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# **Kansas Legislator Briefing Book 2009**

## **Agriculture, Natural Resources, and Energy**

### **B-5 Net Metering**

Net metering and parallel generation are two different means by which commercial and residential generators of energy from renewable resources move excess electricity to the grid and receive compensation for that electricity. Net metering is not available in Kansas. Instead, individuals and businesses who generate their own electricity from renewable resources enter into parallel generation agreements with the local utility to feed excess electricity onto the grid. Small parallel generators are compensated by the utility at 150 percent of the utility's avoided cost for the electricity generated. Larger parallel generators are compensated at 100 percent of the utility's avoided cost.

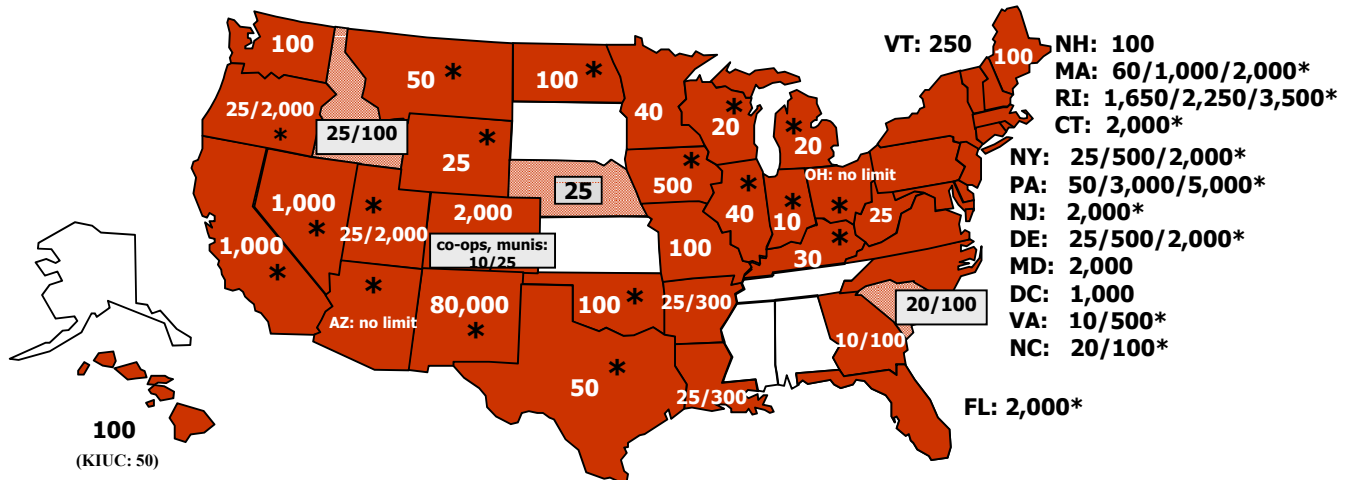
**Federal Law.** The Public Utility Regulatory Policy Act of 1978 (PURPA) required utilities to purchase excess power from grid-connected small renewable energy systems at a rate equal to what it costs the utility to produce or purchase power. Power providers implement this requirement through various metering arrangements. The most common arrangements are "net metering" and "net meter and sale."

Net meter and sale is the practice authorized by Kansas law (KSA 66-1,184), which calls the arrangement "parallel generation." Under this arrangement, two single electric meters are installed at the customer-generator's site. One meter records electricity drawn from the grid, and the other records excess electricity generated by the customer-generator and fed back onto the grid. The customer-generator pays the retail rate for the electricity drawn from the grid. The local electric utility purchases the excess electricity generated at the utility's avoided cost (the average cost of energy per kilowatt hour). There may be a significant difference between the retail rate and the power provider's avoided cost.

Net metering is available in 44 states and the District of Columbia. Under this arrangement, a single, two-direction meter may be used to record both electricity drawn from the grid and excess electricity fed back onto the grid by the customer-generator. The consumer-generator pays the retail rate for electricity used in excess of the amount generated. In

essence, the power provider pays the consumer-generator the retail price for the electricity fed back into the grid. Net metering rules vary from state to state.

## Net Metering



Source: [www.dsireusa.org](http://www.dsireusa.org) October 2008

**Kansas law.** KSA 66-1,184 authorizes parallel generation for residential utility customers who own a renewable generator with a capacity of 25 kilowatts or less, for commercial customers who own a renewable generator with a capacity of 200 kilowatts or less, and for Cloud County and Dodge City community colleges for renewable generators with a capacity of 1.5 megawatts or less.

### History of small generator policy in Kansas

**1978** – Congress enacted the Public Utility Regulatory Policies Act of 1978 (Pub. L. No. 95-617). Among other things, the Act directed the Federal Energy Regulatory Commission (FERC) to promulgate rules to encourage cogeneration. FERC enacted a rule requiring utilities to purchase electric energy from qualifying cogenerators and small power production facilities (cogenerators) at a rate equal to the utility’s “full avoided cost.” FERC also required utilities to make any physical interconnection with cogenerators as necessary to effect purchases of electricity authorized by the Act.

**1979** – The Kansas Legislature responded to the Public Utility Regulatory Policies Act (PURPA) by enacting K.S.A. 66-1,184, which gave the Kansas Corporation Commission (KCC) jurisdiction required to implement the requirements of PURPA and the FERC rules and regulations. To carry out the Legislature’s mandate, the KCC adopted rules and regulations.

**1986** – In *Kansas City Power & Light Co. v. State Corp. Com.*, 238 Kan. 842 (Kan. 1986), the Kansas Supreme Court determined that the KCC did not obtain the required waiver from the Federal Energy Regulatory Commission to set the rate of compensation for parallel generation at a level different from the avoided cost rate dictated by PURPA. The Court held that Congress preempted the field of co-generation regulation and fees by enacting PURPA.

**2001** – HB 2245 amended and expanded the law authorizing contracts for parallel electricity generation using renewable resources. An enhanced level of compensation was authorized for certain customer-generators.

The bill applied parallel generation service requirements to customers of all utilities: investor-owned, rural electric cooperatives, and those that are municipally-owned or operated. The bill made utility payments to certain customers for excess energy sales more attractive by requiring that a utility pay at least 150 percent of the utility's monthly system average cost of energy per kilowatt hour. That rate applies only to residential customer-generators who own renewable generators with a capacity of 25 kilowatts or less or commercial customer-generators who own renewable generators with a capacity of 100 kilowatts or less.

**2006** – The federal Energy Policy Act of 2005 (EPA05)(Pub.L. 109-058) required state public utility commissions, such as the Kansas Corporation Commission, and certain non-regulated utilities (e.g., municipal electrical utilities and cooperatives with annual retail sales under 500 million kWh) to consider adopting federal net metering standards. One of the questions to be explored was whether the Legislature had previously considered a net metering standard. These entities must determine whether or not to adopt a net metering standard, by August 8, 2008.

In December, 2006, the Kansas Corporation Commission initiated action in response to the federal law. The Commission expedited its consideration of the net metering question in order to provide the Legislature with an opportunity to amend the parallel generation statute, during the 2007 Session, if necessary. After reviewing comments from a number of utility companies and from KCC staff, the Commission concluded that KSA 66-1,184 “. . . constitutes prior legislative action on Net Metering. [The statute] sets a price or credit amount for customer-generated renewable energy and therefore provides a standard very similar to Net Metering.” The Commission's order goes on to say that the Commission may in the future provide the Legislature with suggestions regarding the current statute.

**2007** – HB 2145 amended the parallel generation statute in regard to commercial customers other than Cloud County and Dodge City community colleges. In most instances, the bill increased from 100 kilowatts to 200 kilowatts the maximum allowable capacity for parallel generation from renewable resources. The two community colleges are treated as parallel generators as long as their renewable generation capacity is 1.5 megawatts or less. (A megawatt is equal to 1,000 kilowatts.)

An electric generator used by a commercial customer for parallel generation must be appropriately sized for the customer's anticipated electrical load. The bill limits commercial customers who power irrigation pumps with renewable energy generators to connecting a maximum of 10 such pumps to a utility's system. The customer-generator must attach the mechanism necessary to feed excess electrical power onto the utility's system on the customer's side of the retail electric meter. The bill also limited the number and size of renewable generators that can connect to a utility's system and utilities are not required to purchase from a parallel generator more than 4 percent of the utility's peak power requirement.

The bill provided that the amount of compensation for energy supplied to a utility by the community colleges will be 100 percent of the utility's monthly system average cost of energy per kilowatt hour. In the case of renewable generation with a capacity of 200 kilowatts or less, the compensation remained at least 150 percent of the utility's monthly system average cost of energy per kilowatt hour.

## Net Metering in Kansas and Surrounding States

As noted earlier, Kansas uses a parallel generation arrangement to meet the requirements of federal law. Colorado, Iowa, Missouri, and Oklahoma have implemented net metering. Nebraska does not appear to have a statewide mechanism for net metering or parallel generation, but the Nebraska Public Power District approved net-metering effective September 1, 2008. For each of the surrounding states, the descriptions below address the types of technologies eligible for net metering or parallel generation, the types of utilities that must participate, the size limits on customer-generator systems that can participate, and the rate at which customers are reimbursed for their net excess generation.

### Colorado

- Technologies eligible for net metering include solar electric, wind, biomass, small hydroelectric, fuel cells using renewable fuels, recycled energy, and geothermal electric.
- Investor-owned utilities (IOU's) must do the following:
  - Offer net metering to systems up to 2 megawatts (MW) in capacity; and
  - Apply a customer's net excess generation on a monthly basis as a kilowatt-hour credit to the next bill. If a customer's annual generation exceeds consumption, the utility must reimburse the excess generation at its average hourly incremental cost.
- Municipal utilities with more than 5,000 customers and all cooperatives must do the following:
  - Offer net metering to residential systems up to 10 kilowatts (kW) in capacity, and to commercial and industrial systems up to 25 kW in capacity; and
  - Credit customers monthly at the retail rate for any net excess generation they produce, and pay for any remaining net excess generation at the end of an annual period at a "rate deemed appropriate by the utility."

- Electricity generated at a customer's site can be applied toward meeting a utility's renewable-generation requirement under the state's renewable portfolio standard.

## Iowa

- Technologies eligible for net metering include photovoltaics, wind, biomass, hydroelectric, and municipal solid waste.
- IOU's must do the following:
  - Offer net metering to residential, commercial, and industrial systems up to 500 kW in capacity; and
  - Either purchase customers' net excess generation at the utility's avoided-cost rate or allow customers to carry net excess generation as a kilowatt-hour credit for use in future months.

## Kansas

- Technologies eligible for parallel generation contracts include solar, photovoltaic, wind, biomass, hydropower, geothermal, waste incineration, and landfill gas resources or technologies.
- All utilities must do the following:
  - Offer parallel generation contracts to residential systems up to 25 kW in capacity, commercial systems up to 200 kW in capacity, and school systems up to 1.5 MW in capacity. (Only Cloud County Community College and Dodge City Community College are defined as schools under the statute.)
  - Compensate generation by customers with a capacity up to 200 kW at a rate not less than 150 percent of the utility's average cost of energy per kilowatt hour, and generation by other customers at a rate not less than 100 percent of the utility's average cost of energy per kilowatt hour.
- Utilities may limit the number and size of customer-generators based on the capacity of the distribution line, and are not obligated to purchase more than 4 percent of their peak power requirements from these customers.
- Parallel generation of electricity is included as part of the state's energy generation by wind power for purposes of meeting the Governor's goal of producing 10 percent of the state's electricity by wind power by 2010, and 20 percent by 2020.

## Missouri

- Technologies eligible for net metering include solar thermal electric, photovoltaics, wind, hydroelectric, and fuel cells using renewable fuels.
- All utilities (IOUs, municipal, and cooperatives) must do the following:
  - Offer net metering to systems up to 100 kW in capacity, regardless of customer class (such as, residential, commercial, industrial, schools, government, and agriculture); and
  - Credit customers monthly for net excess generation at the utility's avoided-cost rate. However, net excess generation remaining at the end of a year is granted to the utility with no compensation for the customer.
- Net metering is available until the total capacity of the net-metered systems equals 5 percent of a utility's single-hour peak load during the previous year.
- Costs incurred by a utility under the state's net metering statute are recoverable in the utility's rate structure.
- The generating capacity of all net-metered systems counts towards a utility's accomplishment of any renewable-energy portfolio adopted by the state.

## Nebraska Public Power District

- Technologies eligible for net metering include photovoltaics, wind, biomass, hydroelectric, municipal solid waste, combined heat and power (chp)/cogeneration, anaerobic digestion, small hydroelectric, and other distributed generation technologies.
- Nebraska Public Power District will do the following:
  - Offer net metering to systems up to 25 kW in capacity; and
  - Provide customers with a monetary credit for net excess generation during a billing cycle at the rates listed below. The customer continues to be billed for non-energy charges. The credits offset future charges, but credit remaining at the end of a calendar year is paid to the customer.

Summer purchase rates (June 1 – September 30)

Wind generation: 4.15 cents/kilowatt hour

Photo-voltaic generation: 7.81 cents/kilowatt hour

Baseload generation (e.g. methane): 3.86 cents/kilowatt hour

Winter purchase rates (October 1 – May 31)

Wind generation: 2.82 cents/kilowatt hour

Photo-voltaic generation: 3.65 cents/kilowatt hour

Baseload generation (e.g. methane): 3.05 cents/kilowatt hour

- Net metering is available until the total capacity of the net-metered systems equals 1 percent of the peak annual demand of retail customers.

## Oklahoma

- The technologies eligible for net metering include solar thermal electric, photovoltaics, wind, biomass, hydroelectric, geothermal electric, municipal solid waste, and cogeneration.
- Investor owned utilities and cooperatives under the jurisdiction of the Oklahoma Corporation Commission must file net-metering tariffs for systems up to 100 kW in capacity, regardless of customer class.
- A customer may request that a utility purchase net excess generation, but the utility is not obligated to do so. If the utility agrees, the purchase is at the utility's avoided-cost rate.

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