

Bill as Introduced

HB 1353 - AS INTRODUCED

2010 SESSION

10-2348

06/10

HOUSE BILL **1353**

AN ACT relative to group net energy metering.

SPONSORS: Rep. S. Harvey, Hills 21; Rep. Pastor, Graf 9; Rep. Butcher, Ches 3;
Rep. Townsend, Graf 10; Sen. Fuller Clark, Dist 24; Sen. Merrill, Dist 21

COMMITTEE: Science, Technology and Energy

ANALYSIS

This bill modifies certain procedures and rules related to net energy metering.

Explanation: Matter added to current law appears in ***bold italics***.
Matter removed from current law appears [~~in brackets and struck through.~~]
Matter which is either (a) all new or (b) repealed and reenacted appears in regular type.

STATE OF NEW HAMPSHIRE

In the Year of Our Lord Two Thousand Ten

AN ACT relative to group net energy metering.

Be it Enacted by the Senate and House of Representatives in General Court convened:

1 1 Declaration of Purpose. Amend RSA 362-A:1 to read as follows:

2 362-A:1 Declaration of Purpose. It is found to be in the public interest to provide for small scale
3 and diversified sources of supplemental electrical power to lessen the state's dependence upon other
4 sources which may, from time to time, be uncertain. It is also found to be in the public interest to
5 encourage and support diversified electrical production that uses indigenous and renewable fuels and
6 has beneficial impacts on the environment and public health. It is also found that these goals should
7 be pursued in a competitive environment pursuant to the restructuring policy principles set forth in
8 RSA 374-F:3. It is further found that net energy metering for eligible customer-generators may be
9 one way to provide a reasonable opportunity for small customers to choose interconnected self
10 generation, encourage private investment in renewable energy resources, stimulate in-state
11 commercialization of innovative and beneficial new technology, enhance the future diversification of
12 the state's energy resource mix, and reduce interconnection and administrative costs. ~~[However, due~~
13 ~~to uncertain cost and technical impacts to electric utilities and other ratepayers, the general court~~
14 ~~finds it appropriate to limit the availability of net energy metering to eligible customer-generators~~
15 ~~who are early adopters of small-scale renewable electric generating technologies.]~~

16 2 Definitions. Amend RSA 362-A:1-a, II-b to read as follows:

17 II-b. "Eligible customer-generator" or "*customer-generator*" means an electric utility
18 customer *or a voluntarily associated group of customers or customer accounts served by the*
19 *same electric distribution utility that* ~~[who]~~ owns ~~[and]~~ or operates, *or whose electrical energy*
20 *needs are otherwise served by,* electrical generating facilities powered by renewable energy with a
21 total peak generating capacity of not more than ~~[100 kilowatts]~~ *2 megawatts* that is located on the
22 ~~[customer's]~~ premises *of the customer or a member of the group of customers,* is interconnected
23 and operates in parallel with the electric grid, and is intended ~~[primarily]~~ *in the first instance* to
24 offset part or all of the customer's *or group of customers'* own electricity requirements.

25 3 Net Energy Metering. Amend RSA 362-A:9, I-IV to read as follows:

26 362-A:9 Net Energy Metering.

27 I. A standard contract or tariff providing for net energy metering shall be ~~[developed and]~~
28 made available to eligible customer-generators by each electric distribution utility ~~[within 90 days of~~
29 ~~the start of retail choice of electric suppliers, or within 90 days of the final approval of]~~ *in*
30 *conformance with net metering rules adopted* ~~[regulations issued]~~ *and orders issued* by the
31 commission, ~~[whichever comes first]~~. Such tariffs or contracts shall be available on a first-come,

1 first-served basis within each electric utility service area under the jurisdiction of the commission
2 until such time as the total rated generating capacity owned and operated by eligible customer-
3 generators totals ~~[one]~~ 5 percent of the annual peak energy demand distributed by each such utility
4 as determined by the commission from time to time.

5 **II. At each customer premises hosting a renewable electric generation facility, net**
6 energy metering shall be accomplished using a single meter capable of registering the flow of
7 electricity in two directions. However, an additional meter or meters to monitor the flow of electricity
8 in each direction may be installed, provided that it is not at the expense of the customer-generator
9 unless requested by the customer-generator~~[, and provided that such metering shall be used only to~~
10 ~~provide the information necessary to accurately bill the customer-generator pursuant to the~~
11 ~~provisions of this section, or for research purposes].~~ If an additional meter or meters are installed,
12 the net energy metering calculation shall yield the same result as when a single meter is used. The
13 net energy metering calculation shall be made by taking the difference between the electricity
14 supplied over the electric distribution system and the electricity generated by the eligible customer-
15 generator and fed back into the electric distribution system over the billing period.

16 **III. Each net energy metering contract or tariff offered by an electric distribution utility**
17 shall be identical, with respect to rates, rate structure, and periodic charges, to the contract or tariff
18 ~~[to] by which the same customer would [be assigned if such customer was not an eligible customer-~~
19 ~~generator] otherwise take service by choice or default.~~ Electricity suppliers may voluntarily
20 determine the terms, conditions, and prices under which they will agree to provide generation supply
21 to and purchase net generation output from eligible customer-generators~~[; however, electricity~~
22 ~~suppliers who].~~ **Electric utilities that** provide default service ~~[or transition service] to [such a~~
23 ~~customer] eligible customer-generators shall only bill for the net energy supplied as calculated in~~
24 accordance with this section **and shall provide credit for net generation in accordance with**
25 **this section.**

26 **IV. The following rules shall apply to net energy measurement charges and credits:**

27 (a) The net energy produced or consumed on a monthly basis shall be measured in
28 accordance with normal metering practices.

29 (b) Where the electricity supplied to the customer-generator over the electric distribution
30 system exceeds the electricity generated by the customer-generator during the billing period, the
31 customer-generator shall be billed based on the net energy supplied for distribution services and
32 other charges in accordance with this section and standard applicable rates. **Charges and credits**
33 **shall be given under time-based rate tariffs as determined by the commissioner.**

34 (c) Where the electricity generated by the customer-generator exceeds the electricity
35 supplied by the electric grid, the customer-generator shall be credited over subsequent billing
36 periods for the excess kilowatt hours generated in accordance with this section. **At least annually**
37 **and instead of carrying excess generation credits forward, customer-generators that take**

1 *default service may elect to be paid by the electric distribution utility for their excess*
2 *generation at rates that are not less than 90 percent of the generation supply component of*
3 *the applicable default service rate as determined by the commission. Such payment rates*
4 *may also include payment for avoided transmission charges to the extent that such excess*
5 *generation is reasonably determined to reduce wholesale transmission charges from what*
6 *they would otherwise be. The difference between amounts paid to customer-generators for*
7 *excess generation and the generation rate charged to other customers for such supply, up*
8 *to 10 percent of such rates, may be allocated to the electric distribution utility for their*
9 *costs of facilitating such transactions and to line losses, as determined by the commission.*

10 4 New Subparagraphs; Net Energy Metering. Amend RSA 362-A:9, IV by inserting after
11 subparagraph (c) the following new subparagraphs:

12 (d) Renewable energy credits shall remain the property of the customer-generator until
13 such credits are sold or transferred.

14 (e) If an electric distribution utility acquires renewable energy credits from a customer-
15 generator in conjunction with purchasing excess generation, it may apply such generation and
16 credits to its renewable energy source default service option under RSA 374-F:3, V(f).

17 (f) When the customer-generator consists of a voluntarily associated group of customers
18 or customer accounts of the same electric distribution utility, to the extent practicable excess
19 kilowatts and kilowatt hours of generation from the host account or accounts where the renewable
20 electrical generation facility or facilities are located may be credited against the generation supply
21 and transmission rate components of the other customers or customer accounts within the group, all
22 as determined by the commission after notice and hearing, on a utility-specific or generic basis.

23 5 Net Energy Metering. Amend RSA 362-A:9, VI to read as follows:

24 VI. The commission, by order, may waive any of the limitations set forth in this chapter for
25 targeted net energy metering arrangements that are part of a utility strategy to minimize
26 distribution *or other* costs.

27 6 Effective Date. This act shall take effect 60 days after its passage.

Amendments

Amendment to HB 1353

1 Amend the bill by replacing all after section 1 with the following:

2
3 2 Definitions. Amend RSA 362-A:1-a, II-b to read as follows:

4 II-b. "Eligible customer-generator" *or* "**customer-generator**" means an electric utility
5 customer who owns ~~[and]~~ *or* operates *an* electrical generating ~~[facilities]~~ **facility** powered by
6 renewable energy with a total peak generating capacity of not more than ~~[100 kilowatts]~~ **2**
7 **megawatts** that is located on the customer's premises, is interconnected and operates in parallel
8 with the electric grid, and is ~~[intended primarily]~~ **used in the first instance** to offset ~~[part or all of]~~
9 the customer's own electricity requirements.

10 3 Net Energy Metering. RSA 362-A:9 is repealed and reenacted to read as follows:

11 362-A:9 Net Energy Metering.

12 I. A standard tariff providing for net energy metering shall be made available to eligible
13 customer-generators by each electric distribution utility in conformance with net metering rules
14 adopted and orders issued by the commission. Each net energy metering tariff shall be identical,
15 with respect to rates, rate structure, and charges, to the tariff under which a customer-generator
16 would otherwise take service by choice or default. Such tariffs shall be available on a first-come,
17 first-served basis within each electric utility service area under the jurisdiction of the commission
18 until such time as the total rated generating capacity owned or operated by eligible customer-
19 generators totals 5 percent of the annual peak energy demand distributed by each such utility as
20 determined by the commission from time to time.

21 II. Competitive electricity suppliers registered under RSA 374-F:7 may determine the terms,
22 conditions, and prices under which they agree to provide generation supply to and purchase net
23 generation output from eligible customer-generators.

24 III. Metering shall be done in accordance with normal metering practices. A single net
25 meter that shows the customer's net energy usage by measuring both the inflow and outflow of
26 electricity internally shall be the extent of metering that is required at facilities with a total peak
27 generating capacity of not more than 100 kilowatts. A bi-directional metering system that records
28 the total amount of electricity that flows in each direction shall be required at facilities with a total
29 peak generating capacity of more than 100 kilowatts. Customer-generators shall not be required to
30 pay for the installation of net meters, but shall pay for the installation of all bi-directional metering
31 systems as outlined in utility interconnection tariffs.

32 IV.(a) Except as provided in subparagraph (b), when billing a customer-generator under a



1 net energy metering tariff that is not time-based, the utility shall apply the customer's net energy
2 usage when calculating all charges that are based on kilowatt hour usage. Customer net energy
3 usage shall equal the kilowatt hours supplied to the customer over the electric distribution system
4 minus the kilowatt hours generated by the customer and fed into the electric distribution system
5 over a billing period.

6 (b) For facilities with a total peak generating capacity of more than 100 kilowatts, the
7 customer-generator shall pay full transmission and distribution charges on all kilowatt hours
8 supplied to the customer over the electric distribution system.

9 V. When customer net energy usage is negative (more electricity is fed to the distribution
10 system than is received), the excess kilowatt hours generated shall be credited, as determined by the
11 customer-generator, either:

12 (a) To the customer-generator's account on a 1:1 basis for use in subsequent billing
13 cycles as a credit against the customer's net energy usage; or

14 (b) As cash value determined by calculating the current utility default energy service
15 standard offer rate, and the customer-generator's transmission component of the applicable electric
16 delivery tariff, with the total value applied to other accounts served by the same electric distribution
17 utility, as specified by the customer-generator. Such accounts may be held by the customer-
18 generator or, if practicable, others. The commission shall, on a utility-specific or generic basis,
19 determine the circumstances and the extent to which this option shall be made available, the
20 amount of crediting that shall be allowed, and the compensation, if any, that the customer-generator
21 shall afford the electric distribution utility to facilitate this option.

22 VI. At least annually, instead of carrying excess generation credits forward, customer-
23 generators that take default service may elect to be paid by the electric distribution utility for their
24 excess generation at rates that are not less than 90 percent of the generation supply component of
25 the applicable default service rate as determined by the commission. Such payment rates may also
26 include payment for avoided transmission charges to the extent that such excess generation is
27 reasonably determined to reduce wholesale transmission charges from what they would otherwise
28 be. The difference between amounts paid to customer-generators for excess generation and the
29 generation rate charged to other customers for such supply, up to 10 percent of such rates, may be
30 allocated to the electric distribution utility for their costs of facilitating such transactions and to line
31 losses, as determined by the commission.

32 VII. A distribution utility may perform an annual calculation to determine the net effect this
33 section had on its generation, transmission, and distribution revenues and expenses in the prior
34 calendar year. The utility shall collect either additional or reduced revenues from its customer base
35 equal in amount to the net effect calculated. The method of performing the calculation and applying
36 the results shall be determined by the commission.

37 VIII. Notwithstanding other provisions of this section, the commission may establish, on a

Amendment to HB 1353

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1 utility-specific or generic basis, a methodology by which customer-generators shall be provided
2 service under time-based, net energy metering tariffs. The methodology shall specify how a
3 customer's energy usage and generation shall be metered, how net energy usage shall be calculated
4 and bill charges assessed, how excess generation shall be credited, and under what terms customer-
5 generators may sell excess generation to electric distribution utilities.

6 IX. Renewable energy credits shall remain the property of the customer-generator until such
7 credits are sold or transferred. If an electric distribution utility acquires renewable energy credits
8 from a customer-generator in conjunction with purchasing excess generation, it may apply such
9 generation and credits to its renewable energy source default service option under RSA 374-F:3, V(f).

10 X. The commission shall adopt rules, pursuant to RSA 541-A, to:

11 (a) Establish reasonable interconnection requirements for safety, reliability, and power
12 quality as it determines the public interest requires. Such rules shall not exceed applicable test
13 standards of the American National Standards Institute (ANSI) or Underwriters Laboratory (UL);
14 and

15 (b) Implement the provisions of this section.

16 XI. The commission may by order, after notice and hearing:

17 (a) Waive any of the limitations set forth in this chapter for targeted net energy
18 metering arrangements that are part of a utility strategy to minimize distribution or other costs; and

19 (b) Implement any utility-specific provisions authorized under this section.

20 XII. Once the commission has established standards for equipment used by eligible
21 customer-generators, electric distribution utilities shall not require any additional standards or
22 testing for transmission equipment as a condition of net energy metering.

23 XIII. Customer-generators shall be responsible for all costs associated with interconnection
24 with the distribution system.

25 4 Effective Date. This act shall take effect 60 days after its passage.

Amendment to HB 1353

1 Amend the bill by replacing all after section 1 with the following:

2

3 2 Definitions. Amend RSA 362-A:1-a, II-b to read as follows:

4 II-b. "Eligible customer-generator" ***or "customer-generator"*** means an electric utility
5 customer who owns ~~[and]~~ ***or*** operates electrical generating facilities powered by renewable energy
6 with a total peak generating capacity of not more than 100 kilowatts, ***or that first begins***
7 ***operation after July 1, 2010 and has a total peak generating capacity of 100 kilowatts or***
8 ***more up to one megawatt***, that is located ***behind a retail meter*** on the customer's premises, is
9 interconnected and operates in parallel with the electric grid, and is ~~[intended primarily]~~ ***used in***
10 ***the first instance*** to offset ~~[part or all of]~~ the customer's own electricity requirements.

11 3 Net Energy Metering. RSA 362-A:9 is repealed and reenacted to read as follows:

12 362-A:9 Net Energy Metering.

13 I. Standard tariffs providing for net energy metering shall be made available to eligible
14 customer-generators by each electric distribution utility in conformance with net metering rules
15 adopted and orders issued by the commission. Each net energy metering tariff shall be identical,
16 with respect to rates, rate structure, and charges, to the tariff under which a customer-generator
17 would otherwise take default generation supply service from the distribution utility. Such tariffs
18 shall be available on a first-come, first-served basis within each electric utility service area under the
19 jurisdiction of the commission until such time as the total rated generating capacity owned or
20 operated by eligible customer-generators totals a number equal to 50 megawatts multiplied by each
21 such utility's percentage share of the total 2010 annual coincident peak energy demand distributed
22 by all such utilities as determined by the commission.

23 II. Competitive electricity suppliers registered under RSA 374-F:7 may determine the terms,
24 conditions, and prices under which they agree to provide generation supply to and purchase net
25 generation output from eligible customer-generators.

26 III. Metering shall be done in accordance with normal metering practices. A single net
27 meter that shows the customer's net energy usage by measuring both the inflow and outflow of
28 electricity internally shall be the extent of metering that is required at facilities with a total peak
29 generating capacity of not more than 100 kilowatts. A bi-directional metering system that records
30 the total amount of electricity that flows in each direction from the customer premises, either
31 instantaneously or over intervals of an hour or less, shall be required at facilities with a total peak
32 generating capacity of more than 100 kilowatts. Customer-generators shall not be required to pay

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1 for the installation of net meters, but shall pay for the installation of all bi-directional metering
2 systems as outlined in utility interconnection tariffs or rules.

3 IV.(a) For facilities with a total peak generating capacity of not more than 100 kilowatts,
4 when billing a customer-generator under a net energy metering tariff that is not time-based, the
5 utility shall apply the customer's net energy usage when calculating all charges that are based on
6 kilowatt hour usage. Customer net energy usage shall equal the kilowatt hours supplied to the
7 customer over the electric distribution system minus the kilowatt hours generated by the customer-
8 generator and fed into the electric distribution system over a billing period.

9 (b) For facilities with a total peak generating capacity of more than 100 kilowatts, the
10 customer-generator shall pay all applicable charges on all kilowatt hours supplied to the customer
11 over the electric distribution system, less a credit on default service charges equal to the metered
12 energy generated by the customer-generator and fed into the electric distribution system over a
13 billing period.

14 V. When a customer-generator's net energy usage is negative (more electricity is fed into the
15 distribution system than is received) over a billing period, such surplus shall either:

16 (a) Be credited to the customer-generator's account on an equivalent basis for use in
17 subsequent billing cycles as a credit against the customer's net energy usage or bill in a manner
18 consistent with either paragraph IV(a) or IV(b), as applicable; or

19 (b) Except as provided in paragraph VI, the customer-generator may elect to be paid or
20 credited by the electric distribution utility for their excess generation at rates that are equal to the
21 utility's avoided costs for energy and capacity to provide default service as determined by the
22 commission consistent with the requirements of the Public Utilities Regulatory Policy Act of 1978
23 (PURPA). The commission shall determine reasonable conditions for such an election, including the
24 frequency of payment and the how often a customer-generator may choose this option versus the
25 option in subparagraph (a).

26 VI. Instead of the option in paragraph V(b), an electric distribution utility providing default
27 service to customer-generators may voluntarily elect, annually, on a generic basis, by notification to
28 the commission, to purchase or credit such excess generation from customer-generators at a rate that
29 is equal to the generation supply component of the applicable default service rate, provided that
30 payment is issued at least as often as whenever the value of such credit, in excess of amounts owed
31 by the customer-generator, is greater than \$50.

32 VII. A distribution utility may perform an annual calculation to determine the net effect this
33 section had on its default service and distribution revenues and expenses in the prior calendar year.
34 The method of performing the calculation and applying the results, as well as a reconciliation
35 mechanism to collect or credit any such net effects with appropriate carrying charges and credits
36 applied, shall be determined by the commission.

37 VIII. Notwithstanding other provisions of this section, the commission may establish, on a

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1 utility-specific or generic basis, a methodology by which customer-generators may be provided
2 service under time-based, net energy metering tariffs. The methodology shall specify how a
3 customer's energy usage and generation shall be metered, how net energy usage shall be calculated
4 and any applicable charges applied, and how excess generation shall be credited, consistent with size
5 limits and the terms and conditions and intent of this section and other requirements of state and
6 federal law.

7 IX. Renewable energy credits shall remain the property of the customer-generator until such
8 credits are sold or transferred. If an electric distribution utility acquires renewable energy credits
9 from a customer-generator in conjunction with purchasing excess generation, it may apply such
10 generation and credits to its renewable energy source default service option under RSA 374-F:3, V(f).

11 X. The commission shall adopt rules, pursuant to RSA 541-A, to:

12 (a) Establish reasonable interconnection requirements for safety, reliability, and power
13 quality as it determines the public interest requires. Such rules shall not exceed applicable test
14 standards of the American National Standards Institute (ANSI) or Underwriters Laboratory (UL);
15 and

16 (b) Implement the provisions of this section.

17 XI. The commission may by order, after notice and hearing:

18 (a) Waive any of the limitations set forth in this chapter for targeted net energy
19 metering arrangements that are part of a utility strategy to minimize distribution or other costs; and

20 (b) Implement any utility-specific provisions authorized under this section.

21 XII. Once the commission has established standards for equipment used by eligible
22 customer-generators, electric distribution utilities shall not require any additional standards or
23 testing for transmission equipment as a condition of net energy metering.

24 XIII. Customer-generators shall be responsible for all costs associated with interconnection
25 with the distribution system.

26 4 Renewable Energy Fund. Amend RSA 362-F:10, IV to read as follows:

27 IV. The commission shall make an annual report by October 1 of each year, beginning in
28 2009, to the legislative oversight committee on electric utility restructuring under RSA 374-F:5
29 detailing how the renewable energy fund is being used and any recommended changes to such use.
30 ***The report shall also include information on the total peak generating capacity that is net***
31 ***energy metered under RSA 362-A:9 within the franchise area of each electric distribution***
32 ***utility, and the percentage this represents of the amount that is allowed to be net metered***
33 ***within each franchise area.***

34 5 Small Wind Energy Systems; Definitions. Amend RSA 674:62, I to read as follows:

35 I. "Small wind energy system" means a wind energy conversion system consisting of a wind
36 turbine, a tower, and associated control or conversion electronics, which has a rated capacity
37 [~~consistent with the net metering specifications of RSA 362-A:9~~] ***of not more than 100 kilowatts***

Amendment to HB 1353

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1 and which will be used [~~primarily~~] *in the first instance* for onsite consumption.

2 6 Effective Date. This act shall take effect 60 days after its passage.

Speakers

Hearing Minutes

HOUSE COMMITTEE ON SCIENCE, TECHNOLOGY AND ENERGY

PUBLIC HEARING ON HB 1353

BILL TITLE: relative to group net energy metering.
DATE: January 26, 2010
LOB ROOM: 304 **Time Public Hearing Called to Order:** 11:00 am
Time Adjourned: 12:56 pm

(please circle if present)

Committee Members: Reps. Kaen, S. Harvey, Cali-Pitts, Borden, Friedrich, Levasseur, Lisle, Matheson, Pastor, Read, Townsend, Introne, J. Garrity, Devine, Tahir, Remick, Holden and Rappaport

Bill Sponsors: Reps. S. Harvey, Pastor, Butcher, Townsend and Sens. Fuller Clark and Merrill

TESTIMONY

* Use asterisk if written testimony and/or amendments are submitted.

*Rep. Harvey, prime sponsor - Introduced bill. See attached handouts.

Q: Rep. James Garrity – over 100 kw – what about the credit to the cost of the transmission distribution or the raw power?

A: Try to keep the power company whole.

Rep. Laurence Rappaport – We use money from methane gas to pay into the general fund.

Q: Rep. Jacquelyn Cali-Pitts – Would this apply to the industry?

A: Yes.

Q: Rep. William Remick – Would this cost continue forever?

A: As long as supply is is provided you will get credit.

Donna Hanscom, City of Keene - Supports bill. We produce the steam to produce electricity. Payback is 13 years and 50% of grant to City of Keene from the State of NH. The kilowatts we generate electricity we reduce. Payback = 30-40%. The excess capacity used to measure long term revenue. We could reduce the use nationwide = 3-5% of use of water. We support this amendment.

Q: Rep. Rappaport – How does this benefit Keene?

A: The benefit is a huge payback receiving a 1 to 1 credit on excess power and we get higher percentages. For revenue in the cost of a credit.

Q: Chairwoman Naida Kaen – We need a way to measure rebates.

A: Different way of sorting out; the rebate is necessary.

Ann Carnaby, Hampton Energy Committee - Supports bill. This will facilitate lesser amount of green house gases. This allows three types of technologies. At this time, it is not economically feasible. This bill will help to get this economically feasible. Fostering net metering will reduce the use of fossil fuels.

Q: Chairwoman Kaen – A non-paid volunteer?

Julie Skarritt, Retail Merchants Assn. of NH - Supports bill.

***Toby Clarke, Vice President, Goss International** - Supports bill. See handout.

George Gantz, Unutil - We would like to see more coordination of these credits and how it is worked out in the long run. We see in net metering to see how this is implemented. There is a detailed accounting on an hourly basis and there is a complicated process as we use an energy settlement process. Agreement between 3rd parties is a very complicated problem. This is an area of concern. Section 56 . Section 6, cash out, we need time to work out the problems in this part of the bill and how it will work out. There is a senate bill in federal government in tariffs. This is a method that will clarify in terms that will be into this process to clarify.

Q: Rep. Matheson – Is this electricity or transmission paid for?

A: Fewer than section 46 will pay transmission if it is under 100 kw. There is a distinction over 100 kw with by directional measuring If there is a draw by the customer; they will pay for transmission cost.

Q: Rep. Matheson – Will we be able to credit us other parts of the town or city?

A: Section 56 allows to credit different parts of the town or city departments

Q: Rep. Rappaport – Do you use demand metering now?

A: We do use demand metering.

Q: Rep. Rappaport – How does this work?

A: The demand is the highest usage steady flow will lower the demand flow.

Q: Rep. Read – Do other states use net metering?

A: I do not know, except ME, MA, VT use net metering.

Deb Hale and Tim Roughan, National Grid - This is a complex use of net metering. This is a complex contract on net metering. Is done in and by hand each day and by month. This continuing complex issue of net meeting is still done by hand. It is not done automatically. Section 7. We have no control of generation or distribution if the customers are generating. They will get full benefit of the net metering. We are supportive of this net metering.

Q: Chairwoman Kaen – Has the idea – the cap to limit the aggregate amount of different private?

A: We still need the peak loads.

Q: Rep. Garrity – The administrative expense is great. Are these legitimate costs to be put in rate case; is this overhead and will it be in the rate case?

A: Section 7 will allow this expense in rate case.

***Donna Gamache and Rick Labrecque, Public Service of NH** - Opposes bill. We support the federal tariff. We would look for a hybrid of net metering to federal in tariff. See written testimony. This is an examination of net metering up to 1 mgw and this will expense to other people and the small generator could benefit. If we could restrict the renewal credits, we could sell to 3rd party creating affordable supply.

Q: Rep. Borden – There are 25 states that have net metering and feed in tariff and we feel the fee in tariff will benefit small home owners. Federal tariff can be compared to net metering. Cost of service in federal in tariff. Senate bill public hearing will be scheduled.

Q: Rep. Cali-Pitts – Will there be more on the federal in tariff?

A: The public hearing on the fire is more than generation is more than they use. Unaware of the rates

Q: Rep. Matheson – What does this mean to state by state? One way to get waiver to get questions certification which allows cost rate by hour by hour usage.

Q: Rep. Garrity – Net capacity of 5% would the rate for electricity would go up?

A: If we were netting, this??? is zero. The PSHN loss of 5%, 95% of those would not get the benefit of those 95%

Cliff Below, NH Public Utilities Commission - Supports bill. Competitive suppliers, page 1, line 21. They would not be eligible providers. A provider will reduce line loss a small amount. If a group does this want to generate power, the suggestion to pay cash if they have generation power plant is a qualifying. FIRC will not get involved in kw or less; they do not want jurisdiction.

Q: Rep. Borden – Do you think of 5% net metering would be 5% cost to rate payer?

A: 1%-5% does not equal increase in sales. It does not be a 5% increase in value. It could be more benefit if it is produced at peak time uses.

Q: Rep. Borden – Could the cost be of these items be set by rules?

A: Yes, they could.

Q: Rep. Cali-Pitts – How does the hook up to line impact?

A: The book says at the end of bill, 6th of 1 meg ??? wall, it would cost and the generator would bear the cost and the distribution of transmission rates will be credit/cost to use of power. Page 3, line 2 is also accounted for now.

Q: Rep. Matheson – How big to be registration?

A: We don't register those producing power. You are producing wholesale power. You are not in the registration.

Q: Rep. Garrity – This should power not have REC's to have a bonus?

A: The cost to the utility gains the REC's are as the same credits, they should be the same

Eric Steltzer, NH Office of Energy and Planning - Supports bill. We support the CAP net metering and are in agreement with this bill. We hear that the constraint by the CAP to producers.

1 - Municipal on a net metering, we need a better specification of net metering

2 - There are a number of issues to federal in tariff to be blended well in this bill.

Becky Ohler, Dept. of Environmental Services - Supports this bill. If they set up

Q: Rep. Cali-Pitts – Do fossil fuel burners file?

A: Fossil fuel burning units do, to file with DES.

Q: Biomass in a home need permit?

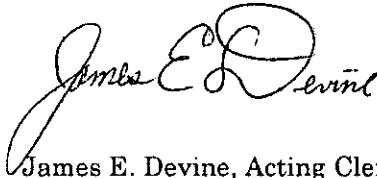
A: No, not in a home.

Q: Solar and wind are exempt?

A: Yes

Bob King, representing self - Supports bill. This is a benefit for people who aggregate their use with generation. We need to streamline the hand written statements in net metering.

Respectfully submitted:

A handwritten signature in cursive script that reads "James E. Devine". The signature is written in black ink and is positioned above the typed name.

James E. Devine, Acting Clerk

HOUSE COMMITTEE ON SCIENCE, TECHNOLOGY AND ENERGY

PUBLIC HEARING ON HB 1353

BILL TITLE: relative to group net energy metering.

DATE: 1-26-10

LOB ROOM: 304

Time Public Hearing Called to Order: 11 00

Time Adjourned: 12 56

(please circle if present)

Committee Members: Reps. Kaen, S. Harvey, Cali-Pitts, Borden, Friedrich, Levasseur, Lisle, Matheson, Pastor, Read, Townsend, Introne, J. Garrity, Devine, Tahir, Remick, Holden and Rappaport.

Bill Sponsors: Reps. S. Harvey, Pastor, Butcher, Townsend and Sens. Fuller Clark and Merrill

TESTIMONY

* Use asterisk if written testimony and/or amendments are submitted.

- *1 SPEAKER S. HARVEY
- 2 SPEAKER DONA HANSTON
- *3 SPEAKER ANN CAMALEY
- *4 SPEAKER JULE STOBY CLARKE
- 5th SPEAKER JULE SKARRITT
- 6 GEORGE GANTZ
- 7 Deb Hale / Tim ROUGHAN

HR 1353

1-26-10

1st speaker Rep. HARDY Seethand out
Knew th

Gravity Over 100 kw What about the
credit to the cost of trans Dist Delta
OR the Raw Power

A. Try to keep the power company whole
Rep. RAPPAPORT

We use money from methane
GASS to pay INTO the General Fund

CA 115

would this apply to industry
Ans YES

Bemick would this cost continue forever

Long
As long as we scoop jagged ✓
credit

2nd speaker DONNA HANSCOM city Keene
we produce the steam to produce electricity
Payback is 13 years and 50% of grant
To city of Keene From the state

The kilowatt we generate electricity we reduce
Pay back 30 to 40%

The excess capacity used to measure long term
Revenue they

1353 1-26-10

we could Reduce the use NATURAL GAS 3-5%
OF USE OF WATER.

we support this Amendment

RAPPAPORT

how does this benefit to Keen

A: the Benefit is a higher PAY CENTS OVER
2. FIVE 1 to 1 credit on excess power

And we get a higher percentages For revenue IN
the cost OFF credit

KAEN

we need

Ans Different way OF sorting out
they rebate

ANN CARNABY

support bill 1353

this will Facilitate the lesser ^{amount} green
house gases

this Allows 3 Types OF Technologies
at this time is not ~~an~~ economically Feasible
at this time @ house 1353 will help to
get this economically Feasible Posterny net-metering
will reduce the use OF Fossil Fuels

N. KAEN

A NON PAID volunteer

4 speaker 1353 1-26-10
 Toby Clarke Goss INT
 Hand out
 No questions

4th speaker
 Julie Skarritt
 Retail Merchants Ass

5 Toby Clarke Hand out
 No questions

6 George Gantz UNIT 1.

We would like to see more coordination of these credits and how it is worked out in the long run we see in net metering. To see how this is implemented there is a detailed accounting on an hourly basis and this is a complicated process as we use an energy settlement process. Agreement between 3rd Party is very complicated problem. This is an area of con.

Section 56
 section 6. CASHOUT we need time to work out the problems in this part of the bill and how it will work out

there is a senate bill in Fed in tariffs this is a method that will clarify in terms who will be into this PASSER To clarify

REP MATHEWSON

Is there electricity OR TRANSMITTE
payed for?

ANS. Under 46 will pay TRANSMISSION IF
it is under 100 Kw there is a distinction over 100 Kw
with by directional measuring IF there is a draw
by the customer will pay for TRANSMISSION COST

MAHEWSON

Will we be able to credit to
other parts of the town or city

ANS section 56 allows to credit
different parts of the ~~the~~ town or city departments

RAPPAPORT

Do you demand metering used by you

ANS we do use demand metering

RAPPAPORT

how does this work

RAPPAPORT

The Demand is at the highest usage
steady out flow will low the demand flow

HIB 1353
Reed

1-26/10

Dooher state vs net metering

Ans I do not know except Mr MA NT

2 speaker

Deb Hale / Tim Roughton
National Grid

Tim This is a complex use of net metering
this is a complex contract on net metering
is done in and by hand each day and by month
this continuing complex issue of net metering is still
done by hand. It is not done by automatic
SECTION 7

We have no control of generation or distribution
if the cosustomer are generating they will get full benefit
of the net metering.

We are supportive of this net metering

Kaen has the idea the cap ~~to~~ to limit the aggregate
~~amount of~~ different private

Ans we still need the peak loads

Rep Garity the administration expense is great
are these biggest cost to be put in rate
case is this ~~overhead~~ overhead

And it will be in the rate case
Sect 7 will allow this expense in rate case

HB 1353

1-26-10

8 SPEAKER

DONNA GAMACHE / RICH LABREGUE RPH
OPPOSE THE BILL

WE SUPPORT Fed IN ~~EXISTING TARIFF~~ ^{TARIFF TARIFF}

~~Part~~ We would look for a hybrid OF Net metering
TO Fed IN TARIFF. written testimony

THIS IS AN EXAMPLE OF Net metering up to 1 MW
AND THIS WILL EXPANSE TO OTHER PEOPLE AND THE SMALL
GENERATOR COULD BENEFIT

IF WE WOULD RESTRICT THE RENEWABLE CREDITS COULD SELL TO THIRD PARTY
CREATING ADDITIONAL SUPPLY

Bowden

WE ARE 25 STATES HAVE NET METERING
AND ~~THE~~ Fed IN TARIFF

and

WE ~~FEEL~~ FEEL THE Fed IN TARIFF WILL BENEFIT
SMALL HOME OWNERS

Fed IN TARIFF CAN BE COMPARED TO THE NET METERING

COST OF SERVICE IN Fed IN TARIFF

SB PUBLIC HEARING WILL BE IN SCHEDULED

Cal. Pitts

WILL BE MORE ON THE Fed IN TARIFF

ANS THE PUBLIC HEARING ON THE FIRE IS MORE THAN
GENERATION IS MORE THAN THE USE

HB 1353

1-26-10

WHO AWARE OF THE RATES

MATHERSON

What does this mean to the state
by state

Ans one way to get waiver to get
QS certification which allow cost rate
by hour by hour usage

Baroily

Peak capacity of 5% would
the rate for electricity would cost go up

Ans if we netting this is zero
the PSNH loss of 5% 95% of those customers
would not get the benefit to those 95%

9th speaker

Giff Below

WHPUC

we support the bill

~~the~~ Competitive suppliers

Page 1 line 21

the ~~cost~~ would not be eligible providers.
Line Loss a small amount

Producers will reduce

if a group does this want to generate power the suggestion to pay cash
if they have a generation power plant that is qualifying

Price will not get involved in this or lost they do not want jurisdiction

Bordan

do you think of 5% net metering would
be 5% cost to rate payer

Ans is 1% - 5% does not equate in usage in sales

HB 1353

1-26-10

it does not be a 5% increase in value
it could be more benefit if it is produced at peak time uses

Borden could the cost be of these items be set by rules

ANN ROSS Yes they could

CALLI PITTS how does the hook up to have impact

ANS The hook says at the end of Bill but times will
it would cost and the generator would bear the cost
and the Distortion of Transmission rates will be credit/cost
to use of power

Page 3 line 2 is also accounted for well

REP MATHIASO how Big To be Registration

CLIFF BELOW ANS we do not register to produce power
you have not producing ~~the~~ wholesale power
you are NOT in the registration

REP GARRITY

this should not have Rex's to have A BONIS ✓

ANS the cost to the utility gains the Rex's are as the same
credits should be the same

HB 1353

1-26-10

10 Eric Stelter

Support of Bill

We support the cap net metering and are ~~not~~ agree to this Bill
We hear that the constraint by the cap to producers
1 municipal on a net ~~metering~~ metering we need a better
specification of net metering

2 there are a number issues to Fed interest to be
blended well this H.B

11 Becky Ohler

support this bill

if they set up

call P.T.Ts

?



Ans Fossil fuel burning units is to file DES

call P.T.Ts

Biomass on home need permit

No, not in home

Solar & wind are exempt

Yes

1353

1-26-10

11 speaker

Bob KING

Self

This is a benefit for people who aggregate their
wise with the generation.

We need to stream live the hand written statements in net
Meeting

close hearing 1256

Feb 4 @ 10 Am Full committee hearing

Sub-Committee Minutes

HOUSE COMMITTEE ON SCIENCE, TECHNOLOGY AND ENERGY

SUBCOMMITTEE WORK SESSION ON HB 1353

BILL TITLE: relative to group net energy metering.relative to permitting existing hydroelectric plants to receive grants from the renewable energy fund for installing upgrades.

DATE: 2-4-10

Subcommittee Members: Reps.

Comments and Recommendations:

Amendments:

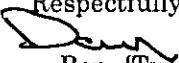
Sponsor: Rep.	OLS Document #:
Sponsor: Rep.	OLS Document #:
Sponsor: Rep.	OLS Document #:

Motions: OTP, OTP/A, ITL, Retained (Please circle one.)

Moved by Rep.
Seconded by Rep.
Vote:

Motions: OTP, OTP/A, ITL, Retained (Please circle one.)

Moved by Rep.
Seconded by Rep.
Vote:

Respectfully submitted,

Rep. {Type NAME}
Subcommittee Chairman/Clerk

10 AM
9 Feb 2010

Stakeholder session
1 pm 5 Feb. 2010.

HOUSE COMMITTEE ON SCIENCE, TECHNOLOGY AND ENERGY

SUBCOMMITTEE WORK SESSION ON HB 1353

BILL TITLE: relative to group net energy metering.

DATE: 2-9-10

Subcommittee Members: Reps.

Comments and Recommendations:

Amendments:

Sponsor: Rep.

OLS Document #:

Sponsor: Rep.

OLS Document #:

Sponsor: Rep.

OLS Document #:

Motions: OTP, OTP/A, ITL, Retained (Please circle one.)

Moved by Rep.

Seconded by Rep.

Vote:

Motions: OTP, OTP/A, ITL, Retained (Please circle one.)

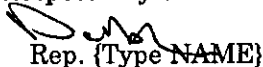
Moved by Rep.

Seconded by Rep.

Vote:

re w/n.
1 pm
thursday
11 1/2

Respectfully submitted,


Rep. {Type NAME}

Subcommittee Chairman/Clerk

HOUSE COMMITTEE ON SCIENCE, TECHNOLOGY AND ENERGY

SUBCOMMITTEE WORK SESSION ON HB 1353

BILL TITLE: relative to group net energy metering.

DATE: 2-11-10

Subcommittee Members: Reps.

Comments and Recommendations:

Amendments:

Sponsor: Rep.	OLS Document #:
Sponsor: Rep.	OLS Document #:
Sponsor: Rep.	OLS Document #:

Motions: OTP, OTP/A, ITL, Retained (Please circle one.)

Moved by Rep.
Seconded by Rep.
Vote:

Motions: OTP, OTP/A, ITL, Retained (Please circle one.)

Moved by Rep.
Seconded by Rep.
Vote:

*Unanimous
Support*

*Rep. Harvey
will prepare
amendment*

Respectfully submitted,


Rep. {Type NAME}

Subcommittee Chairman/Clerk

OK - Jim

Testimony

HB 1353**Rep. Suzanne Harvey**

Amendment 2010-0266h replaces all of the bill after section 1.

This bill has been the subject of 2 stakeholder meetings and many discussions and suggestions. My intent was to: have interested parties weigh in; let this committee properly vet the contents; end up with an initiative that could benefit municipalities, businesses, and residents of the Granite State; and increase the installation of renewable energy systems here, while minimizing the burden to electric utilities that comes with any new program.

Among the remaining questions are the numbers in the amendment. I leave it to the wisdom of the committee to determine the policy appropriate for New Hampshire.

A brief description of current net metering in NH (362-A:9):

A customer-owned and -operated small-scale renewable energy system is connected to the grid, and the power generated by the system (measured by the meter) is credited to the owner's energy use. The credit accumulates from month to month as long as the customer-generator uses less energy than is generated. The cost of any power used beyond what is generated on a monthly basis is billed to the customer.

The major benefits:

- More renewable energy is used in the state.
- Customer-generators can claim they are powered in full or in part by renewable energy.
- Our dependence on fossil fuels decreases.

What are the new highlights in HB 1353?

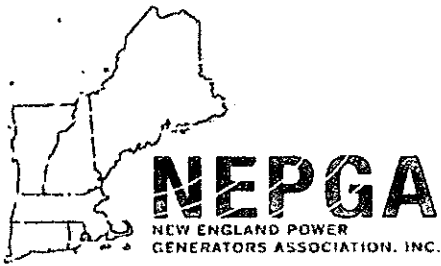
- Customer-generators can own OR operate the system.
- The system, capped at 100 kW in current law, can be up to 2 MW.
- The program is capped, on a first-come, first-served basis, at 5% of the annual peak energy demand distributed by each utility.
- For a system >100 kW, the customer pays full transmission and distribution charges on all kW hrs supplied to the customer from the grid.
- The customer-generator can choose to be paid (at least annually), rather than credited, by their electric distribution utility, for the excess energy sent to the grid.
- A customer-generator can identify other "accounts" (eg, buildings) to which the energy produced should be credited; hence, "group" net metering.

--Energy produced in this program is eligible for renewable energy certificates (RECs) and remains the property of the customer-generator until they are sold or transferred.

--The PUC shall adopt rules for the program as specified in the amendment.

1st speaker 1-26-0

Angela O'Connor, President
141 Tremont Street
Boston, MA 02111
617/835-3150 aocconnor@nepga.org
www.nepga.org



Fact Sheet No. 2:

How the Electricity Market Works

What is the difference between wholesale and retail electricity suppliers?

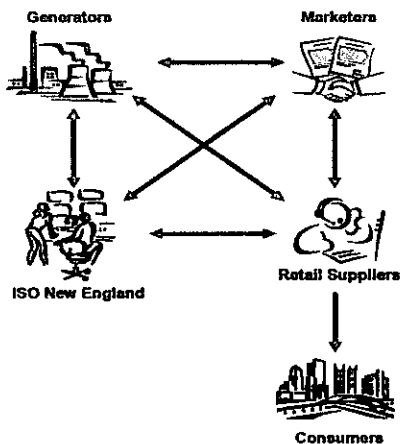
Retail electricity suppliers, who sell to end-use customers, buy their power on the wholesale market. Retail suppliers can buy electricity days, weeks, months, or years in advance from a wholesale supplier, or they can wait to buy it on the spot market on the day it is needed. Some retail suppliers are also wholesale suppliers, but most are not both. The transmission and distribution utilities still sell retail electricity to most of the customers in New England, because competitive retail suppliers have found it difficult to enter the market.

Wholesale electricity suppliers sell electricity in advance that they buy from other wholesale supplier or that they plan to generate. They can also wait to sell electricity (that they generate or buy from other suppliers) on the spot market the day it is needed. Most wholesale suppliers do not sell directly to retail customers. Some wholesale suppliers do not own generators, but simply buy and sell on the market.

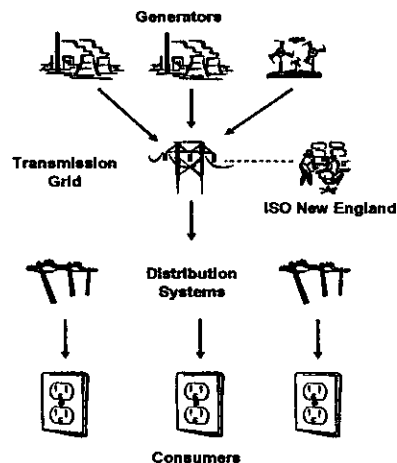
Transmission and distribution companies own the wires that carry electricity around the region, to all but the largest end-use customers, and provide delivery services. Transmission and distribution companies act as retail suppliers for customers who have not chosen a competitive retail supplier, and still deliver electricity to all but the largest customers, whether a customer has chosen a competitive supplier or not.

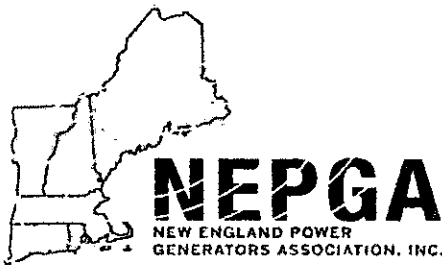
Finally, ISO New England, a non-profit corporation, runs the spot market and transmission system. The accompanying figure compares the flow of financial transactions among market participants with the physical flow of power on the grid.

Power Market Transactions



Physical Power Flow





How do utilities and retail suppliers acquire their electricity supplies in the wholesale market?

Retail electricity suppliers in New England purchase roughly 80% of their energy requirements in advance through financial contracts with other market participants such as generators and marketers.¹ These contracts can last days, weeks, months, or years, and are much like the contracts used by a homeowner to purchase heating oil at a fixed price for a year — by locking in a price in advance, the buyer can avoid exposure to volatile spot market prices, and therefore lessens financial risk.

Wholesale contracts are often for fixed quantities, and the retail supplier will not be able to forecast perfectly the quantities of power its customers will consume in each hour. To the extent a retail supplier has not covered its requirements with contracts, it will acquire the remainder on the spot market operated by ISO New England, and pay the hourly spot price for these purchases. Likewise, if a supplier has contracted for more than its customers end up using, it will sell the excess on the spot market.

How are spot prices for electricity determined?

Generators submit offers to the spot market, and ISO New England schedules those generators — in order of price, from least expensive to most expensive — to meet demand. The spot price fluctuates throughout the day depending on system conditions and the level of demand.

The spot price can also vary by location due to system congestion and transmission losses. At a given location, all electricity delivered at a given time has the same price, and that price is set by the most expensive generator running that can serve that location.

When demand is low, power costs less because the most expensive generators are not needed. When demand is high, such as during a hot summer day, those generators are needed and they set the price.

Why is the restructured electricity market an improvement over the old vertically-integrated market structure in which each utility company generated the power and delivered it?

The old vertically-integrated structure had a number of weaknesses. The most significant weakness was that investments in new generators were centrally-planned. So, when bad investments were made, ratepayers footed the bill. Now, in the restructured market, those investments are made by market participants in response to market conditions. Now because project developers are at risk instead of ratepayers, investments are made more efficiently, and ratepayers save money too.

¹ Calculated using 2004 data from *Annual Markets Report 2004*, ISO New England, Tables 11 and 12. [http://www.iso-ne.com/markets/mkt_anlys_rpts/annl_mkt_rpts/2004/2004_annual_markets_report .pdf](http://www.iso-ne.com/markets/mkt_anlys_rpts/annl_mkt_rpts/2004/2004_annual_markets_report.pdf)

for HB 1353

TITLE XXXIV PUBLIC UTILITIES

Current Law

CHAPTER 362-A LIMITED ELECTRICAL ENERGY PRODUCERS ACT

Section 362-A:9

362-A:9 Net Energy Metering. –

I. A standard contract or tariff providing for net energy metering shall be developed and made available to eligible customer-generators by each electric distribution utility within 90 days of the start of retail choice of electric suppliers, or within 90 days of the final approval of net metering regulations issued by the commission, whichever comes first. Such tariffs or contracts shall be available on a first-come, first-served basis within each electric utility service area under the jurisdiction of the commission until such time as the total rated generating capacity owned and operated by eligible customer-generators totals one percent of the annual peak energy demand distributed by each such utility as determined by the commission from time to time.

II. Net energy metering shall be accomplished using a single meter capable of registering the flow of electricity in two directions. However, an additional meter or meters to monitor the flow of electricity in each direction may be installed, provided that it is not at the expense of the customer-generator unless requested by the customer-generator, and provided that such metering shall be used only to provide the information necessary to accurately bill the customer-generator pursuant to the provisions of this section, or for research purposes. If an additional meter or meters are installed, the net energy metering calculation shall yield the same result as when a single meter is used. The net energy metering calculation shall be made by taking the difference between the electricity supplied over the electric distribution system and the electricity generated by the eligible customer-generator and fed back into the electric distribution system over the billing period.

III. Each net energy metering contract or tariff offered by an electric distribution utility shall be identical, with respect to rates, rate structure, and periodic charges, to the contract or tariff to which the same customer would be assigned if such customer was not an eligible customer-generator. Electricity suppliers may voluntarily determine the terms, conditions, and prices under which they will agree to provide generation supply to and purchase net generation output from eligible customer-generators; however, electricity suppliers who provide default service or transition service to such a customer shall only bill for the net energy supplied as calculated in accordance with this section.

IV. The following rules shall apply to net energy measurement:

(a) The net energy produced or consumed on a monthly basis shall be measured in accordance with normal metering practices.

(b) Where the electricity supplied to the customer-generator over the electric distribution system exceeds the electricity generated by the customer-generator during the billing period, the customer-generator shall be billed based on the net energy supplied for distribution services and other charges in accordance with this section and standard applicable rates.

(c) Where the electricity generated by the customer-generator exceeds the electricity supplied by the electric grid, the customer-generator shall be credited over subsequent billing periods for the excess kilowatt hours generated in accordance with this section.

V. The commission shall adopt rules, pursuant to RSA 541-A, to establish reasonable interconnection requirements for safety, reliability, and power quality as it determines the public interest requires. Such rules shall not exceed applicable test standards of the American National Standards Institute (ANSI) or Underwriters Laboratory (UL).

VI. The commission, by order, may waive any of the limitations set forth in this chapter for targeted net energy metering arrangements that are part of a utility strategy to minimize distribution costs.

VII. Once the commission has established standards for equipment used by eligible customer-generators, electric distribution utilities shall not require any additional standards or testing for transmission equipment as a condition of net energy metering.

Source. 1998, 261:10. 2000, 148:1, 2. 2007, 174:2-4, eff. Aug. 17, 2007.

1st SPEAKER 3RD SPEAKER

RESPONSE TO HB 1353 January 26, 2010

Submitted by Ann Carnaby, chair of the Hampton Energy Committee

In favor of House Bill 1353

info @ hampton energy. org

This proposed legislation is important to the future of the environment by aggressively stimulating the use of non-fossil fuels by interested and committed parties, and will, in our estimation, facilitate the development of alternative energy projects throughout the state.

This bill is particularly important to the citizens of Hampton, since the Hampton Energy Committee has, through the Rockingham Planning Commission, conducted a study* to determine the economic and technical feasibility of installing an alternative, non-fossil fuel powered generating system to power the wastewater treatment facility for the town, instead of the current expenditure of more than \$300,000 per year for electric power through the utility.

The study is complete, and the relevant conclusions are as follows:

- it is technically feasible to install 3 renewable energy alternatives - solar PV, wind, & landfill gas to energy.
- an economic analysis suggests that while each technology can produce a significant percentage of the site's electricity needs, yet none could do so in an economically attractive manner at this time.
- the major reasons for the poor economic merits of any of these technologies lie in the "absence of favorable large scale net metering regulations in NH... and the absence of significant subsidies and incentives supporting municipal renewable energy development in NH."

The Energy Committee was encouraged by the engineering firm conducting the study to monitor any net metering legislation being proposed, in the hopes that its passage would create a more favorable climate to allow this project to move forward. HB 1353 will go a long way to providing that climate.

Of particular significance:

- increasing the maximum system capacity from 100kw to 2mw
- raising the maximum permitted amount of electricity generated from 1% of total electric generation to 5%
- requiring electric utilities to purchase excess electricity produced, not just issuing a credit.

Fostering net metering will unleash the competitive spirit of current utility customers resulting in innovative applications of existing and new generating technologies while simultaneously reducing costs to municipalities and critical businesses in NH.

Net metering allows reliance on the utility to provide consistency, while fostering a spirit of cooperation in an effort to reduce the use of fossil fuels while providing an adequate amount of electric power to meet the increasing demands of today's society

* study conducted by Weston & Sampson, environmental / infrastructure consultants. Entire report is available at the Land Memorial Library, Hampton, NH

4th speaker

January 26, 2010

Public Hearing HB 1353
New Hampshire Science, Technology and Energy Committee
Concord, NH
Testimony of Toby Clarke

Good morning. Thank you for having this public hearing discussing this important legislation and providing me the opportunity to share my thoughts regarding how it will best help the people of New Hampshire and the environment we all share. My name is Toby Clarke and I live in Durham. After graduating from UNH electrical engineering and working around the world I am currently Vice President of Goss International also located in Durham. For those of you not familiar with Goss, we have been manufacturing in New Hampshire for over 120 years and we design, sell, manufacture, and install precision electro mechanical capital equipment at customer sites worldwide for the printing industry and most recently we are using this expertise to manufacture nacelles for mid scale wind turbines.

The wind turbines we produce are currently 225kw and 750 kw designs in cooperation with Aeronautica Windpower based in Plymouth, MA. These models have been flying in Europe for over 15 years and we are excited to manufacture and make them available in the United States from New Hampshire based manufacturing. These size units are perfectly suited for renewable distributed power production over an existing electrical grid. Exactly the intention of the expanded net metering legislation we are here to discuss today.

To really make a difference with renewable energy it is necessary to generate it locally supported by being able:

1. To have a reliable and predictable net energy metering law to allow for the necessary project financial planning.
2. To ensure there is sufficient headroom in the law so that the net metering does not cap out too soon. Projects take varying amounts of time to plan, permit, budget and bring on line and it would become a real deterrent to initiating appropriate projects if some got successfully through most of the process and then stopped because of a low cap. Perhaps the cap should be a range rather than fixed percentage so that projects in process may be completed.
3. To group individual entity power demands together to achieve significant enough size to allow for the group to invest the capital required to install an efficiently sized renewable power source in an optimum location whether this be wind, photovoltaic, or another source still being invented.

With all of these in mind we support this legislation.

If I may, I would like to make one suggestion based on the reality of how renewable energy resources currently work. In section 3.I the proposed legislation currently reads:

“...until such time as the **total rated** generating capacity owned and operated by eligible customer-generators totals 5 percent”

Renewable power generation sources only produce rated capacity part of the time under certain environmental conditions. The rated power of photovoltaic is not meaningful at night or from a wind turbine when the wind is not blowing at a high enough speed. Therefore it might be better if this section read something like this:

“...until such time as the **average annual** power generated by eligible customer-generators totals X percent...”

In this way we all are actually obtaining the renewable energy that we want and need. I believe this annual average measurement is easily calculated from the actual net metering achieved. I am not sure why we are limiting the cap to 5 % and not say 10% but leave that to people more expert than me in this field.

Thank you for your time and attention. I look forward to welcoming you to our facility in Durham to see New Hampshire manufacturing actively involved in leading the way in renewable energy production.

Submitted by Ann Carnaby, chair of the Hampton Energy Committee

info@hamptonenergy.org

In favor of House Bill 1353

This proposed legislation is important to the future of the environment by aggressively stimulating the use of non-fossil fuels by interested and committed parties, and will, in our estimation, facilitate the development of alternative energy projects throughout the state.

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- an economic analysis suggests that while each technology can produce a significant percentage of the site's electricity needs, yet none could do so in an economically attractive manner at this time.
- the major reasons for the poor economic merits of any of these technologies lie in the "absence of favorable large scale net metering regulations in NH... and the absence of significant subsidies and incentives supporting municipal renewable energy development in NH."

The Energy Committee was encouraged by the engineering firm conducting the study to monitor any net metering legislation being proposed, in the hopes that its passage would create a more favorable climate to allow this project to move forward. HB 1353 will go a long way to providing that climate.

Of particular significance:

- increasing the maximum system capacity from 100kw to 2mw
- raising the maximum permitted amount of electricity generated from 1% of total electric generation to 5%
- requiring electric utilities to purchase excess electricity produced, not just issuing a credit.

Fostering net metering will unleash the competitive spirit of current utility customers resulting in innovative applications of existing and new generating technologies while simultaneously reducing costs to municipalities and critical businesses in NH.

Net metering allows reliance on the utility to provide consistency, while fostering a spirit of cooperation in an effort to reduce the use of fossil fuels while providing an adequate amount of electric power to meet the increasing demands of today's society

* study conducted by Weston & Sampson, environmental / infrastructure consultants. Entire report is available at the Land Memorial Library, Hampton, NH

1 | 2/8/10 Amendment to HB 1353 OPTION #1 (no credit to other accounts – mandated avoided cost
2 | payment for net surplus)

3 |
4 | Amend the bill by replacing all after section 1 with the following:

5 |
6 | 2 Definitions. Amend RSA 362-A:1-a, II-b to read as follows:

7 | II-b. "Eligible customer-generator" or "customer-generator" means an electric utility customer
8 | who owns [and] or operates an electrical generating [~~facilities~~] facility or facilities powered by renewable
9 | energy with an aggregate total peak generating capacity of not more than [~~100 kilowatts~~] 100 kilowatts, or
10 | that first begins operation after July 1, 2010 and has a total peak generating capacity of 100 kilowatts or
11 | more up to 2.121 megawatts, that is located behind a retail meter on the customer's premises, is
12 | interconnected and operates in parallel with the electric grid, and is [intended primarily] used in the first
13 | instance to offset part or all of the customer's own electricity requirements.

14 |
15 | 3 Net Energy Metering. RSA 362-A:9 is repealed and reenacted to read as follows:

16 | 362-A:9 Net Energy Metering.

17 | I. A standard tariff providing for net energy metering shall be made available to eligible
18 | customer-generators by each electric distribution utility in conformance with net metering rules adopted
19 | and orders issued by the commission. Each net energy metering tariff shall be identical, with respect to
20 | rates, rate structure, and charges, to the tariff under which a customer-generator would otherwise take
21 | generation supply service from the distribution utility, by choice or default. Such tariffs shall be available
22 | on a first-come, first-served basis within each electric utility service area under the jurisdiction of the
23 | commission until such time as the total rated generating capacity owned or operated by eligible customer-
24 | generators totals a number equal to 50 megawatts percent multiplied by each such utility's percentage
25 | share of the total 2010 annual coincident peak energy demand distributed by all such utilities as
26 | determined by the commission from time to time.

27 | II. Competitive electricity suppliers registered under RSA 374-F:7 may determine the terms,
28 | conditions, and prices under which they agree to provide generation supply to and purchase net generation
29 | output from eligible customer-generators.

30 | III. Metering shall be done in accordance with normal metering practices. A single net meter
31 | that shows the customer's net energy usage by measuring both the inflow and outflow of electricity
32 | internally shall be the extent of metering that is required at facilities with a total peak generating capacity
33 | of not more than 100 kilowatts. A bi-directional metering system that records the total amount of
34 | electricity that flows in each direction from the customer premises, either instantaneously or over
35 | intervals of an hour or less, shall be required at facilities with a total peak generating capacity of more
36 | than 100 kilowatts. Customer-generators shall not be required to pay for the installation of net meters, but
37 | shall pay for the installation of all bi-directional metering systems as outlined in utility interconnection
38 | tariffs or rules.

39 | IV.(a) ~~Except as provided in subparagraph (b),~~ For facilities with a total peak generating capacity
40 | of not more than 100 kilowatts, when billing a customer-generator under a net energy metering tariff that
41 | is not time-based, the utility shall apply the customer's net energy usage when calculating all charges that
42 | are based on kilowatt hour usage. Customer net energy usage shall equal the kilowatt hours supplied to
43 | the customer over the electric distribution system minus the kilowatt hours generated by the customer-
44 | generator and fed into the electric distribution system over a billing period.

45 | (b) For facilities with a total peak generating capacity of more than 100 kilowatts, the
46 | customer-generator shall pay ~~full transmission, and distribution, and other all applicable~~ charges on all
47 | kilowatt hours supplied to the customer over the electric distribution system, ~~except for~~ less a credit on
48 | default service charges equal to the metered energy generated by the customer-generator and fed into the
49 | electric distribution system over a billing period. In addition, to the extent that such surplus generation is
50 | reasonably determined to reduce wholesale transmission charges to the distribution utility from what they
51 | would otherwise be, the commission may authorize an additional credit up to the amount of the retail

52 transmission rate for such surplus generation.

53 V. When a customer-generator's net energy usage is negative (more electricity is fed into the
54 distribution system than is received) over a billing period, the excess kilowatt hours generated shall be
55 credited, as determined by the customer-generator, such surplus shall either:

56 (a) Be credited To the customer-generator's account on a 1:1 basis for use in subsequent
57 billing cycles as a credit against the customer's net energy usage in a manner consistent with either IV (a)
58 or (b) above, as applicable; or

59 (b) The customer-generator may elect to be paid or credited by the electric distribution utility
60 for their excess generation at rates that are equal to the utility's avoided costs for energy and capacity to
61 provide default service rate as determined by the commission consistent with federal PURPA
62 requirements. Such payment rates may also include payment for avoided transmission charges to the
63 extent that such excess generation is reasonably determined to reduce wholesale transmission charges
64 from what they would otherwise be. The commission shall determine reasonable conditions for such an
65 election, including the frequency of payment and the frequency that a customer-generator may choose this
66 option versus the option in paragraph (a) above.

67
68 VII. A distribution utility may perform an annual calculation to determine the net effect this
69 section had on its default service generation, [transmission,] and distribution revenues and expenses in
70 the prior calendar year. The utility shall collect either additional or reduced revenues from its customer
71 base equal in amount to the net effect calculated. The method of performing the calculation and applying
72 the results, as well as a reconciliation mechanism to collect or credit any such net effects with appropriate
73 carrying charges and credits applied, shall be determined by the commission.

74 VIII. Notwithstanding other provisions of this section, the commission may establish, on a
75 utility-specific or generic basis, a methodology by which customer-generators shall be provided service
76 under time-based, net energy metering tariffs. The methodology shall specify how a customer's energy
77 usage and generation shall be metered, how net energy usage shall be calculated and bill any applicable
78 charges applied assessed, how excess generation shall be credited, and under what terms customer-
79 generators may sell excess generation to other retail customers or their electric distribution utilities,
80 consistent with other requirements of state and federal law.

81 IX. Renewable energy credits shall remain the property of the customer-generator until such
82 credits are sold or transferred. If an electric distribution utility acquires renewable energy credits from a
83 customer-generator in conjunction with purchasing excess generation, it may apply such generation and
84 credits to its renewable energy source default service option under RSA 374-F:3, V(f).

85 X. The commission shall adopt rules, pursuant to RSA 541-A, to:

86 (a) Establish reasonable interconnection requirements for safety, reliability, and power
87 quality as it determines the public interest requires. Such rules shall not exceed applicable test standards
88 of the American National Standards Institute (ANSI) or Underwriters Laboratory (UL); and

89 (b) Implement the provisions of this section.

90 XI. The commission may by order, after notice and hearing:

91 (a) Waive any of the limitations set forth in this chapter for targeted net energy metering
92 arrangements that are part of a utility strategy to minimize distribution or other costs; and

93 (b) Implement any utility-specific provisions authorized under this section.

94 XII. Once the commission has established standards for equipment used by eligible customer-
95 generators, electric distribution utilities shall not require any additional standards or testing for
96 transmission equipment as a condition of net energy metering.

97 XIII. Customer-generators shall be responsible for all costs associated with interconnection with
98 the distribution system.

99
100 4 Amend RSA 674:62, I, Small Wind Energy Systems, Definitions, to read as follows:

101 I. "Small wind energy system" means a wind energy conversion system consisting of a wind
102 turbine, a tower, and associated control or conversion electronics, which has a rated capacity of not more

103 ~~than 100 kilowatt~~ consistent with the net metering specifications of RSA 362-A:9 and which will be used
104 ~~primarily in the first instance~~ for onsite consumption.

105
106 5 Effective Date. This act shall take effect 60 days after its passage.
107

108
109 For a good summary of the State-Federal jurisdictional issues involved in any mandated vs.
110 voluntary utility purchases of generation output (considered a wholesale purchase for resale) vs. retail
111 sales of generation, please see:
112

113 Renewable Energy Prices in State-Level Feed-in Tariffs: Federal Law
114 Constraints & Possible Solutions, January, 2010 at:
115 http://nrri.org/pubs/electricity/NRRI-NREL_renew_energy_prices_jan10.pdf

1 2/8/10 Amendment to HB 1353 **OPTION #2** (Credit to other accounts allowed with utility option to
2 purchase net surplus at full default service price)

3
4 Amend the bill by replacing all after section 1 with the following:

5
6 2 Definitions. Amend RSA 362-A:1-a, II-b to read as follows:

7 II-b. "Eligible customer-generator" or "customer-generator" means an electric utility customer
8 who owns [and] or operates an electrical generating [~~facilities~~] facility or facilities powered by renewable
9 energy with an aggregate total peak generating capacity of not more than [~~100 kilowatts~~] 100 kilowatts, or
10 that first begins operation after July 1, 2010 and has a total peak generating capacity of 100 kilowatts or
11 more up to 2.12 megawatts that is located behind a retail meter on the customer's premises, is
12 interconnected and operates in parallel with the electric grid, and is [intended primarily] used in the first
13 instance to offset {part or all of} the customer's own electricity requirements.

14
15 3 Net Energy Metering. RSA 362-A:9 is repealed and reenacted to read as follows:

16 362-A:9 Net Energy Metering.

17 I. A standard tariff providing for net energy metering shall be made available to eligible
18 customer-generators by each electric distribution utility in conformance with net metering rules adopted
19 and orders issued by the commission. Each net energy metering tariff shall be identical, with respect to
20 rates, rate structure, and charges, to the tariff under which a customer-generator would otherwise take
21 generation supply service from the distribution utility, by choice or default. Such tariffs shall be available
22 on a first-come, first-served basis within each electric utility service area under the jurisdiction of the
23 commission until such time as the total rated generating capacity owned or operated by eligible customer-
24 generators totals a number equal to 50 megawatts percent multiplied by each such utility's percentage
25 share of the total 2010 annual coincident peak energy demand distributed by all each such utilities as
26 determined by the commission ~~from time to time~~.

27 II. Competitive electricity suppliers registered under RSA 374-F:7 may determine the terms,
28 conditions, and prices under which they agree to provide generation supply to and purchase net generation
29 output from eligible customer-generators.

30 III. Metering shall be done in accordance with normal metering practices. A single net meter
31 that shows the customer's net energy usage by measuring both the inflow and outflow of electricity
32 internally shall be the extent of metering that is required at facilities with a total peak generating capacity
33 of not more than 100 kilowatts. A bi-directional metering system that records the total amount of
34 electricity that flows in each direction from the customer premises, either instantaneously or over
35 intervals of an hour or less, shall be required at facilities with a total peak generating capacity of more
36 than 100 kilowatts. Customer-generators shall not be required to pay for the installation of net meters, but
37 shall pay for the installation of all bi-directional metering systems as outlined in utility interconnection
38 tariffs or rules.

39 IV.(a) ~~Except as provided in subparagraph (b),~~ For facilities with a total peak generating capacity
40 of not more than 100 kilowatts, when billing a customer-generator under a net energy metering tariff that
41 is not time-based, the utility shall apply the customer's net energy usage when calculating all charges that
42 are based on kilowatt hour usage. Customer net energy usage shall equal the kilowatt hours supplied to
43 the customer over the electric distribution system minus the kilowatt hours generated by the customer-
44 generator and fed into the electric distribution system over a billing period.

45 (b) For facilities with a total peak generating capacity of more than 100 kilowatts, the
46 customer-generator shall pay ~~full transmission, and distribution, and other all applicable~~ charges on all
47 kilowatt hours supplied to the customer over the electric distribution system, ~~except for~~ less a credit on
48 default service charges equal to the metered energy generated by the customer-generator and fed into the
49 electric distribution system over a billing period. In addition, to the extent that such surplus generation is
50 reasonably determined to reduce wholesale transmission charges to the distribution utility from what they
51 would otherwise be, the commission may authorize an additional credit up to the amount of the retail

52 transmission rate for such surplus generation.

53 V. When a customer-generator's net energy usage is negative (more electricity is fed into the
54 distribution system than is received) over a billing period, the excess kilowatt-hours generated shall be
55 credited, as determined by the customer-generator, such surplus shall either:

56 (a) Be credited To the customer-generator's account on a 1:1 basis for use in subsequent
57 billing cycles as a credit against the customer's net energy usage in a manner consistent with either IV (a)
58 or (b) above, as applicable; or

59 (b) At the election of the customer-generator such surplus may be sold or credited by the
60 customer-generator to other retail accounts served by the same electric distribution utility at the applicable
61 default service rate of such other accounts, as specified by the customer-generator. Such accounts may be
62 held by the customer-generator or, if practicable, others. The commission shall, on a utility-specific or
63 generic basis, determine the circumstances and the extent to which this option shall be made available, the
64 amount of crediting that shall be allowed other terms and conditions, and the compensation, if any, that
65 the customer-generator shall afford the electric distribution utility to facilitate this transaction option. To
66 the extent that such surplus generation is reasonably determined to reduce wholesale transmission charges
67 to the distribution utility from what they would otherwise be, the commission may authorize an additional
68 credit up to the amount of the retail transmission rate for such surplus generation to either the customer-
69 generator or the recipients account.

70
71 VI. In lieu of the options in paragraph V, the electric distribution utility providing default service
72 to the customer-generator may elect, on a generic or customer specific basis, by notification to the
73 commission, to purchase or credit such surplus excess generation from the customer-generators at rates
74 that are not less than 90 percent of the generation supply component of their applicable default service
75 rate, provided that payment is issued at least as often as whenever the value of such credit, in excess of
76 amount owed by the customer-generator, exceeds \$50 as determined by the commission. In addition, to
77 the extent that such surplus generation is reasonably determined to reduce wholesale transmission charges
78 to the distribution utility from what they would otherwise be, the commission may authorize an additional
79 credit to the customer-generator up to the amount of the retail transmission rate for such surplus
80 generation.

81
82 VII. A distribution utility may perform an annual calculation to determine the net effect this
83 section had on its default service generation, transmission, and distribution revenues and expenses in the
84 prior calendar year. The method of performing the calculation and applying the results, as well as a
85 reconciliation mechanism to collect or credit any such net effects with appropriate carrying charges and
86 credits applied, shall be determined by the commission.

87 VIII. Notwithstanding other provisions of this section, the commission may establish, on a
88 utility-specific or generic basis, a methodology by which customer-generators shall be provided service
89 under time-based, net energy metering tariffs. The methodology shall specify how a customer's energy
90 usage and generation shall be metered, how net energy usage shall be calculated and bill any applicable
91 charges applied assessed, how excess generation shall be credited, and under what terms customer-
92 generators may sell excess generation to other retail customers or their electric distribution utilities,
93 consistent with other requirements of state and federal law.

94 IX. Renewable energy credits shall remain the property of the customer-generator until such
95 credits are sold or transferred. If an electric distribution utility acquires renewable energy credits from a
96 customer-generator in conjunction with purchasing excess generation, it may apply such generation and
97 credits to its renewable energy source default service option under RSA 374-F:3, V(f).

98 X. The commission shall adopt rules, pursuant to RSA 541-A, to:

99 (a) Establish reasonable interconnection requirements for safety, reliability, and power
100 quality as it determines the public interest requires. Such rules shall not exceed applicable test standards
101 of the American National Standards Institute (ANSI) or Underwriters Laboratory (UL); and

102 (b) Implement the provisions of this section.

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XI. The commission may by order, after notice and hearing:

- (a) Waive any of the limitations set forth in this chapter for targeted net energy metering arrangements that are part of a utility strategy to minimize distribution or other costs; and
- (b) Implement any utility-specific provisions authorized under this section.

XII. Once the commission has established standards for equipment used by eligible customer-generators, electric distribution utilities shall not require any additional standards or testing for transmission equipment as a condition of net energy metering.

XIII. Customer-generators shall be responsible for all costs associated with interconnection with the distribution system.

4 Amend RSA 674:62, I, Small Wind Energy Systems, Definitions, to read as follows:

I. "Small wind energy system" means a wind energy conversion system consisting of a wind turbine, a tower, and associated control or conversion electronics, which has a rated capacity of not more than 100 kilowatts~~consistent with the net metering specifications of RSA 362-A:9~~ and which will be used primarily in the first instance for onsite consumption.

5 Effective Date. This act shall take effect 60 days after its passage.

For a good summary of the State-Federal jurisdictional issues involved in any mandated vs. voluntary utility purchases of generation output (considered a wholesale purchase for resale) vs. retail sales of generation, please see:

Renewable Energy Prices in State-Level Feed-in Tariffs: Federal Law Constraints & Possible Solutions, January, 2010 at:
http://nrri.org/pubs/electricity/NRRI-NREL_renew_energy_prices_jan10.pdf

1 | 1/25/10 Amendment to HB 1353 with 2/4/10 amendment option suggestions from PUC

2
3 Amend the bill by replacing all after section 1 with the following:

4
5 2 Definitions. Amend RSA 362-A:1-a, II-b to read as follows:

6 II-b. "Eligible customer-generator" or "customer-generator" means an electric utility customer
7 who owns [and] or operates an electrical generating [facilities] facility powered by renewable energy with
8 a total peak generating capacity of not more than [100 kilowatts] 100 kilowatts, or that first begins
9 operation after July 1, 2010 and has a total peak generating capacity of 100 kilowatts or more up to 2 [1?]
10 megawatts, that is located on the customer's premises, is interconnected and operates in parallel with the
11 electric grid, and is [intended primarily] used in the first instance to offset [part or all of] the customer's
12 own electricity requirements.

13 3 Net Energy Metering. RSA 362-A:9 is repealed and reenacted to read as follows:
14 362-A:9 Net Energy Metering.

15 I. A standard tariff providing for net energy metering shall be made available to eligible
16 customer-generators by each electric distribution utility in conformance with net metering rules adopted
17 and orders issued by the commission. Each net energy metering tariff shall be identical, with respect to
18 rates, rate structure, and charges, to the tariff under which a customer-generator would otherwise take
19 service by choice or default. Such tariffs shall be available on a first-come, first-served basis within each
20 electric utility service area under the jurisdiction of the commission until such time as the total rated
21 generating capacity owned or operated by eligible customer-generators totals 5 percent [?] of the annual
22 peak energy demand distributed by each such utility as determined by the commission from time to time.

23 II. Competitive electricity suppliers registered under RSA 374-F:7 may determine the terms,
24 conditions, and prices under which they agree to provide generation supply to and purchase net generation
25 output from eligible customer-generators.

26 III. Metering shall be done in accordance with normal metering practices. A single net meter
27 that shows the customer's net energy usage by measuring both the inflow and outflow of electricity
28 internally shall be the extent of metering that is required at facilities with a total peak generating capacity
29 of not more than 100 kilowatts. A bi-directional metering system that records the total amount of
30 electricity that flows in each direction from the customer premises, either instantaneously or over
31 intervals of an hour or less, shall be required at facilities with a total peak generating capacity of more
32 than 100 kilowatts. Customer-generators shall not be required to pay for the installation of net meters, but
33 shall pay for the installation of all bi-directional metering systems as outlined in utility interconnection
34 tariffs.

35 IV.(a) Except as provided in subparagraph (b), when billing a customer-generator under a net
36 energy metering tariff that is not time-based, the utility shall apply the customer's net energy usage when
37 calculating all charges that are based on kilowatt hour usage. Customer net energy usage shall equal the
38 kilowatt hours supplied to the customer over the electric distribution system minus the kilowatt hours
39 generated by the customer-generator and fed into the electric distribution system over a billing period.

40 (b) For facilities with a total peak generating capacity of more than 100 kilowatts, the
41 customer-generator shall pay ~~transmission, distribution, and other charges on all kilowatt hours supplied~~
42 ~~to the customer over the electric distribution system, except for a credit on default service charges equal~~
43 ~~to the metered energy generated by the customer-generator and fed into the electric distribution system~~
44 ~~over a billing period.~~

45 V. When a customer-generator's net energy usage is negative (more electricity is fed into the
46 distribution system than is received), such surplus shall either:

47 (a) ~~Be credited to the customer-generator's account on a 1:1 basis for use in subsequent~~
48 ~~billing cycles as a credit against the customer's net energy usage; or~~

49 (b) ~~At the election of the customer-generator such surplus may be sold by the customer-~~
50 ~~generator to other retail accounts served by the same electric distribution utility at the applicable default~~
51 ~~service rate of such other accounts, as specified by the customer-generator. Such accounts may be held~~

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52 by the customer-generator or, if practicable, others. The commission shall, on a utility-specific or generic
53 basis, determine the circumstances and the extent to which this option shall be made available, other
54 terms and conditions, and the compensation, if any, that the customer-generator shall afford the electric
55 distribution utility to facilitate this transaction. [OPTION: To the extent that such surplus generation is
56 reasonably determined to reduce wholesale transmission charges to the distribution utility from what they
57 would otherwise be, the commission may authorize the waiver of retail transmission charges to the
58 account or accounts purchasing such surplus generation.]

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59 [1ST OPTION FOR ¶VI]

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61 VI. In lieu of the options in paragraph V, the electric distribution utility providing default service
62 to the customer-generator may elect to purchase such excess generation from the customer-generator at
63 rates that are not less than 90 percent of the generation supply component of the applicable default service
64 rate as determined by the commission. [Such payment rates may also include payment for avoided
65 transmission charges to the extent that such excess generation is reasonably determined to reduce
66 wholesale transmission charges from what they would otherwise be.] The difference between amounts
67 paid to customer-generators for excess generation and the generation rate charged to other customers for
68 such supply, up to 10 percent of such rates, may be allocated to the electric distribution utility for their
69 costs of facilitating such transactions and to line losses, as determined by the commission.

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70 [2ND OPTION FOR ¶VI]

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72 VI. At least annually, instead of carrying excess generation credits forward, customer-generators
73 that take default service may elect to be paid by the electric distribution utility for their excess generation
74 at rates that are equal to the utility's avoided costs under PURPA for energy and capacity to provide
75 default service as determined by the commission. [Such payment rates may also include payment for
76 avoided transmission charges to the extent that such excess generation is reasonably determined to reduce
77 wholesale transmission charges from what they would otherwise be.] [OPTION: The distribution utility
78 shall also purchase from the customer-generator any renewable energy credits, whole or fractional,
79 associated with the excess generation at a rate equal to X% of the then current alternative compliance
80 payment rate for such renewable energy credits.]

Deleted: not less than 90 percent of the generation supply component of the applicable

Deleted: rate

82 VII. A distribution utility may perform an annual calculation to determine the net effect this
83 section had on its default service [transmission,] and distribution revenues and expenses in the prior
84 calendar year. The method of performing the calculation and applying the results, as well as a
85 reconciliation mechanism to collect or credit any such net effects, shall be determined by the commission.

Deleted: The difference between amounts paid to customer-generators for excess generation and the generation rate charged to other customers for such supply, up to 10 percent of such rates, may be allocated to the electric distribution utility for their costs of facilitating such transactions and to line losses, as determined by the commission.

86 VIII. Notwithstanding other provisions of this section, the commission may establish, on a
87 utility-specific or generic basis, a methodology by which customer-generators shall be provided service
88 under time-based, net energy metering tariffs. The methodology shall specify how a customer's energy
89 usage and generation shall be metered, how net energy usage shall be calculated and bill charges assessed,
90 how excess generation shall be credited, and under what terms customer-generators may sell excess
91 generation to electric distribution utilities.

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Deleted: The utility shall collect either additional or reduced revenues from its customer base equal in amount to the net effect calculated.

92 IX. Renewable energy credits shall remain the property of the customer-generator until such
93 credits are sold or transferred. If an electric distribution utility acquires renewable energy credits from a
94 customer-generator in conjunction with purchasing excess generation, it may apply such generation and
95 credits to its renewable energy source default service option under RSA 374-F:3, V(f).

96 X. The commission shall adopt rules, pursuant to RSA 541-A, to:

97 (a) Establish reasonable interconnection requirements for safety, reliability, and power
98 quality as it determines the public interest requires. Such rules shall not exceed applicable test standards
99 of the American National Standards Institute (ANSI) or Underwriters Laboratory (UL); and

100 (b) Implement the provisions of this section.

101 XI. The commission may by order, after notice and hearing:

102 (a) Waive any of the limitations set forth in this chapter for targeted net energy metering

103 arrangements that are part of a utility strategy to minimize distribution or other costs; and

104 (b) Implement any utility-specific provisions authorized under this section.

105 XII. Once the commission has established standards for equipment used by eligible customer-
106 generators, electric distribution utilities shall not require any additional standards or testing for
107 transmission equipment as a condition of net energy metering.

108 XIII. Customer-generators shall be responsible for all costs associated with interconnection with
109 the distribution system.

110 4 Effective Date. This act shall take effect 60 days after its passage.

111

112

113 For a good summary of the State-Federal jurisdictional issues involved in any mandated vs.
114 voluntary utility purchases of generation output (considered a wholesale purchase for resale) vs. retail
115 sales of generation, please see:

116

117 Renewable Energy Prices in State-Level Feed-in Tariffs: Federal Law

118 Constraints & Possible Solutions, January, 2010 at:

119 http://nrri.org/pubs/electricity/NRRI-NREL_renew_energy_prices_jan10.pdf

Voting Sheets

HOUSE COMMITTEE ON COMMERCE AND CONSUMER AFFAIRS

EXECUTIVE SESSION on HB 1353

BILL TITLE: relative to group net energy metering.

DATE: February 16, 2010

LOB ROOM: 304

Amendments:

Sponsor: Rep. Harvey OLS Document #: 2010 0690h

Sponsor: Rep. OLS Document #:

Sponsor: Rep. OLS Document #:

Motions: OTP OTP/A, ITL, Interim Study (Please circle one.)

Moved by Rep. Harvey

Seconded by Rep. Townsend

Vote: 13-1 (Please attach record of roll call vote.)

Motions: OTP, OTP/A, ITL, Interim Study (Please circle one.)

Moved by Rep. Harvey

Seconded by Rep. Pastor

Vote: 13-1 (Please attach record of roll call vote.)

CONSENT CALENDAR VOTE: 14-0

(Vote to place on Consent Calendar must be unanimous.)

Statement of Intent: Refer to Committee Report

Respectfully submitted,

Rep. David A. Borden, Clerk

HOUSE COMMITTEE ON SCIENCE, TECHNOLOGY AND ENERGY

EXECUTIVE SESSION on HB 1353

BILL TITLE: relative to group net energy metering.

DATE: 2-16-10

LOB ROOM: 304

Amendments:

Sponsor: Rep.

OLS Document #: 0690h

Sponsor: Rep.

OLS Document #:

Sponsor: Rep.

OLS Document #:

Motions: (OTP) OTP/A, ITL, Interim Study (Please circle one.)

Moved by Rep. Harvey

Seconded by Rep. Townsend

Vote: (Please attach record of roll call vote.)

Motions: (OTP) OTP/A, ITL, Interim Study (Please circle one.)

Moved by Rep. Harvey

Seconded by Rep. Pastor

Vote: (Please attach record of roll call vote.)

CONSENT CALENDAR VOTE: Consent or Regular (Circle One)

(Vote to place on Consent Calendar must be unanimous.)

Statement of Intent: Refer to Committee Report

Respectfully submitted,


Rep. David A. Borden, Clerk

SCIENCE, TECHNOLOGY AND ENERGY

Bill #: HB 1353 Title: _____

PH Date: ____/____/____

Exec Session Date: 2/16/10

Motion: OTP

Amendment #: 0690

MEMBER	YEAS	NAYS
Kaen, Naida L, Chairman	✓	
Harvey, Suzanne, V Chairman	✓	
Cali-Pitts, Jacqueline A	✓	
Borden, David A, Clerk	✓	
Friedrich, Carol H	✓	
Levasseur, Nickolas J		
Lisle, Carolyn M		
Matheson, Robert F	✓	
Read, Robin P	✓	
Pastor, Beatriz	✓	
Townsend, Charles L	✓	
Introne, Robert E		
Garrity, James M		✓
Devine, James E	✓	
Tahir, Saghir A		
Remick, William J	✓	
Holden, Frank R	✓	
Rappaport, Laurence M	✓	
	13	1
TOTAL VOTE:		

SCIENCE, TECHNOLOGY AND ENERGY

Bill #: HB 1353 Title: _____

PH Date: ____/____/____

Exec Session Date: 2, 16, 10

Motion: OTP as Amended. Amendment #: _____

MEMBER	YEAS	NAYS
Kaen, Naida L, Chairman	7	
Harvey, Suzanne, V Chairman	7	
Cali-Pitts, Jacqueline A	7	
Borden, David A, Clerk	7	
Friedrich, Carol H	7	
Levasseur, Nickolas J		
Lisle, Carolyn M		
Matheson, Robert F	7	
Read, Robin P	7	
Pastor, Beatriz	7	
Townsend, Charles L	7	
Introne, Robert E		
Garrity, James M		7
Devine, James E	7	
Tahir, Saghir A		
Remick, William J	7	
Holden, Frank R	7	
Rappaport, Laurence M	7	
	13	1
TOTAL VOTE:		

Committee Report

CONSENT CALENDAR

March 3, 2010

HOUSE OF REPRESENTATIVES

REPORT OF COMMITTEE

The Committee on SCIENCE, TECHNOLOGY AND ENERGY to which was referred HB1353,

AN ACT relative to group net energy metering. Having considered the same, report the same with the following amendment, and the recommendation that the bill OUGHT TO PASS WITH AMENDMENT.

Rep. Suzanne Harvey

FOR THE COMMITTEE

COMMITTEE REPORT

Committee:	SCIENCE, TECHNOLOGY AND ENERGY
Bill Number:	HB1353
Title:	relative to group net energy metering.
Date:	February 17, 2010
Consent Calendar:	YES
Recommendation:	OUGHT TO PASS WITH AMENDMENT

STATEMENT OF INTENT

Current NH net metering allows electric customers to install renewable energy systems up to 100 kilowatts, interconnect with the electric grid, use the power generated for their own electricity needs, and receive credit toward their next bill if excess energy is sent to the grid. This bill as amended enhances this opportunity by permitting systems up to 1 megawatt and by giving the customer-generator of systems over 100 kW the choice of receiving credit or being paid by their electric utility for the excess power. The bill was the subject of over a dozen hours of discussion both with stakeholders (including municipalities, utilities, agriculture, and industry) and in committee. Although in the process of compromise it lost the "group" aspect of its title, it remains a positive incentive for more renewable energy in our state.

Vote 13-1.

Rep. Suzanne Harvey
FOR THE COMMITTEE

Original: House Clerk
Cc: Committee Bill File

CONSENT CALENDAR

SCIENCE, TECHNOLOGY AND ENERGY

HB1853, relative to group net energy metering. **OUGHT TO PASS WITH AMENDMENT.**

Rep. Suzanne Harvey for SCIENCE, TECHNOLOGY AND ENERGY. Current NH net metering allows electric customers to install renewable energy systems up to 100 kilowatts, interconnect with the electric grid, use the power generated for their own electricity needs, and receive credit toward their next bill if excess energy is sent to the grid. This bill as amended enhances this opportunity by permitting systems up to 1 megawatt and by giving the customer-generator of systems over 100 kW the choice of receiving credit or being paid by their electric utility for the excess power. The bill was the subject of over a dozen hours of discussion both with stakeholders (including municipalities, utilities, agriculture, and industry) and in committee. Although in the process of compromise it lost the "group" aspect of its title, it remains a positive incentive for more renewable energy in our state. **Vote 13-1.**

Original: House Clerk
Cc: Committee Bill File

From Rep Suzanne Harvey

Blurb for HB 1353 as amended

Current NH net metering allows electric customers to install renewable energy systems up to 100 kilowatts, interconnect with the electric grid, use the power generated for their own electricity needs, and receive credit toward their next bill if excess energy is sent to the grid. This bill as amended enhances this opportunity by permitting systems up to 1 megawatt and by giving the customer-generator of systems over 100 kW the choice of receiving credit or being paid by their electric utility for the excess power. The bill was the subject of over a dozen hours of discussion both with stakeholders (including municipalities, utilities, agriculture, and industry) and in committee. Although in the process of compromise it lost the "group" aspect of its title, it remains a positive incentive for more renewable energy in our state.

Stapler, Carol

From: Naida Kaen [naidakaen@hotmail.com]
Sent: Wednesday, February 17, 2010 1:53 PM
To: Stapler, Carol
Subject: FW: blurb for HB 1353
Attachments: blurb for HB 1353.doc; ATT00001

Your E-mail and More On-the-Go. Get Windows Live Hotmail Free. [Sign up now.](#)