable resources by the year 2000. Solar energy will provide an important part of both the "DSM/Energy Efficiency Power Plant" and renewable energy, distributed generation resource. Investments made in solar power today are expected to provide the customer-owners of SMUD with substantial long-term energy and community benefits.

The SMUD Solar Program has three elements designed to increase Sacramento's use of solar energy. The Solar Domestic Hot Water Program uses attractive performance based rebates and financing and strict quality assurance requirements to encourage the electric water heat customer to switch to solar water heating. Since May 1992, over 3000 SMUD customers have used this program and reduced their electric water heating energy consumption by an average of 60% and provided the District with needed peak capacity and energy benefits. The Solar Buildings Program provides design assistance and incentives to encourage the incorporation of cost-effective passive and other solar features in the design and construction of both new buildings and the retrofit of existing buildings. The Solar Buildings Program is also responsible for collaborative solar cooling development and demonstration projects.

The Solar Electric Program includes solar thermal electric systems, such as the Solar Two Central Receiver Project and the Utility-scale Solar Dish/Stirling Engine Joint Venture, and a wide variety of photovoltaics applications aimed at the accelerated commercialization of grid-connected PV

Testimony in favor of HB 2713 by Greg Bryant

February 11, 2002, 9:00 a.m. -- Kansas House Committee on Utilities -- Carl Holmes, Chair

Thank you, Mr. Chairman and members of the committee, for the opportunity to speak in support of HB 2713. I am Greg Bryant, a private citizen. My wife Susan and I hope to install a residential-scale wind turbine at our house near Robinson, possibly this year. It is one of several actions we're taking to reduce our consumption of natural resources.

I appreciate probably more than most the chance to speak for this bill, because people like me stand to benefit most directly from net metering. It could mean the difference between an economically sound investment for us and what might otherwise be a barely break-even situation. HB 2713 would make it a very practical matter for us to avoid an expensive investment in battery storage. This would enable us to offset more of our electric bill, waste less energy in the conversion to and from storage, and share more of the benefits of this amazing Kansas resource with our neighbors on the grid.

I want to thank this committee and the legislature for the work you've done in the past few years to promote renewable energy, both small and large scale. You've encouraged a variety of approaches to developing these resources, and the effect has been a cautious exploration of options. Some approaches are bound to be more productive than others, but this is a fairly new arena of legislation and I've been pleased to see these experimental actions by our legislators.

In a recent op-ed piece in the Kansas City Star, a writer suggested Kansas should think big on renewable energy, especially wind. Based on our successes so far, and on our potential, he believes we should be thinking in terms of gigawatts of wind capacity, and selling our surplus. I hope we get there. Wind is a safe investment for Kansas.

HB 2713 won't mean gigawatts, of course. It's very cautiously written, which is good. It provides an enormous benefit to customer-generators like me while protecting the utilities and distributors in two ways from having to shoulder too much of the burden.

The benefit to me is the provision that I can fully offset the hours my turbine is producing more than I need, against the hours I'm underproducing. Thus I can size my turbine properly to my household's energy use. And HB 2713 protects me from unusual and unnecessary charges and fees to connect my system with the grid. This protection is sensible, because the technology of modern residential co-generation systems has eliminated hazards to line workers, such as unexpected live circuits, and problems such as matching phase with the utility's current.

At the same time, HB 2713 eliminates any incentive for me to buy an oversized machine, since at year's end my annual excess would yield me only the rate of avoided cost. This reasonably protects the utility from my error in judgment if I invest in too large a system.

The other protection for the utilities is the provision that customer generating capacity shall total no more than 1% of the actual peak electricity demand. Customer-generators who go

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online after that ceiling is reached would not be eligible for net metering contracts.

More than once in the past, Kansas citizens through our legislature have provided tax breaks, the power of eminent domain, and other support to one or more utility companies in order to encourage the development of fossil fuel, nuclear, or alternative energy infrastructures. Through our federal taxes we have contributed even more to help these companies create our system. All this we have done in the hope of benefits to all citizens from those investments. Generally, these hopes have been realized.

This bill, HB 2713, represents the kind of return I think Kansans may reasonably expect on their investment. This energy system, in whose development public support has played such a vital role, exists to serve the people. People will benefit in many ways from a renewables-based, distributed generating system owned at least in part by homeowners, small cooperatives, and communities.

Net metering uses our existing system as creative leverage to encourage the development of small-scale, distributed renewable energy production as part of Kansas's larger energy strategy. From my point of view, this valuable offset to my investment cost will go a long way toward encouraging controlled small-scale development without overburdening either the taxpayers or the utilities.

Please pass HB 2713 out of committee with your highest recommendations.

Thank you.

Greg Bryant
2054 Raven Road
Robinson, KS 66532
(785) 544-7735, bryants@rainbowtel.net

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Thank you Mr. Chairman and members of the committee for the opportunity to speak on behalf of HB 2713. I am here today representing the Kansas Chapter of the Sierra Club and the Heartland Renewable Energy Society.

We are in favor of the legislation being discussed today for several reasons. Net metering is truly the lynchpin of small-scale renewable energy programs in the United States. Without net metering farmers, ranchers, schools, churches, and homeowners are in effect economically barred from investing in renewable energy for themselves.

Renewable energy has many advantages we should encourage: It is decentralized, which makes it much less of a security risk, it is non-polluting, and it adds needed variety to our resource mix which depends on coal to a higher degree than most other states do.

If you will take a moment and look at the map in my handout you will see thirty-four states have enacted net metering legislation as of now. Four states- Kansas, Missouri, Michigan, and Utah are considering it this year. The Utah bill has no opposition so in effect we will have at least thirty-five states with net metering provisions very soon.

I would argue that we realistically are looking at thirty-five out of *forty states*-not fifty at this point in time. The states in the southeastern portion of the country have the lowest wind speeds so the demand for this type of legislation is less. When solar power comes down a couple more dollars a watt in the next two to five years you will probably see movement from these states except of course Georgia, where the main utility was one of the driving forces in enacting legislation for net metering a year or two ago. Alaska has very little transmission lines outside of towns, so the point is moot because of their uniqueness in that regard.

Going back to Utah for a moment I would like to make two points: The key utility in the state is in support of the legislation. They do not feel it is a subsidy worthy of any consideration. There is a concern about how much future power will be required of them that comes from renewable energy if a renewable portfolio standard is put in place. They realize this would be the most inexpensive way to acquire new generation (let someone else pay for it). Secondly, it is very interesting to note that at the bottom of the sheet entitled "Solar, Wind-Energy Users May Get Benefit" from the Salt Lake Tribune it states that the Utah Committee of Consumer Services briefly flirted opposing the measure over concerns of a subsidy. On the second page, third paragraph the committee decided "*that from a financial standpoint the cross-subsidy potential would be miniscule*" (my quotations).

Continuing down to the fourth paragraph, Jeff Burks, the energy policy coordinator for the Utah Energy office is quoted as saying, "Barring the cross-subsidy issue, which could affect the typical Utah residential electricity user by a 'nano-cent' a year, *there is little downside to allowing net metering*" (my quotations).

The growing trend of adapting net metering standards has been also helped along with endorsements from the National Association of Regulatory Utility Commissioners (NARUC) and the National Association of State Utility Consumer Advocates (NASUCA). Both groups passed policy resolutions supporting state net metering policies. "*These resolutions urge states to consider measures to make net metering available to small-scale renewable generating facilities, and authorize the Executive Committees of NARUC and NASUCA to 'request Congress and the FERC to identify and remove any barriers to state implementation of net energy metering'*" (Starrs brief to the Iowa Supreme Court).

The Iowa Office of Consumer Advocates was active in the Iowa Supreme Court where it argued in favor of Iowa's net metering law. Also active among others were the Public Advocate Office of the State of Maine, the New York State Consumer Protection Board, the State of New Hampshire Governor's Office of Energy and Community Services, and the Maryland Office of People's Counsel. The point being here is if net metering raises rates for consumers and is a preferential treatment for one class of individuals, why are all these consumer groups lining up in support of net metering? The answer of course is there is **no real subsidy or realistic chance of higher bills for customers**. There is apparently, a large upside to net metering that is in the public's interest. I would also add it is just common sense that thirty-five states would not pass net metering if it led to higher bills for their constituents. No state has ever overturned a net metering statute. The reason is again, it does not lead to higher bills.

I would like to turn your attention to the document entitled "United States of America Federal Energy Regulatory Commission". This decision was issued in response to the Iowa Supreme Court case where FERC clarified what net metering is and is not.

Opponents of net metering have argued that the customer-generator is "banking" their power with the utility and withdrawing it later when they need it. This was the position that MidAmerican Energy Company of Iowa took in the case. FERC ruled on page five in the first two full paragraphs that net metering **does not** constitute the banking of electricity.

FERC also backed the assertion of the Iowa Board on page two that net billing (metering) does not pay the

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generator the retail rate of electricity, but only the avoided cost of excess electricity generated at the end of the billing cycle. Both these rulings were important victories for net metering statutes across the United States.

Net metering imposes no direct costs to utilities, in fact administrative costs will go down because of no need to read a second meter and cut a check each month. The small loss of revenue in fact is comparable to energy efficiency improvements such as compact fluorescent lighting, a new refrigerator, or a more efficient air conditioner. **The customers are offsetting retail purchases of power and their effective return on these efficiency investments is the avoided retail price of electricity.**

This has been recognized by other states. For example on page sixteen of the Starrs brief to the Iowa Supreme Court, the New York Public Service Commission concluded in considering whether the state's investor-owned utilities were entitled to recovery of this resume stated, "**Net metering results in a reduction of usage at a residence that is conceptually similar to other declines in consumption due to changes in lifestyle, purchases of energy efficient appliances, pursuing energy conservation, and the like. Just as the utilities are not permitted to automatically recover lost revenues attributable to reduced consumption, they are not entitled to recover lost net metering revenues. If a utility can instead demonstrate it has incurred a net metering cost attributable to factors other than lost consumption, it may attempt to justify recovery under the applicable rate and restructuring agreement.**"

The document you are looking at comes from an Iowa Supreme Court case that was decided in favor of the Iowa Utilities Board and the Department of Justice vindicating Iowa's net metering statute.

The expert who wrote this brief, Tom Starrs, has written the net metering laws for Oregon, Washington, and also Utah's proposed legislation. HB 2713 has many similarities to Mr. Starrs' model legislation.

Another key point Mr. Starrs makes is in the first two paragraphs on page seventeen where he states for the court that net metering has no technical consequences that impose a burden on a utility. Secondly, the utility never pays a retail rate for electricity. They only pay the avoided cost of a net excess of electricity. This is how the Kansas bill is written as well.

Mr. Starrs next addresses the subsidy issue by running an economic model of the utility in question and its net metering requirements and he then makes a projection ten times as large and then one hundred times as large. If you would turn to page nineteen of his brief you will observe the results of the analysis:

At 300kW there is no effect on residential rates at all. Growing the analysis to three megawatts (an incredibly large amount for net metering) it would come to the grand total of a penny. Three megawatts is the equivalent of 300 ten kW wind turbines-an unbelievable amount for one territory. With the cap on total net metered generation at one percent, everyone is assured that net metering will not become a real subsidy (a nickel? a dime?). If the opponents of net metering still insist on bringing up the idea of a "subsidy" I hope they bring some numbers to show proof of this to the committee that have been scrutinized like Mr. Starrs' analysis was.

I would like to comment on the one percent cap on generation in any REC or utility's territory. This will ensure a market for small-scale renewable generation which is very popular with the public and bring the benefits such as cleaner air, insurance for the generator against fuel spikes, reduced energy losses in transmission and distribution lines, voltage support, increasing the reliability of the electric supply, deferring the need for new transmission and distribution capacity, and the reduced demand for spinning reserve capacity. It will give assurance to the RECs and the utilities that the scope of net metering will be modest in their area and limited to only one percent of their territories production.

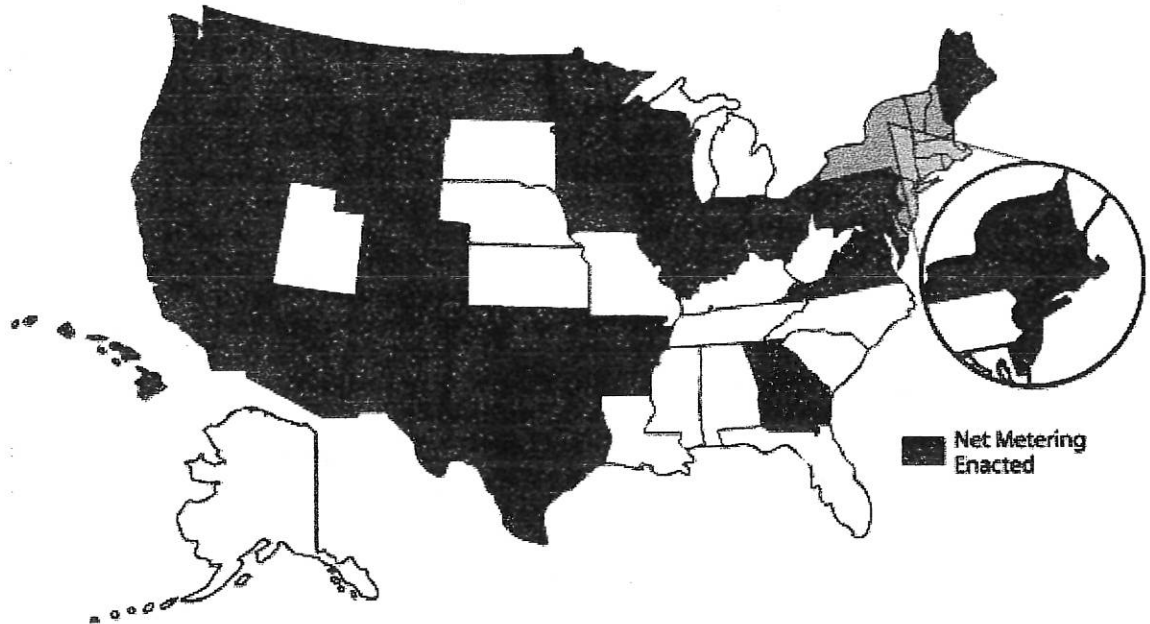
Poll after poll shows renewable energy has widespread support with the public and folks both rural and urban will continue to be in favor of renewable energy legislation. The two wind energy conferences drew packed houses and I have people contacting me all the time about how to tap into wind energy. It is time Kansas opened the wind market to small-scale renewable technology and our citizens who wish to use it.

Based on the facts presented here we urge the committee to vote yes on HB 2713 and allow Kansas to join the burgeoning number of states that have designed and implemented their own net metering legislation. Thank you.

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Net Metering by State

Click map to read state activity summaries



Arizona, Arkansas, California, Colorado, Connecticut, Delaware, Georgia, Hawaii, Idaho, Illinois, Indiana, Iowa, Kansas, Maine, Maryland, Massachusetts, Minnesota, Montana, Nevada, New Hampshire, New Jersey, New Mexico, New York, North Dakota, Ohio, Oklahoma, Oregon, Pennsylvania, Rhode Island, Texas, Vermont, Virginia, Washington, Wisconsin, Wyoming

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- [Department Stores Mired in a Slump](#)

Solar-, Wind- Energy Users May Get Benefit

BY STEVEN OBERBECK
THE SALT LAKE TRIBUNE

Environmentalists dream of the day when small nonpolluting power plants on individual homes will dot the landscape and huge energy projects such as the coal-fired Intermountain Power Project near Delta will be declared obsolete.

Greg and Debbie Smith are living that dream in their home near Snowbasin in Ogden Canyon.

Even in the depth of winter, the home's solar panels generate enough electricity to power their household appliances.

"After we decided to build here, **Utah** Power told us they wanted \$70,000 to run a power line to our home," Debbie Smith said. "That's when we decided to put in our [\$35,000] solar system."

Encouraging other Utahns to think about renewable energy -- especially when lower-cost alternatives are available -- is a part of building a sustainable energy future for the state, said Kathy Van Dame of the Wasatch Clean Air Coalition.

One way to help move the state in that direction would be for the **Utah** Legislature to adopt a new state law that would allow homeowners with solar- and wind-power systems to send their excess electricity onto their local utilities' electrical grids and receive a credit on their monthly bills.

Utah is the only state in the West that does not require its electrical utilities to offer a "**net metering**" program. **Net metering** enables homeowners' electric meters to run backward so they can keep track of excess power they generate and make available to their utilities.

A bill expected to go before the House of Representatives' Public Utilities and Technology Committee during the upcoming legislative session would bring **Utah** into the **net-metering** fold in the West.

The proposed legislation is expected to see little, if any, opposition. Environmental groups and **Utah** Power are lining up to support it.

The **Utah** Committee of Consumer Services briefly flirted with opposing the measure, not because it opposes self-generation, but over

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concerns that those Utahns who take advantage of **net metering** may be subsidized by those who do not.

A small portion of every Utahn's monthly electricity bill goes to **Utah** Power or another utility to maintain the electricity delivery system, explained Roger Ball, the committee's administrative secretary.

Utahns who take advantage of **net metering** and receive a credit from the utility occasionally would be able to sidestep that obligation.

The committee decided, however, that from a financial standpoint the cross-subsidy potential would be miniscule. It also determined there were environmental factors in play that many believe could be beneficial.

Net metering will contribute to long-term energy solutions and help the state rely on less electricity generated from coal, said Sarah Wright, coordinator of the **Utah** Wind Power Campaign and chairwoman of Utahns for an Energy Efficient Economy.

Barring the cross-subsidy issue, which could affect the typical **Utah** residential electricity user by a "nano-cent" a year, there is little downside to allowing **net metering**, said Jeff Burks, energy policy coordinator for the **Utah** Energy Office.

"This isn't something that a lot of people are going to run out and embrace" because solar and wind systems are expensive to install, Burks said. "But it does give those people who are interested in generating their own electricity a little more incentive" to do so.

It also removes regulatory barriers that prevent customers from hooking up their systems to the utility's electrical grid, he said.

The cost of installing a solar, or photo-voltaic, system on a home ranges from approximately \$2,000 to more than \$50,000, said Orrin Farnsworth of Intermountain Solar Technologies, a **Utah** distributor for solar energy products.

"A \$2,000 system over a month might save a homeowner a dollar," Farnsworth said. "With a more expensive system, they should be able to generate most of their own power and maybe have a little left over."

Utah Power's parent company, PacifiCorp, deals with **net metering** in the other states where it operates and supports the adoption of a program for **Utah**, said Bruce Griswold, director of energy contracts for PacifiCorp.

"There are already laws in place that allow large generators [of electricity] to sell their excess but what this does is address the residential and small business producers," he said.

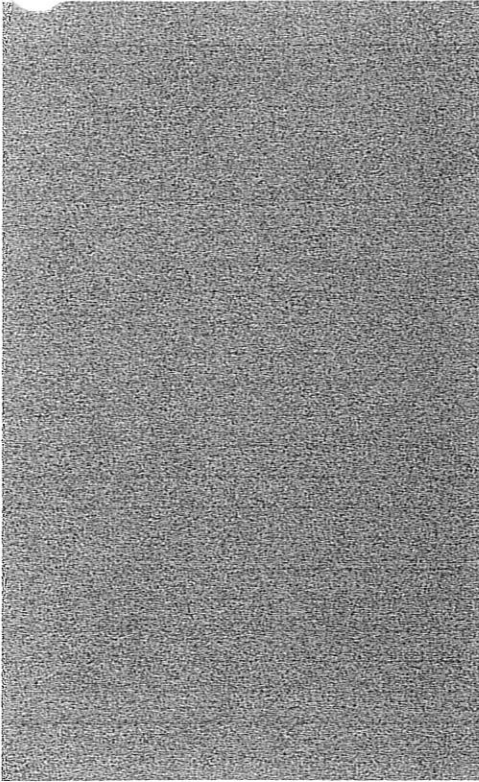
On one hand, homeowners who are able to produce more electricity than they consume represent a lost power sale for a utility. Yet they also can be looked upon as a "system resource."

Every kilowatt of electricity routed by a homeowner to the utility's system is a kilowatt the company does not have to produce or buy on the open market.

Another advantage is that a program can provide additional sources of power during periods of peak demand, Burks said.

He explained that a photo-voltaic system produces most of its energy during the heat of the day -- the hours during the summer when demand for electricity to run air conditioners is at its peak.

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"During those times of peak demand is when these systems are the most efficient and cost-effective," Burks said.

Van Dame of the Wasatch Clean Air Coalition said allowing **net metering in Utah** may bring a market transformation -- one in which electricity is produced at the point of use.

"Most of the Utahns who embrace **net metering** will probably be those who are interested in the environment and those who genuinely want to increase their independence," Van Dame said.

Overcoming the resistance of most homeowners to invest in individual solar or wind power generating systems is the challenge. "The economics of those systems are going to improve. And as soon as you get over that hump, it will be all downhill," she said.

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94 FERC | 61,340

UNITED STATES OF AMERICA

FEDERAL ENERGY REGULATORY COMMISSION

Before Commissioners: Curt H*bert, Jr., Chairman;

William L. Massey, and Linda Breathitt.

MidAmerican Energy Company Docket No. EL99-3-000

ORDER DENYING REQUEST FOR DECLARATORY ORDER

(Issued March 28, 2001)

In this order, we deny the request of MidAmerican Energy Company (MidAmerican) for a declaratory order that certain orders of the Iowa Utilities Board (Iowa Board) are preempted by Federal law.

MidAmerican's Petition

On October 8, 1998, as amended on November 3, 1998, MidAmerican filed a petition for enforcement pursuant to section 210(h) of the Public Utility Regulatory Policies Act of 1978 (PURPA), 16 U.S.C. € 824a-3(h) (1994), and also for a declaratory order.

MidAmerican asked the Commission to undertake enforcement action against the Iowa Board, or to issue a declaratory order. ¹ MidAmerican objects to the Iowa Board's implementing final orders (issued pursuant to Iowa's Alternate Energy Production (Alternate Energy) Statute and € 199-15.11(5) of the regulations thereunder) directing MidAmerican to interconnect with three Alternate Energy facilities and to offer net billing arrangements to those facilities. ² Under the net billing arrangements, a single meter measures both energy delivered by MidAmerican to an Alternate Energy facility and energy delivered in the other direction by

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the Alternate Energy facility to MidAmerican. This single meter offsets the two quantities over the billing period and indicates the net quantity delivered by one to the other.

Under the Iowa Alternate Energy statute, an Alternate Energy facility may or may not be a QF. MidAmerican complains that net billing arrangements will result in MidAmerican paying in excess of its avoided costs for power produced by those Alternate Energy facilities which are QFs. ³ MidAmerican explains:

Assume a QF customer that is an [Alternate Energy] producer consumes 2000 kWh in a month and generates 1000 kWh in the same month. Further assume that the retail rate for electric service is 7¢ per kWh and MidAmerican's avoided cost is 2¢ per kWh. Under the requirements of PURPA, MidAmerican would pay the customer \$20 for that month's generation, *i.e.*, for the avoided cost of energy received, and bill the customer \$140 for retail electric service provided by MidAmerican. The difference is obviously \$120. But, under net billing, the meter registers a net 1000 kWh during the month. MidAmerican's bill for retail services under the net billing scheme is only \$70. [⁴]

MidAmerican concludes that the Iowa Board's actions require MidAmerican to pay in excess of avoided cost for QF power and thus is preempted by PURPA.

MidAmerican also claims that when the Alternate Energy facility is not a QF, net billing results in the Iowa Board setting rates for wholesale sales by a public utility, which is preempted by the Federal Power Act.

Interventions

Notices of MidAmerican's original filing and amended filing were published in the Federal Register, 63 Fed. Reg. 56,927 (1998) and 63 Fed. Reg. 64,694 (1998), with comments, protests or interventions due on or before December 3, 1998.

The Iowa Board filed a notice of intervention and protest. The Iowa Board states that its orders are permissible implementations of state energy policy and are not in conflict with Federal law. The Iowa Board states that it understands that a small producer that qualifies as an Alternate Energy facility under state law must also meet the requirements of PURPA or the FPA to make sales to MidAmerican. The Iowa Board claims that any sales from Alternate Energy facilities pursuant to net billing requirements would meet the requirements of PURPA. It quotes from one of its orders requiring net billing:

One argument made by MidAmerican, however, warrants further comment. MidAmerican claims net billing would require it to pay MidAmerican's retail rates for all power generated by Clarion-Goldfield's alternate energy production (AEP) facility. This is not how net billing works.

Net billing involves only one meter and one net transaction. Under net billing, the AEP produces power primarily for the owner's needs. However, at times the AEP generates "excess" power which is supplied to the utility through the single meter. Other times, the AEP may not generate sufficient power for the owner's needs

and the AEP draws power from the utility through the single meter. Electricity flows through the meter in both directions and is netted out and one meter reading made at the end of a billing period. Strictly speaking, MidAmerican only "pays" for the net negative kWhs, if any, recorded by this single meter. MidAmerican's PURPA tariff, Rider No. 54, applies only if net negative kWhs are recorded in a given billing month. [5]

The Iowa Board further explains that the net billing cases it has addressed have arisen in the context of small power producers. It also states that it is aware that some Alternate Energy facilities are covered by the Federal Power Act, but that such larger producers rarely present a net billing issue.

The Iowa Board further argues that the current case before the Commission does not involve "pricing or rates or federal preemption over them. It involves the measurement of power used by a retail customer operating in parallel with the utility." 6

Comments and interventions have also been filed by the National Association of State Utility Consumer Advocates (NASUCA), the National Association of Regulatory Utility Commissioners (NARUC), the Public Advocate Office of the State of Maine, the California Public Utilities Commission, the National Resources Defense Council and Pace Energy Project, the State of New Hampshire Governor's Office of Energy and Community Services, the Maryland Office of People's Counsel, the Iowa Office of Consumer Advocate, the New York State Consumer Protection Board, the National Association of State Energy Officials, the Sierra Club, Public Citizen, the California Energy Commission, Niagara Mohawk Power Corporation (NIMO) and a number of individuals. Of those parties that have taken a substantive position all but one have opposed MidAmerican's petition (NIMO supports MidAmerican).

NARUC points out that there are net metering and net billing policies in place in at least twenty States. Each is different, according to NARUC, but presents similar issues. NARUC argues that state programs to address these issues are consistent with the Commission's pro-competitive policies for bulk power markets and should be supported by the Commission.

Others point out that most of the net billing and metering programs involve small retail consumers who utilize small sized facilities (often wind or solar) to supply a portion of their own electric power needs and that few of the net billing programs will result in net sales to utilities.

Many intervenors also argue, *inter alia*, that:

- (1) where there is no net sale in a billing period Federal law is not involved;
- (2) net billing and metering decisions relate exclusively to the states' regulation of retail sales;
- (3) most net billing and metering regulation relates to QFs and is consistent with PURPA; and

(4) where PURPA is not involved, any net sale involved is so minimal, and so related to the state retail policies, that this Commission's jurisdiction under the Federal Power Act is not involved.

NIMO states that it has worked hard to restructure its QF contracts, which it characterizes as uneconomic, and that it fears that it will be economically harmed by any Commission decision that would approve a state program like Iowa's.

Discussion

Pursuant to Rule 214 of the Commission's Rules of Practice and Procedure, 18 C.F.R. § 385.214 (2000), the Iowa Board's notice of intervention makes it a party to this proceeding and the timely, unopposed interventions of those entities making such filings serve to make them parties to this proceeding.

We find that the Iowa Board's actions are not preempted by Federal law. The issue in this case is how to measure the transaction between MidAmerican and those entities that have installed generation on their premises.

In essence, MidAmerican is asking this Commission to declare that when, for example, individual homeowners or farmers install small generation facilities to reduce purchases from a utility, a state is preempted from allowing the individual homeowner's or farmer's purchase or sale of power from being measured on a net basis, *i.e.*, that PURPA and the FPA require that two meters be installed in these situations, one to measure the flow of power from the utility to the homeowner or farmer, and another to measure the flow of power from the homeowner or farmer to the utility. MidAmerican argues that every flow of power constitutes a sale, and, in particular, that every flow of power from a homeowner or farmer to MidAmerican must be priced consistent with the requirements of either PURPA or the FPA.⁷ We find no such requirement.

This case presents an issue similar to that in our recent decision addressing the netting of station power used at a generating station against certain wholesale sales from the generating station. See PJM Interconnection, L.L.C., 94 FERC | 61,251 (2001)(PJM). In that case, in the context of the FPA, the Commission found that there is no sale (for end use or otherwise) between two different parties when one party is using its own generating resources for the purpose of self-supply of station power, and accounting for such usage through the practice of netting. Id. at slip op. at 20. In the case before us we find likewise that no sale occurs when an individual homeowner or farmer (or similar entity such as a business) installs generation and accounts for its dealings with the utility through the practice of netting.

In implementing PURPA, the Commission similarly recognized that net billing arrangements like those at issue here would be appropriate in some situations, and left the decision of when to do so to state regulatory authorities.⁸

There may be, over the course of the billing period, either a net sale from the individual to the utility, or a net purchase by the individual from the utility. When there is a net sale to a

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iii, and the individual's generation is not a QF, the individual would need to comply with the requirements of the Federal Power Act. According to the Iowa Board, however, facilities which are not QFs rarely, if ever, have net billing arrangements with a utility. When there is a net sale to a utility, and the individual's generation is a QF, that net sale must be at an avoided cost rate consistent with PURPA and our regulations implementing PURPA. We note that from the description of the three facilities that were the subject of the Iowa Board's orders, however, each appears to be a QF.

The next issue is over what time interval the netting process may properly take place. In PJM, the Commission permitted netting to be measured over a one-hour period. In PJM, the Commission also stated that it takes a practical point of view that net output should be measured over a reasonable time period and that it would consider periods, other than a one-hour period, over which to measure netting. PJM 94 FERC at, slip op. at 24. Similarly, the Commission has held that a QF's net output should be measured over a rolling one-hour period for purposes of determining whether a facility makes sales in excess of net output. See Connecticut Valley, 82 FERC at 61,421. On the other hand, the Commission measures compliance with the technical standards for QF status on an annual basis. See 18 C.F.R. §§ 292.204(b)(2), 292.205(a)(1), (a)(2) (2000).

Here the Iowa Commission has permitted the netting to be measured over the normal monthly billing cycle for retail customers. On the facts before us, this time period is a reasonable one to measure the netting.

We see no reason, therefore, to interfere with the Iowa Board's determination to permit net metering, and to permit it on a monthly basis.

The Commission orders:

MidAmerican's request for a declaratory order is hereby denied, as discussed in the body of this order.

By the Commission.

(S E A L)

Linwood A. Watson, Jr.,

Acting Secretary.

¹The Commission issued a notice indicating that it did not intend to act on MidAmerican's petition for enforcement and that it would address the request for a declaratory order at a later date. MidAmerican Energy Company, 85 FERC | 61,470 (1998). In this order, we deny MidAmerican's request that the Commission issue a declaratory order that the final orders of the Iowa Board are preempted by PURPA, if the Alternate Energy facilities are QFs, or by the Federal Power Act, if the Alternate Energy facilities are not QFs.

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²In addition to filing the petition for enforcement and request for declaratory order, MidAmerican filed an appeal of the Iowa Board's decision in state court. A lower court in Iowa granted MidAmerican's appeal. The Iowa Board subsequently appealed the lower court's ruling, and that appeal is pending before the Iowa Supreme Court.

³Each of the three Alternate Energy facilities is a small wind generator (two are 20 kW, the third is 45 kW).

⁴MidAmerican's Answer to Iowa Board's Response at 8.

⁵Iowa Board Response at 3, quoting from Clarion-Goldfield Community School District v. MidAmerican Energy Company, Iowa Board Docket No. C-98-137 (September 11, 1998).

⁶Iowa Board Response at 4.

⁷It is uncontested that, if there is a net sale of power from a facility that is a QF, the sale would take place at the avoided cost rate set by the Iowa Board.

⁸See Small Power Production and Cogeneration Facilities: Regulations Implementing Section 210 of the Public Utility Regulatory Policies Act of 1978, Order No. 69, FERC Stats. & Regs. Regulations Preambles 1977-1981 | 30,128 at 30,879 (1980), order on reh'g, Order No. 69-A, FERC Stats. & Regs. Regulations Preambles 1977-1981 | 30,160 (1980), aff'd in part and vacated in part, American Electric Power Services Corporation v. FERC, 675 F.2d 1226 (D.C. Cir 1982), rev'd in part, American Paper Institute, Inc. v. American Electric Power Service Corporation, 461 U.S. 402 (1983).

At that time, the Commission assumed that retail rates and avoided cost QF rates might in certain circumstances be nearly the same. In this regard, we note that in the twenty-some years PURPA has been in effect, avoided costs have at times exceeded retail rates (See, e.g., Connecticut Valley Electric Company, Inc. v. Wheelabrator Claremont Company, L.P., 82 FERC | 61,116, reh'g denied, 83 FERC | 61,136 (1998), aff'd, 208 F. 3d 1037 (D.C. Cir., 2000)(Connecticut Valley); Connecticut Light and Power Company, 70 FERC | 61,012, reconsideration denied, 71 FERC | 61,035 (1995), appeal dismissed, Niagara Mohawk Power

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Kansas Electric Power Cooperative, Inc.

Testimony on HB 2713

Before the House Utilities Committee – February 11, 2002

Bruce Graham, KEPCo's Vice President,
Member Services & External Affairs

"Net metering allows you to use the electric grid, and the company that otherwise supplies you with electricity, as if it were a big, free battery. There will be times when your electricity needs are less than the amount of electricity your generating system is providing at the moment. Your generating system puts the excess electricity you do not need back into the electric grid to be used by others and allows you to take this same amount of electricity back out of the electric grid. Net metering permits you to "bank" your excess electricity and then withdraw it from the grid free for your use later that day, or even months later. When you withdraw your "banked" electricity, you save not having to buy this amount of electricity from your electric service provider."

-- source, *The California Energy Commission.*

This statement may be a simple and certainly attractive way to entice someone's interest in renewable generation, however, in the real world, this statement is naïve, irresponsible, and deceptive. You cannot store electric generation except in a battery (and that would have to be a big battery). Utilities operate sophisticated systems that control generation to match demand. Whatever is on the grid has to be consumed--there is no place or method for it to be stored or banked.

Kansas law already permits a customer to self generate with any production in excess of immediate needs to be purchased by the utility at 150 percent of its monthly system average cost. This calculation was agreed to as part of a compromise during the 2001 Legislature between the utility industry and renewable advocates in the Legislature and in the lobby.

While that new compensation formula has only been in law for seven months, HB 2713 already asks for much more. Not only does it call for net-metering, it mandates that the generation be "annualized." In other words, excess generation credits can be carried forward from month to month until the end of the year. It is difficult to understand how proponents can claim that a kilowatt generated by their windmill on a nice cool evening breeze in May is as valuable as a kilowatt provided by the utility when the customer's wind turbine is motionless on a 98 degree and 98 percent humidity day in August.

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DATE: 2-11-02

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In reality, the utility, as its regulated public responsibility, must plan to provide the customer's power on windy days, tranquil days, and even those days or weeks when the windmill is out of service. Then, as net-metering advocates correctly state, the wind will blow again and the net-metered generation is able to spin the meter backwards and possibly avoid an energy bill from the utility altogether. But who paid for the cost of that more expensive energy provided on peak? In addition to the energy, who pays for the ongoing line maintenance and storm damage repairs necessary to provide generation on demand? HB 2713 prohibits additional customer charges, so the rest of the utility's customers would subsidize that expense.

KEPCo is also concerned about the provision that permits net-metered loads to accumulate to 1 percent of the state's actual peak electricity demand. One percent of the state's peak demand may not seem significant but the total retail electric sales by all 30 of the electric cooperatives in Kansas amount to approximately 10 percent of the state's total. Therefore, if wind generation concentrates in a certain area, and it naturally does because some sites are much better than others, a single small REC could be forced to bear a crushing amount of the cost of net-metered development.

This risk is further exacerbated by the goal of wind power advocates to establish renewable generating cooperatives under bills such as HB 2631 and HB 2633. The result, when combined with HB 2713, could be to create a risk free green cooperative that would be able to:

- Meet the immediate needs of its members when the wind is blowing, the sun is shining, or the waste is fermenting;
- Take service from their existing utility when the renewable generation is not producing;
- Offset the cost of that convenient utility service when there is excess renewable generation by spinning the meter backwards, or net-metering;
- After net metering to a zero annual bill from the existing utility, sell additional excess generation on the wholesale market to the highest bidder;
- Or if they don't like the wholesale market, can fall back on their existing utility utilizing the current parallel generation law which requires the utility to purchase excess generation at 150 percent of the utility's monthly system average cost of energy.

Such a cooperative would be a very attractive arrangement for any utility customer. Unfortunately, it would come at the expense of those who could not afford to invest as a member of a renewable cooperative. Those remaining customers would face higher rates from their utility as the costs of existing operations are spread among fewer customers, and the costs to subsidize required service to the new renewable cooperatives are absorbed.

It is true that approximately 30 states have instituted about 30 different forms of net metering. Many of those states adopted the idea in the 1980's as a helping hand to a fledgling and high cost industry. Others have recently implemented the policy because of

unexplainable peer pressure that reminds me of something my teenager would say: "Johnny has a new car, why can't I." However, Kansas has a proud history of being willing to examine an issue, resist trends and take a stand, even if it means being perceived a skeptical or backwards. For example:

- Kansas hasn't joined the other 35 states that permit Sunday beer sales and is one of only a handful of states that still require grocery stores to sell beer with less alcohol content than other retailers.
- The Sunflower State is not among the 25 states that were, until recent developments, in the process of implementing retail wheeling or restructuring of the electric industry. That number is now in retreat.
- 24 other states offer initiative and referendum -- and how many of our sister states boast an official fish that according to Mrs. Taylor's fourth grade class in Hoyt, we now need.

You should be proud of the thoughtful work done to provide incentives for generation in Kansas. You approved a temporary but very helpful property tax abatement last year for new generation built by regulated utilities and independent power producers. For renewables, you have implemented a unique property tax exemption that is perpetual. In addition, as mentioned before, a 2001 law requires payment by the utility of 150 percent of its monthly system average cost for excess production from renewable generators. On top of that, the state continues to support an aggressive renewable energy research network anchored by the KCC's Energy Policy Division and Kansas State University; plus the Legislature has joined the Kansas Congressional Delegation, as has KEPCo, in support for reinstatement of the generous federal wind energy production tax credit. I doubt that many of the states that permit net metering also have a perpetual property tax break, with no required verification that the windmill is generating or even still in existence. In addition, remember that Kansas has lured one of the largest independent power producer wind farms in the country because it made economical sense with the existing incentives.

Finally, we all know that utility property taxes are extraordinarily high in Kansas because previous policy makers figured the tax burden would be hidden in the customer's bill. Sales taxes, franchise fees, etc., also inflate the cost of service. Going forward, if the Legislature determines that it is good policy to provide further incentives for renewable energy in Kansas, then they should be up front and provide the benefits directly from the state rather than burying them in the utility's cost of service.

Thank you for the opportunity to appear on HB 2713.

KEPCo is a generation and transmission utility that provides wholesale electricity and other services to 19 rural distribution cooperatives with member/consumers spanning two-thirds of rural Kansas.

**TESTIMONY OF W. SCOTT KEITH
ON BEHALF OF UTILICORP UNITED INC.
BEFORE THE HOUSE COMMITTEE ON UTILITIES
IN OPPOSITION TO HOUSE BILL NO. 2713**

Introduction

My name is Scott Keith. I am employed by UtiliCorp United, Inc. as manager of electric tariffs in Kansas and Colorado. In this capacity I manage the electric rates for WestPlains Energy in both states. I am appearing today on behalf of UtiliCorp United, Inc. in opposition to House Bill No. 2713.

There are several aspects of the proposed legislation that UtiliCorp is concerned about. First, the scope of the proposed legislation is much too broad and grants to the state corporation commission what appears to be the power to contract on behalf of utilities. Second, the law appears to exclude a significant number of the state's utilities from the legislation. Finally, the law as proposed would cause each utility to pay more than its avoided cost for energy provided by customer-owned generation. This would result in higher rates than would otherwise be the case.

Scope

The proposal attempts to aggregate all the demands of the various utilities into a single pot and impose the new net-metering law on all of the KCC jurisdictional utilities until a single statewide target of 1 percent is achieved. This is unfair because it is extremely doubtful that the capacity associated with the additional customer-owned generation would distribute among the state's utilities in direct proportion to their peak demand. If left unchanged, the new law would result in an inequitable sharing of the cost of additional parallel generation within the state. UtiliCorp suggests that the proposed

legislation be amended to reflect that when an individual utility reaches the target envisioned by the legislation, 1 percent of peak demand, that the mandated parallel generation tariff or contract would not be available to new customers for that particular utility. The goal of this amendment would be to spread costs equitably across the industry.

Commission Power

The legislation includes a provision that mandates development of a single statewide contract for parallel generation even though the business environment faced by each utility varies widely. UtiliCorp does not believe that the state corporation commission should be given the task of drafting a single contract to be used by every electric utility in the state. Each utility should be required to draft its own contract or tariff to meet the intent of the legislation, and the state corporation commission's duties should be limited to its traditional review and approval function.

Excluded Utilities

In a practical sense, the proposed law appears to inadvertently exclude all of the deregulated rural electric cooperatives (RECs) in the state while including their capacity requirements in the overall state target. The state corporation commission has no rate authority with respect to the vast majority of the RECs, so it is impossible to see how the mandated state corporation commission contract could be applied to the RECs. If left unchanged, this would seriously restrict the promotion of customer-owned wind generation because the REC's service area contains the vast majority of the state's potential wind generation sites. This is almost certainly the case with respect to customer-owned wind generation, as many of the customers of the investor-owned

utilities would face municipal zoning problems that would restrict the availability of customer-owned wind generation. To maximize the potential for customer-owned wind generation, UtiliCorp proposes that the state corporation commission be granted jurisdiction over parallel generation rates or contracts of the deregulated RECs and that the proposed legislation be amended to reflect such jurisdiction.

Avoided Cost

The payments to parallel generation customers that are mandated by the proposed legislation would increase the cost of electricity for every customer on the WestPlains system, it would reimburse customer generation for delivery costs that cannot be avoided by WestPlains. For example, the energy rates charged to residential customers include recovery of items such as system maintenance, income taxes, property taxes, and commission assessments. These items have nothing to do with the cost of fuel or energy. By including reimbursement for such expenditures in the amounts paid to parallel generation customers, the parallel generation customers would be receiving a subsidy. Other customers through the electric rates charged by WestPlains would pay that subsidy. In other words, one group of customers would essentially be making payments to another set of what for the most part could be the more affluent customers on the WestPlains system. The WestPlains electric bill would simply be the vehicle used to transfer the money from one customer group to another. UtiliCorp is opposed to paying parallel generation customers more than their avoided cost. The pricing mechanism included in the proposed legislation would cause WestPlains to pay more than its avoided cost. Thus, UtiliCorp is opposed to the pricing provisions in the current version of the proposed legislation.

8.3

Conclusion

UtiliCorp is opposed to the proposed parallel generation legislation due to what it views as shortcomings in specific provisions of the bill, not the motive driving the bill, which is to encourage use of renewable energy. UtiliCorp has strongly supported development of alternative energy in the state. At the present time, its WestPlains division in the state purchases 9 to 23 percent of its capacity requirements from a renewable generation resource. The cost of this renewable energy portfolio is well below the acquisition cost mandated by the proposed parallel generation legislation. Our existing renewable supply portfolio is from 9 to 23 times greater than the 1 percent target established in the proposed legislation. UtiliCorp's effort in this area has already resulted in the entire state making great strides toward the overall renewable energy target of 1 percent of peak capacity requirements. UtiliCorp suggests that the legislation be amended to:

1. Equitably distribute the overall state target of 1 percent of peak capacity among all the state's electric utilities,
2. Limit the power of the state corporation commission to its more traditional role of review and approval,
3. Specifically grant the state corporation commission jurisdiction over the parallel generation rates of the deregulated RECs, and
4. Limit the reimbursement of parallel generators to the avoided cost of each of the individual utilities.

I thank you for the opportunity to address the committee concerning this proposed legislation and would be happy to address any questions you have concerning this testimony.

Testimony before the House Utilities Committee
In Opposition of House Bill No. 2713

Tim Rush
Director Regulatory Affairs
Kansas City Power & Light Company
February 6, 2002

Chairman Holmes and Members of the Committee:

My name is Tim Rush and I am Director of Regulatory Affairs for Kansas City Power & Light Company. I am appearing before you today in opposition to House Bill No. 2713 relating to net metering for parallel generation.

I would like to thank the Committee for allowing me to be here this morning and speak on behalf of KCPL. House Bill 2713 replaces K.S.A. 2001 Supp. 66-1184, which addresses Parallel Generation Services. House Bill 2713 will result in undue subsidization by the utility and customers throughout the state for customer-generation.

KCPL supports the development of electrical generation, both on a small scale that may be customer-owned and on a large scale that may be owned by utilities. KCPL participates in research through the Electric Power Research Institute (EPRI) for the development of economical generation.

The intent of House Bill 2713 is unclear. Is this "net metering"? This bill is not what is typically referred to as "net metering". A "Net metering" provision is used when the utility is required in effect to pay the generator the same price as the retail price charged for the customer's usage. Utilities oppose this payment because embedded in the retail cost are cost components not avoided by the utility when the customer-generator is providing power to the grid. Generation, transmission, distribution, administrative and general costs are not avoided, but are included in the retail price billed to customers.

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KCPL is concerned that many of the provisions in the current statute are not addressed in House Bill 2713. Issues such as safety, cost assignment and other issues are not addressed. Under the existing statute, the customer is required to provide appropriate equipment and controls for the operation of the generator in parallel with the utility. No mention of these requirements is in the proposed bill.

The proposed bill is unfair to the utility and its consumers. House Bill 2713 establishes guidelines for customer-generation that result in the utility and customers of the utility subsidizing the customer-generator by not allowing the utility to charge the customer for the cost of providing service. The bill does not provide appropriate safety measures to assure the utility and its customers safe and adequate service.

KCPL also believes that portions of the proposed bill are unclear. In Section (1) of House Bill 2713, the bill states that eligible customer-generator is a customer who owns and operates an electrical generating facility. This could mean a generator that uses natural gas, fuel cells, solar, wind, hydro, etc., as the fuel source for generation. Yet later in the bill, it appears customer-generators who specifically use renewable energy sources are the subject of the bill. In those sections of House Bill 2713, it implies only those renewable generation customers, not customers who use non-renewable generation sources, are the subject of the bill.

Section (d) sets out the costs the utility may charge. KCPL believes that these charges are not cost based and will require both the utility and other customers of the utility to subsidize the customer-generator. Additional costs will be incurred by the utility to provide service to customer-generators beyond other customers of similar classes. As proposed in House Bill 2713, the utility will be prevented from charging these costs to the customer and will have to absorb the costs or pass them on to other customers of the utility. The utility will essentially be required to be the back up for the customer-generator at no cost to the

customer. In fact, the utility will incur additional costs beyond what it would normally cost to serve a customer without customer-generation.

Section (e) of House Bill 2713 addresses the calculation method to be used in billing the customer-generation for annualized net energy. This section sets out guidelines for determining monthly billing. However, if energy generated monthly by customer-generation exceeds monthly customer usage, then a kwh credit is established to be carried over month-to-month. At the end of the year, any unused kwh credit is to be paid by the utility based on avoided costs. The primary concern KCPL has with this section is the use of avoided costs for payment to the customer-generator. Since the usage is netted from the customer-generator to the utility generation, no real "avoid cost" can be determined. Avoided costs are typically determined on an hourly basis, not an annual basis.

A bill was passed last session that recognized a compromise between utilities and proponents of "net metering" that provided a benefit to the renewable generator in recognition of capacity added to the utility system. This benefit increased the payment to the renewable energy generator.

Section (f) addresses renewable energy sources and safety. Because the bill addresses both non-renewable and renewable customer-generation, KCPL would advocate that this section should address both types customer-generation, not just renewable energy sources. Because of the non-specificity of safety issues, KCPL advocates that the State Corporation Commission further address any safety requirements beyond those mentioned in the proposed bill.

KCPL supports Section (g), which addresses standardized control and testing requirements for customer-generation. However, the word "may" needs to be changed to "shall", because this is the only place controls and testing requirements are addressed and the bill prohibits the utility from imposing any

other requirements beyond those included by State Corporation Commission rules.

Section (h) prohibits the utility from requiring customer-generation whose renewable energy electric facilities meet the standards of (f) and (g) to install additional controls, perform or pay for additional tests or purchase additional insurance. First, Sections (f) and (h) only address customer-generation from renewable energy facilities, while the bill addresses all customer-generation facilities. Provisions in Section (h) need to address all customer-generation facilities. Second, because the bill states that the State Corporation Commission “may” adopt rules and regulations for control and testing, a provision needs to be included to allow the utility to establish standards and testing as necessary. And third, Sections (f) and (g) do not address insurance, so the bill needs to address the requirements for sufficient insurance.

Last, the provision under section (i) that requires the utility to respond within 30 days after receipt of an application by a customer-generator does not allow sufficient time for the utility to respond to the potential issues that may exist with the facility. The Company agrees that timely responses are important, but 30 days is often unachievable given the possible issues that may surround the proposed installation. In addition, requiring the utility to connect the facility in as early as 15 days after approval is unrealistic given the possible requirements to provide service. KCPL believes that it is more appropriate to say that the utility is to use its best efforts to meet the needs of the situation.

KCPL opposes this proposed bill.

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kansas municipal utilities

Testimony before the

House Utilities Committee

February 11, 2002

Colin Hansen

Executive Director

Kansas Municipal Utilities

House Bill 2713 – Net Metering

While supportive of the objective to increase the utilization of renewable energy resources in the state, Kansas Municipal Utilities (KMU) must oppose House Bill 2713. As locally owned and operated electric utilities, Kansas public power systems answer directly to their consumers. We believe that the net metering legislation detailed in the bill would unnecessarily shift costs, increase complexity, reduce utility reliability and create safety hazards for our members and, in turn, their customers and citizens.

Cost Shifting

In Kansas, 121 municipal electric utilities provide electricity to roughly 18% of the state's consumers. Of these utilities, a little more than half operate generation. Most generation is made up of simple natural gas or diesel engines operated almost exclusively during peak periods as a means of reducing power supply rates for their customers. A select few generate baseload electricity with city-owned coal or gas plants.

The vast majority of municipal electric utilities in Kansas, however, fulfill their electricity requirements through wholesale power contracts. Under these contracts, the municipal utility's obligation is to deliver – or distribute – the electricity from the transmission grid to the end consumer in a low-cost, safe and reliable manner.

The cost of providing distribution services include the cost of facilities (lines, poles, etc.), equipment (bucket trucks, digger derricks, etc.) meter reading, billing and other customer services, taxes and system benefits charges. Other costs also include the debt service and operating costs of municipal generating plants that keep customer rates low by offsetting system peaks. Allowing a renewable generating customer's meter to spin backwards removes the ability of the municipal utility to recover these distribution and local generation costs from this customer. In effect, those citizens unable to afford to install renewable generation would have to subsidize the additional distribution costs caused by the net metered customers.

Complexity

Another area of some concern is the complexity that net metering would bring to small public power systems. I suspect that many small municipal utilities – the smallest in Kansas being owned by the city of Radium and serving just 23 families – would find it increasingly

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difficult to comply with the regulations required of House Bill 2713. For example, postcard billing software used by most municipal utilities will not accommodate a net metering scenario and many systems might find it very difficult to annually calculate avoided cost to meet the needs of one or two net metering customers.

Reliability

Most utilities today are focusing on their system reliability in an attempt to meet the increasingly refined power quality needs of technologically savvy commercial and industrial customers. We believe the net metering concept would reduce system reliability by forcing the utility to accept unexpected and unplanned loads from these new energy sources with uncertain power quality.

Safety

A final area of concern is that of electric utility employee safety. KMU remains concerned that the advent of customer-owned generation without appropriate safety and control devices would unacceptably endanger the lives of utility linemen. While we understand that House Bill 2713 provides that customer-generators would be required to meet codes and standards set forth by such documents as the national electrical code, we remain uneasy about the prospect of customers untrained in the intricacy of operating an electric distribution system unexpectedly or inadvertently “back-feeding” power back onto the grid.

Again, KMU supports the effort to incorporate renewable energy resources into the overall generation portfolio mix in Kansas. However, we do not believe that the net metering provisions presented in House Bill 2713 are the correct means to achieve this goal.

As such, KMU must oppose House Bill 2713.



**Testimony before the
House Utilities Committee
By
Doug Lawrence, Vice President, Public Affairs
Westar Energy
February 11, 2002**

Vice Chairman Sloan and members of the committee, I am Doug Lawrence, vice president, public affairs for Westar Energy.

Westar Energy opposes House Bill 2713. While we recognize a number of provisions appear to mitigate the potential financial impact of Net Metering on our customers and business operations, ultimately this proposed legislation results in a shift of costs from one group of our customers to another.

At the core of any Net Metering approach is the ability to be compensated for excess electricity generated by a wind generator (for example) at the full retail electric rate. This is not a new discussion for us. Many costs are associated with delivering electricity to the home, a portion of which is generation. Crediting electricity sold into our system at the retail rate establishes a subsidy that ultimately is paid by other customers. Transmission, distribution, billing, maintenance and other expenses must still be funded and paid. In addition, the availability of the wind generator does not relieve the company of a need to maintain and operate adequate generation facilities to meet the entire peak needs of a customer who has installed a renewable parallel generation facility.

Net Metering is a one-sided transaction that brings no benefits to our system and other customers while at the same time increasing our expenses. In this particular legislation, a parallel generator must be treated like every other class of customer despite the fact that increased costs will be encountered for providing the services and connection to our system.

Annualizing the net energy measurement means that there is no recognition that the cost of providing electricity varies hour by hour, day by day and month by month. This provision would essentially treat electricity put into our system at night in a low demand month the same as electricity taken from our system in the middle of the highest peak usage and at the highest system cost.

One provision that appears to attempt to mitigate the cost of this legislation does not have that effect. Section 1, (e), 4 provides for a cash reimbursement to the customer for credits not consumed during the course of the annual arrangement. That compensation is at “avoided cost.” Avoided cost is not defined. Beyond that, avoided cost varies hour by hour.

Last year, this Legislature made a number of changes to the methods of compensating owners of renewable facilities that were interconnected with the system. That legislation has not been in effect very long. We believe it is premature to make further changes in law at this time. As we said in our written testimony on H.B. 2631, we believe there are great opportunities for renewable energy in this state, but believe that partnerships rather than mandates are the means to maximize that opportunity. The transactions mandated in this legislation are one-sided and ultimately could increase the cost of energy to our customers.

TESTIMONY OF JON K. MILES

House Utilities Committee

February 11, 2002

Comments on House Bill 2713

Good morning Mr. Chairman and members of the Committee, I am Jon K. Miles, Vice President of Governmental and Technical Services for Kansas Electric Cooperatives, Inc. (KEC) headquartered in Topeka, Kansas. KEC is the statewide association for twenty-seven rural electric cooperatives and the state's two generation and transmission cooperatives.

I appreciate the opportunity to testify today in opposition of HB 2713. KEC opposes HB 2713 as it allows net metering. As proposed in the legislation, net metering means using a single meter to measure the energy generated and energy consumed by the eligible customer-generator. The meter would run forward when the customer-generator is purchasing power from the utility grid and backwards when the customer-generator is producing more energy than customer-generator consumes. Under the bill, the customer-generator would be paid for any energy that is generated in excess of that consumed. Payment to the customer-generator would be at the same rate the customer-generator pays the utility.

It is important to remember the elements of a customers electric rate to understand the unfairness in HB 2713, and with net metering in general. Broadly speaking, the utility electric rate has three primary components: generation, transmission, and distribution. The total rate is established based on the cost to the utility to provide each of the three primary components of electric service. Thus, the customer is paying a proportionate share of the generating unit or units owned by the utility, a proportionate share of the transmission facilities or services, and a proportionate share of the distribution service to the customers home or business. Under HB 2713, a customer-generator is eligible to receive payment from the utility for all three components of electric service when the generator in reality contributes to only one of the components, that being generation. Put another way, a utility rate is established to allow a return on an investment made by the utility, including investment in transmission and distribution facilities. Under HB 2713, the customer-generator (who has no investment in transmission or distribution facilities) receives payment at the utility rate, thus allowing the customer-generator a return on an investment the customer-generator has not made.

The compensation suggested by HB 2713 creates a subsidy for the customer-generator at the expense of other consumers. The utility may derive no cost recovery or a negative margin due to the netting of the customer-generator's bill while burdened with the cost of maintaining facilities to serve the customer-generator. This loss will be borne by the remaining ratepayers of the utility.

Net metering oversimplifies a very complicated system across the state and region engineered and designed to match, as closely as possible, generation and the demand for energy. Electricity is generated to meet the anticipated need for energy on demand based on various factors, such as the time of year, historical energy trends and obviously, the weather. Electric utilities are required to provide sufficient power at all times for consumers needs. Whatever power is placed on the grid has to be used. It cannot be stored or saved for another day. Today's generating facilities strive for perfection to match generation to the demand for energy, thus,

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maximizing plant efficiency and containing energy costs for electric consumers. In Kansas, the demand for energy on a hot summer day drives the cost of energy and sets the total generation capacity requirement needs for utilities.

The Legislature has taken steps to promote the construction of electric generation. During the 2001 Legislative session, the Legislature increased the compensation to 150% of a utilities monthly system's average cost of energy per kilo-watt hour (kwh) for excess energy generated. Legislation passed last year has not been in effect long enough to measure the benefits gained. In addition, legislation was passed exempting renewable projects from paying property tax.

While the idea of net metering may sound like a fair idea, it comes at the expense of other consumers. We ask you to oppose HB 2713.

Thank You.

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