

Micro-Combined Heat and Power Systems, Fuel Cell Systems, and Solar Generated Electricity

This Act directs electric utilities to interconnect solar and farm waste electric generating equipment, micro-combined heat and power generating equipment and fuel cell electric generating equipment owned or operated by a customer-generator and for net energy metering, provided that the customer-generator enters into a net energy metering contract with the utility or complies with the corporation's net energy metering schedule and other standards under state law.

Submitted as:

New York

[Chapter 355 of 2009](#)

Status: Enacted into law in 2009.

Suggested State Legislation

(Title, enacting clause, etc.)

1 Section 1. [*Short Title.*] This Act shall be cited as “An Act to Address Net Energy
2 Metering for Micro-combined Heat and Power Generating Systems.”

3
4 Section 2. [*Definitions.*]

5 (a) “Customer-generator” means:

6 (i) a residential customer of an electric corporation, who owns or operates solar
7 electric generating equipment located and used at his or her residence;

8 (ii) a customer of an electric corporation, who owns or operates farm waste
9 electric generating equipment located and used at his or her “farm operation,” as such term is
10 defined in [insert citation];

11 (iii) a non-residential customer of an electric corporation which owns or operates
12 solar electric generating equipment located and used at its premises;

13 (iv) a residential customer of an electric corporation who owns, leases or operates
14 micro-combined heat and power generating equipment located on the customer's premises; and

15 (v) a residential customer of an electric corporation who owns, leases or operates
16 fuel cell generating equipment located on the customer's premises.

17 (b) “Electric corporation” or “corporation,” means a corporation as defined in [insert
18 citation];

19 (c) “Farm waste electric generating equipment” means equipment that generates electric
20 energy from biogas produced by the anaerobic digestion of agricultural waste, such as livestock
21 manure, farming wastes and food processing wastes with a rated capacity of not more than five
22 hundred kilowatts, that is:

23 (i) manufactured, installed, and operated in accordance with applicable
24 government and industry standards;

25 (ii) connected to the electric system and operated in conjunction with an electric
26 corporation's transmission and distribution facilities;

27 (iii) operated in compliance with any standards and requirements established
28 under this Act;

29 (iv) fueled at a minimum of [ninety percent on an annual basis] by biogas
30 produced from the anaerobic digestion of agricultural waste such as livestock manure materials,
31 crop residues, and food processing waste; and

32 (v) fueled by biogas generated by anaerobic digestion with at least [fifty percent]
33 by weight of its feedstock being livestock manure materials on an annual basis.

34 (d) "Fuel cell electric generating equipment" means a solid oxide, molten carbonate,
35 proton exchange membrane or phosphoric acid fuel cell with a combined rated capacity of not
36 more than [ten kilowatts] that is manufactured, installed and operated in accordance with
37 applicable government and industry standards, that is connected to the electric system and
38 operated in parallel with an electric corporation's transmission and distribution facilities, and that
39 is operated in compliance with any standards and requirements established under this Act.

40 (e) "Micro-combined heat and power generating equipment" means an integrated,
41 cogenerating building heating and electrical power generation system, operating on any fuel and
42 of any applicable engine, fuel cell, or other technology, with a rated capacity of at least [one
43 kilowatt and not more than ten kilowatts] electric and any thermal output that at full load has a
44 design total fuel use efficiency in the production of heat and electricity of not less than [eighty
45 percent], and annually produces at least [two thousand kilowatt hours] of useful energy in the
46 form of electricity that may work in combination with supplemental or parallel conventional
47 heating systems, that is manufactured, installed and operated in accordance with applicable
48 government and industry standards, that is connected to the electric system and operated in
49 conjunction with an electric corporation's transmission and distribution facilities.

50 (f) "Net energy meter" means a meter that measures the reverse flow of electricity to
51 register the difference between the electricity supplied by an electric corporation to the customer-
52 generator and the electricity provided to the corporation by that customer-generator.

53 (g) "Net energy metering" means the use of a net energy meter to measure, during the
54 billing period applicable to a customer-generator, the net amount of electricity supplied by an
55 electric corporation and provided to the corporation by a customer-generator.

56 (h) "Solar electric generating equipment" means a photovoltaic system;

57 (i) (A) in the case of a residential customer, with a rated capacity of not more
58 than [twenty-five kilowatts]; and

59 (B) in the case of a non-residential customer, with a rated capacity of not
60 more than the lesser of [two thousand kilowatts] or such customer's peak load as measured over
61 the prior [twelve-month] period, or in the case that such [twelve-month] period of measurement
62 is not available, then as determined by the [commission] based on its analysis of comparable
63 facilities; and

64 (ii) that is manufactured, installed, and operated in accordance with applicable
65 government and industry standards, that is connected to the electric system and operated in
66 conjunction with an electric corporation's transmission and distribution facilities, and that is
67 operated in compliance with any standards and requirements established under this Act.

68
69 Section 3. [*Interconnection and Net Energy Metering.*] An electric corporation shall
70 provide for the interconnection of solar and farm waste electric generating equipment, micro-
71 combined heat and power generating equipment and fuel cell electric generating equipment
72 owned or operated by a customer-generator and for net energy metering, provided that the
73 customer-generator enters into a net energy metering contract with the corporation or complies
74 with the corporation's net energy metering schedule and complies with standards and
75 requirements established under this Act.

76
77 Section 4. [*Conditions of Service.*]

78 (a) (i) On or before [three months after the effective date of this Act], each electric
79 corporation shall develop a model contract and file a schedule that establishes consistent and
80 reasonable rates, terms and conditions for net energy metering to customer-generators, according
81 to the requirements of this Act. The [state utilities commission] shall render a decision within
82 [three months] from the date on which the schedule is filed.

83 (ii) On or before [three months] after the effective date of this subparagraph, each
84 electric corporation shall develop a model contract and file a schedule that establishes consistent
85 and reasonable rates, terms and conditions for net energy metering to non-residential customer
86 generators, according to the requirements of this Act. The [state utilities commission] shall
87 render a decision within [three months] of the date on which the schedule is filed.

88 (iii) Each electric corporation shall make such contract and schedule available to
89 customer-generators on a first come, first served basis, until the total rated generating capacity
90 for solar and farm waste electric generating equipment, micro-combined heat and power
91 generating equipment and fuel cell electric generating equipment owned, leased or operated by
92 customer-generators in the corporation's service area is equivalent to [one percent] of the
93 corporation's electric demand for the year [insert date], as determined by the [department].

94 (b) Nothing in this subdivision shall prohibit a corporation from providing net energy
95 metering to additional customer-generators. The [state utilities commission] shall have the
96 authority, after [January first, two thousand twelve], to increase the percent limits if it determines
97 that additional net energy metering is in the public interest.

98 (c) In the event that the electric corporation determines that it is necessary to install a
99 dedicated transformer or transformers, or other equipment to protect the safety and adequacy of
100 electric service provided to other customers, a customer-generator shall pay the electric
101 corporation's actual costs of installing the transformer or transformers, or other equipment:

102 (i) In the case of a customer-generator who owns or operates solar electric
103 generating equipment, micro-combined heat and power generating equipment or fuel cell electric
104 generating equipment located and used at his or her residence, up to a maximum amount of
105 [three hundred fifty dollars];

106 (ii) In the case of a customer-generator who owns or operates farm waste electric
107 generating equipment located and used at his or her "farm operation," up to a total amount of
108 [five thousand dollars] per "farm operation"; and

109 (iii) In the case of a non-residential customer-generator who owns or operates
110 solar electric generating equipment located and used at its premises, such cost shall be as
111 determined by the [department] pursuant to standards established thereby.

112 (d) An electric corporation shall impose no other charge or fee, including back-up, stand
113 by and demand charges, for the provision of net energy metering to a customer-generator, except
114 as provided in paragraph (iv) of subdivision five of this Act.

115
116 Section 5. [Rates.] An electric corporation shall use net energy metering to measure and
117 charge for the net electricity supplied by the corporation and provided to the corporation by a
118 customer-generator, according to these requirements:

119 (i) In the event that the amount of electricity supplied by the corporation during
120 the billing period exceeds the amount of electricity provided by a customer-generator, the
121 corporation shall charge the customer-generator for the net electricity supplied at the same rate
122 per kilowatt hour applicable to service provided to other customers in the same service class
123 which do not generate electricity onsite.

124 (ii) In the event that the amount of electricity produced by a customer-generator
125 during the billing period exceeds the amount of electricity used by the customer-generator, the
126 corporation shall apply a credit to the next bill for service to the customer-generator for the net

127 electricity provided at the same rate per kilowatt hour applicable to service provided to other
128 customers in the same service class which do not generate electricity onsite, except for micro-
129 combined heat and power or fuel cell customer-generators, who will be credited at the
130 corporation's avoided costs. The avoided cost credit provided to microcombined heat and power
131 or fuel cell customer-generators shall be treated for ratemaking purposes as a purchase of
132 electricity in the market that is includable in commodity costs.

133 (iii) At the end of the year or annualized over the period that service is supplied
134 by means of net energy metering, the corporation shall promptly issue payment at its avoided
135 cost to the customer-generator, as defined in subparagraph (i) or (ii) of paragraph (a) of section 2
136 of this Act, for the value of any remaining credit for the excess electricity produced during the
137 year or over the annualized period by the customer-generator.

138 (iv) In the event that the corporation imposes charges based on kilowatt demand
139 on customers who are in the same service class as the customer-generator but which do not
140 generate electricity on site, the corporation may impose the same charges at the same rates to the
141 customer-generator, provided, however, that the kilowatt demand for such demand charges is
142 determined by the maximum measured kilowatt demand actually supplied by the corporation to
143 the customer-generator during the billing period.

144
145 Section 6. [*Safety Standards.*]

146 (a) On or before [three months] after the effective date of this Act, each electric
147 corporation shall establish standards that are necessary for net energy metering and the
148 interconnection of residential solar or farm waste electric generating equipment, micro-combined
149 heat and power generating equipment and fuel cell electric generating equipment to its system
150 and that the [state utilities commission] shall determine are necessary for safe and adequate
151 service and further the public policy set forth in this Act. Such standards may include but shall
152 not be limited to:

153 (i) equipment necessary to isolate automatically the residential solar, farm waste,
154 micro-combined heat and power and fuel cell electric generating system from the utility system
155 for voltage and frequency deviations; and

156 (ii) a manual lockable disconnect switch provided by the customer-generator
157 which shall be located on the outside of the customer's premises and externally accessible for the
158 purpose of isolating the residential solar and farm waste electric generating equipment.

159 (b) Upon its own motion or upon a complaint, the [commission, or its designated
160 representative], may investigate and make a determination as to the reasonableness and necessity
161 of the standards or responsibility for compliance with the standards.

162 (i) In the case of a customer-generator who owns or operates solar electric
163 generating equipment located and used at his or her residence; an electric corporation may not
164 require a customer-generator to comply with additional safety or performance standards, perform
165 or pay for additional tests, or purchase additional liability insurance provided that the residential
166 solar or farm waste electric generating equipment, micro-combined heat and power generating
167 equipment or fuel cell electric generating equipment meets the safety standards established
168 pursuant to this paragraph.

169 (ii) In the case of a customer-generator who owns or operates farm waste electric
170 generating equipment located and used at his or her "farm operation," an electric corporation
171 may not require a customer-generator to comply with additional safety or performance standards,
172 perform or pay for additional tests, or purchase additional liability insurance provided that:

173 (A) the electric generating equipment meets the safety standards
174 established pursuant to this paragraph; and

175 (B) the total rated generating capacity (measured in kW) of farm waste
176 electric generating equipment that provides electricity to the electric corporation through the
177 same local feeder line, does not exceed [twenty percent] of the rated capacity of that local feeder
178 line.

179 (iii) In the event that the total rated generating capacity of farm waste electric
180 generating equipment that provides electricity to the electric corporation through the same local
181 feeder line exceeds [twenty percent] of the rated capacity of the local feeder line, the electric
182 corporation may require the customer-generator to comply with reasonable measures to ensure
183 safety of that local feeder line.

184 (c) On or before [three months after the effective date of this Act], each electric
185 corporation shall establish standards that are necessary for net energy metering and the
186 interconnection of non-residential solar electric generating equipment to its system and that the
187 [state utilities commission] shall determine are necessary for safe and adequate service and
188 further the public policy set forth in this Act. Such standards may include but shall not be limited
189 to:

190 (i) equipment necessary to isolate automatically the solar generating system from
191 the utility system for voltage and frequency deviations; and

192 (ii) a manual lockable disconnect switch provided by the customer-generator
193 which shall be located on the outside of the customer-generator's premises and externally
194 accessible for the purpose of isolating the solar electric generating equipment.

195 (d) In the event that the total rated generating capacity of solar electric generating
196 equipment that provides electricity to the electric corporation through the same local feeder line
197 exceeds [twenty percent] of the rated capacity of the local feeder line, the electric corporation
198 may require the customer-generator to comply with reasonable measures to ensure safety of the
199 local feeder line.

200 (e) Unless otherwise determined to be necessary by the [state utilities commission], an
201 electric corporation may not require a customer-generator to comply with additional safety or
202 performance standards, perform or pay for additional tests, or purchase additional liability
203 insurance provided that the solar electric generating equipment meets the safety standards
204 established pursuant to this subdivision.

205 (f) Upon its own motion or upon a complaint, the [commission, or its designated
206 representative], may investigate and make a determination as to the reasonableness and necessity
207 of the standards or responsibility for compliance with the standards.

208

209 Section 7. [*Electric Restructuring.*] Notwithstanding the provisions of this Act, including,
210 but not limited to paragraph (b) of Section 4 of this Act, a customer-generator shall comply with
211 any applicable determinations of the [state utilities commission] relating to restructuring of the
212 electric industry.

213

214 Section 8. [*Severability.*] [Insert severability clause.]

215

216 Section 9. [*Repealer.*] [Insert repealer clause.]

217

218 Section 10. [*Effective Date.*] [Insert effective date.]