

# Senate Committee on Natural Resources and Energy

Date: M/T/W/TH/F, 4/29/09  
MO DY YR

Room No. 8

Type of Committee Meeting: ☒ Standard ☐ Public Hearing  
☐ Joint Meeting with: \_\_\_\_\_

CD No.: 09 - 97 09 - 98 09 - \_\_\_\_\_ 09 - \_\_\_\_\_ 09 - \_\_\_\_\_

## COMMITTEE MEMBERS:

☒ Sen. Virginia Lyons, Chair  
☒ Sen. Robert Hartwell, Clerk  
☒ Sen. Diane Snelling

☒ Sen. Mark MacDonald, Vice-Chair  
☒ Sen. Richard McCormack

Bill No.	Sbj. No.	Title of Bill or Subject
H.446	(1)	H.446 - Renewable Energy (voted out: 4-0-1 Rep: vvl)
S.137	(2)	S.137 - Vt. Recovery + Reinvestment Act of 2009
H.15	(3)	H.15 - Aquatic Nuisance (vote on amendments) 4-0-1
JRH11	(4)	JRH11 - 20% reduction in energy use (voted out 4-0-1)

voted out  
5-0-0 Rep. vvl

CD No.	TR No.	Witness & Representing	Bill/Sbj No.
97	2	Steve Kimbell, GmP	(1)
97	2	Aaron Adler, Leg. Counsel	(1)
97	2	Andy Perehlik, Renewable Energy Vermont	(1)
97	2	Rich Smith, Dep. Comm., Dept. of Public Service	(1)
97	2	Greg Faber, PSB	(1)
97	2	Joe Choquette, Win Stanley Enterprise, Springfield	(1)
98	1	(break) Aaron Adler & Comm. disc.	(1)(2)
98	3	Comm. discussion, Sen. McCormack	(3)
98	3	Robert Klein, Nature Conservancy	(3)
98	3	Comm. discussion + vote	(4)

VTLEG-197337-1

**From:** Emily Neary  
**To:** David Hilton  
**Date:** 4/28/2009 3:01 PM  
**Subject:** Fwd: H.446/GMP Rate Impact Analysis  
**Attachments:** GMP Rate Impact Analysis.xls

David,  
Please print out this email and attachment for me. For some reason, my computer won't do it.  
Thanks.  
Emily N.

>>> "Charles Storrow" <cfs@kse50.com> 4/28/2009 1:47 PM >>>  
Dear Emily,

As requested by Sen. Lyons, attached is GMP's rate impact analysis.  
Please note that I have a print out of the attached, and I am therefore  
in a position to distribute hard copies of this document.

It is requested that in reviewing GMP's analysis the committee members  
consider the following:

1. GMP's analysis assumes that the price for farm methane is \$0.12 per kwh with the utilities receiving the RECs, which is equal to approximately \$0.08 if the farm generators keep the RECs. The impact on rates will be higher if the price is \$0.12 with the farm generators keeping the RECs, as the bill is currently structured.
2. Similarly, GMP's analysis assumes that the price for solar is \$0.25, as opposed to the \$0.30 that is currently provided for in the bill.
3. The calculations assume that GMP sells the RECs. By selling the RECs the cost to GMP is lowered and reduces the impact on rates.
4. In calculating the rate impact GMP did not use the wholesale rate of market power as the basis for comparing the impact of the power generated pursuant to the standard offer program. Instead, GMP used the net metered rate of approximately 14 cents. This reduces the rate impact estimate. GMP did this because the net metered rate is what it is presently paying for small scale renewable generation and most if not all of that generation is net metered. The impact on other utilities could be higher depending on the amount of net metered projects they have. If other utilities have very few and H.446 results in many more projects the rate impact could be greater.

I hope the committee finds this information useful.

Sincerely--Chuck Storrow

Charles F. Storrow  
Kimbell Sherman Ellis, LLP  
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Various assumptions stakeholder bill rate impact

	MW	Capacity Factor	ATC MW	8760 Hrs	MWh	Adder to GMP	\$/MWh	GMP Share	Incremental Rate Need	Rev Req	Rate Impact
Solar (Note 1)	50	0.15	7.5	8760	65700	70	4599000	33%	1517670	240000000	0.63%
Micro Wind (Note 2)	50	0.2	10	8760	87600	40	3504000	33%	1156320	240000000	0.48%
Large Wind (Note 3)	50	0.3	15	8760	131400	30	3942000	33%	1300860	240000000	0.54%
Blend (Note 4)	50	0.3	15	8760	131400	30	3942000	33%	1300860	240000000	0.54%
Small farm/methane (Note 5)	50	0.9	45	8760	394200	10	3942000	33%	1300860	240000000	0.54%

Note 1 Solar assumes a 4 cent premium for GMP customers as follows - 25 cents - GMP calc solar value approx 15 cents - REC values of 3 cents = .07/kwh or \$70/mwh.

Note 2 Micro wind differential - Net metering around average retail rate so 20 cents - 13 cents net metering - REC values of 3 cents = .04/kwh or \$40/mwh

Note 3 Large wind - 13-14 cents avg retail rate - 10-11 cents cost = .03/kwh or \$30/mwh

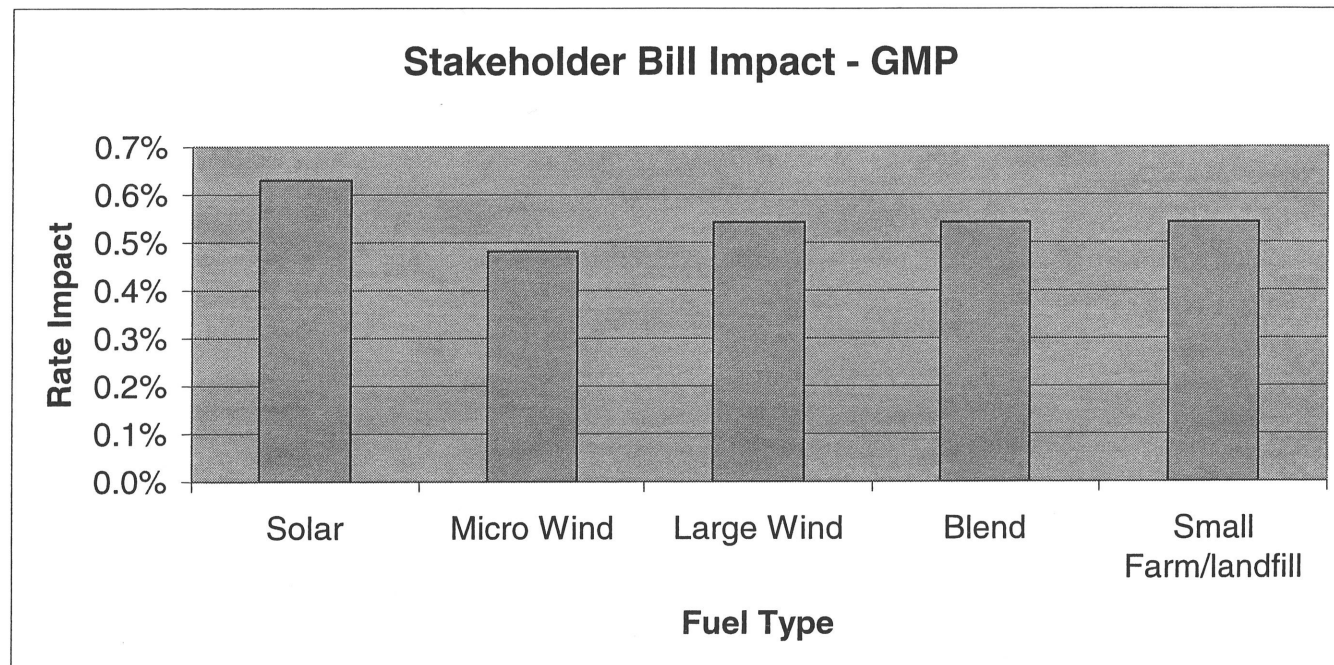
Note 4 Blend assume 30% overall capacity rate reflecting some small methane with higher capacity ratings as well as small wind and solar applications.

Note 5 12 cent rate for farm methane approximates current farm methane rates under cow power/GMP for REC values and market values - assume 1 cent premium cost

Note 6 Did not attempt to value a CHP only solution since so few possibilities for economic CHP application

Conclusion: Result should be around 0.5% if GMP does not develop its own micro renewable resources. To extent GMP develops, rate impacts will decline.

Graph	
Solar	0.63%
Micro Wind	0.48%
Large Wind	0.54%
Blend	0.54%
Small Farm/landfill	0.54%



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## MEMORANDUM

TO: Members of the Senate Natural Resources & Energy Committee

FROM: Kimbell Sherman Ellis, LLP

DATE: April 29, 2009

SUBJECT: H.446/GMP's Analysis of Rate Impact from Standard Offer Program

As requested by Sen. Lyons, attached is GMP's rate impact analysis. It is requested that in reviewing GMP's analysis the committee members consider the following:

1. GMP's analysis assumes that the price for farm methane is \$0.12 per kwh with the utilities receiving the RECs, which is equal to approximately \$0.08 if the farm generators keep the RECs. The impact on rates will be higher if the price is \$0.12 with the farm generators keeping the RECs, as the bill is currently structured.
2. Similarly, GMP's analysis assumes that the price for solar is \$0.25, as opposed to the \$0.30 that is currently provided for in the bill.
3. The calculations assume that GMP sells the RECs. By selling the RECs the cost to GMP is lowered and reduces the impact on rates.
4. In calculating the impact of the standard offer program GMP compared the impact of buying its share of the standard offer power at the standard offer prices (in the amounts referenced above) with the cost of that power if it were purchased at the rate of \$0.14 per kwh. GMP used \$0.14 per kwh as a bench mark as opposed to lower market rates because \$0.14 per kwh is the effective price under the net metering program, and GMP also pays that amount to small scale renewable generators outside of the net metering context. Using \$0.14 per kwh as a bench mark instead of lower market rates reduces the rate impact from the standard offer program.

We hope the committee finds this information useful.

# GMP Rate Impact Analysis

## Various assumptions stakeholder bill rate impact

	MW	Capacity Factor	ATC MW	8760 Hrs	MWh	Adder to GMP	\$/MWh	GMP Share	Incremental Rate Need	Rev Req	Rate Impact
Solar (Note 1)	50	0.15	7.5	8760	65700	70	4599000	33%	1517670	240000000	0.63%
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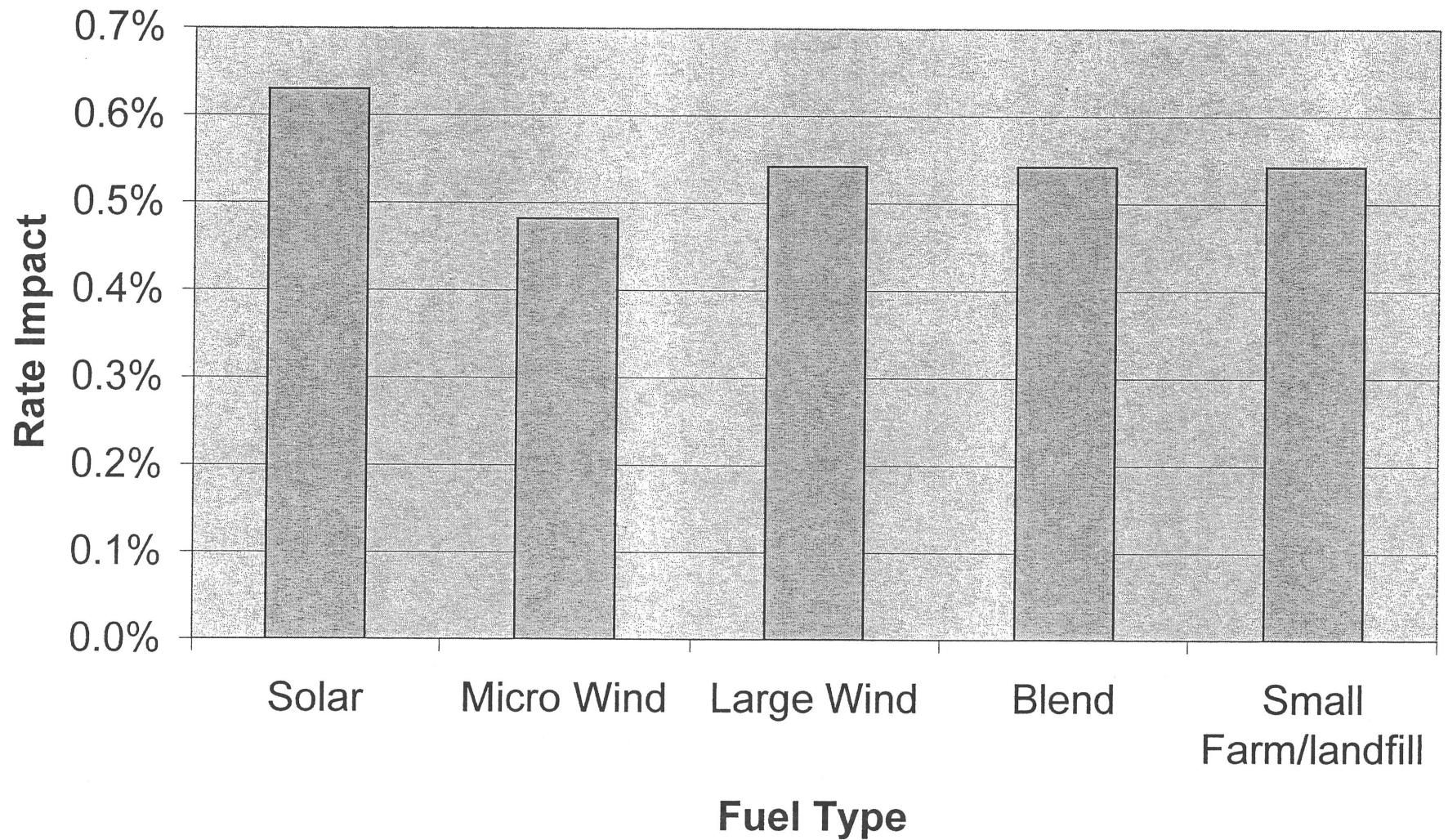
Note 4 Blend assume 30% overall capacity rate reflecting some small methane with higher capacity ratings as well as small wind and solar applications.

Note 5 12 cent rate for farm methane approximates current farm methane rates under cow power/GMP for REC values and market values - assume 1 cent premium cost

Note 6 Did not attempt to value a CHP only solution since so few possibilities for economic CHP application

Conclusion: Result should be around 0.5% if GMP does not develop its own micro renewable resources. To extent GMP develops, rate impacts will decline.

## Stakeholder Bill Impact - GMP



**Keefe, Brian**

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**From:** Cater Jr, James  
**Sent:** Tuesday, April 28, 2009 5:12 PM  
**To:** Keefe, Brian  
**Subject:** Renewable Rate Impact

Brian,

I have developed a preliminary estimate of the potential impact on CVPS's average retail rates from adding the combination of renewable resources presented in the table below. The estimated single year rate increase, is about **1.97%**. The estimate is highly sensitive to the capacity factor assumed for each technology, the projected market price of energy in the analysis year and the assumed value of REC's, so it is better to think in terms of a range of values, perhaps **1.5% - 2.5%**, than in terms of a single point estimate. For the base case, I used a projected market price, including energy and capacity (but not CO2), of 7.3 cents/Kwh for the year 2012. I chose the year 2012 to allow time for project development. The estimate assumes a 3 cents/Kwh value for RECs, associated with the solar and wind projects but not the methane project, which flows to retail customers, thereby reducing the impact on average rates. As I understand it, the capacity factors, which you provided, were developed by REV.

Please let me know if you would like to see particular scenarios around the crucial variables of if you have any other questions or concerns.

<u>Technology</u>	<u>Cents/Kwh</u>	<u>Capacity Factor</u>
Solar	30	14.0%
Wind	20	25.0%
Methane	12	85.0%

James C. Cater  
Director of Power Supply and Strategic Analysis  
Phone: 802-747-5483  
[jcater@cvps.com](mailto:jcater@cvps.com)



April 27, 2009

**H.446 Standard Offer (SO)**

Renewable Energy Vermont Inc.

**First Year (2010) Potential Impacts**

Total Amount from Renewables	50	MW	Cap set in H.446
Amount from Renewables/year	5	MW	Anticipated average amount over next 10 years
<b>Amount from each renewable technology/yr</b>			
<b>Farm methane</b>	1.00	MW	
Annual methane output	7,446	MWhr	85 % capacity factor
Annual Cost \$	893,520.00	\$	\$0.12/kWhr
<b>Landfill methane</b>	0.25	MW	
Annual methane output	1,862	MWhr	85 % capacity factor
Annual Cost \$	223,380.00	\$	\$0.12/kWhr
<b>Photovoltaics</b>	1.75	MW	
Annual PV Output	2,146	MWhr	14% capacity factor
Annual Cost \$	643,860.00	\$	\$0.30/kWhr
<b>Residential wind</b>	0.25	MW	<15kW
Annual output	329	MWhr	15% capacity factor
Annual Cost \$	87,600.00	\$	\$0.20/kWhr
<b>Comercial-scale wind</b>	1.00	MW	
Annual output	2,628	MWhr	30% capacity factor
Annual Cost \$	341,640.00	\$	\$0.13/kWhr (Average retail rate)
<b>Biomass</b>	0.50	MW	
Annual Biomass Output	3,942	MWhr	90% capacity factor
Annual Cost \$	512,460.00	\$	\$0.13/kWhr (Average retail rate)
<b>Hydro</b>	0.25	MW	
Annual Expected Output	876	MWhr	40% capacity factor
Annual Cost \$	113,880.00	\$	\$0.13/kWhr (Average retail rate)
Total SO Annual Power Production	19,229	MWhr	
Total SO Annual Cost \$	2,816,340.00	\$	
Value of Renewable Energy Credits (RECs) to Utilities (not including farm RECS)	353,481.00	\$	RECs at \$0.03/kWhr
Final SO Annual Cost	2,462,859.00	\$	

**Cost of SO Power Above Cost of Market Power in Year One - 2010**

Cost of of power at Avoid Cost rate	1,442,152.50	\$	2010 rate = \$0.075/kwhr
Cost Difference	1,020,706.50	\$	
Percent Revenue Impact	0.13%		Total Power sold in '07 \$782,410,460
Average Monthly Residential Impact	\$0.11	\$	\$85 Avg. Kwhr charge

This rate impact is just for the first full year - 2010. This is likely the highest cost year as future impacts will be reduced by future increases in the avoided cost of power and decreases in the cost of renewable energy.



**State of Vermont**  
**Department of Public Service**  
112 State Street  
Drawer 20  
Montpelier, VT 05620-2601  
<http://www.publicservice.vermont.gov>

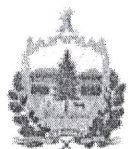
[phone] 802-828-2811  
[fax] 802-828-2342  
[tty] 800-734-8390

**To:** Senate Natural Resources & Energy  
**From:** Richard Smith, Deputy Commissioner, Public Service Department  
**Subject:** H-446 House Renewable Energy Bill

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Please find attached the following from the Public Service Department:

1. outline of testimony on the standard contract
2. rate analysis of the standard contract
3. graph depicting over-market value of the PURPA contract
4. paragraph outlining PSD's verification process of Efficiency Vermont



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[fax] 802-828-2342  
[tty] 800-734-8390

**To: Senate Natural Resources & Energy**  
**From: Richard Smith, Deputy Commissioner, Public Service Department**  
**Subject: H-446 House Renewable Energy Bill**

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Vermont has a long held principle: rates are set by the Public Service Board to provide electric power that balances affordability, reliability and environmental impacts. Rates are NOT to be used to enact social or economic policy, no matter how good. The bill creates a "feed-in tariff" for Vermont where consumers will be forced to pay high, out-of-market prices to renewable energy developers through their utility. The bill sets the prices for these renewable projects at rates anywhere from 6 cents kWh to 24 cents kWh above today's market price in a fixed contract for 20 to 25 years. These are projects of up to 2.2 megawatts each with a total state cap of 50 megawatts.

The reasons I have heard given so far are:

- that we are not seeing renewables developed fast enough;
- its good economic development;
- we want to avoid an RPS.

This legislation seems to be a solution in search of a problem. Currently our resource portfolio is the lowest in carbon and lowest electric rates in NE and high in renewables, especially if you include HQ. We have almost 80 MW of renewable power on line or coming on line through the current SPEED program, not including the 10 MW in the pipeline through the Clean Energy Development Fund. Plus we are looking at more than \$20 million in stimulus funds to add to this equation. We are getting renewables built in Vermont through these programs and under our current regulatory system without adding further burden to our ratepayers.

In a time when the economy is in its worse recession since the Great Depression we feel adding any costs to our citizens and businesses is imprudent. Especially when we can buy renewables more cost effectively.

We agree that encouraging diversification and promoting renewable sources of power are to the state's benefit and must be part of the plan and execution of energy policy. The State's Energy Plan clearly outlines that as one of our goals moving forward as our large contracts with Vermont Yankee and Hydro Quebec expire. However, we believe these decisions need to be



made in the context of the states overall energy portfolio decision that balances many factors, such as reliability, environmental impact, and cost to ratepayers. The bill has **NO** provision that requires the Public Service Board to take into consideration the impact of these standard contracts on Vermont ratepayers and in point of fact the ratepayer was not considered in the development of this scheme nor was the department a part of the formulation.

Our utilities are just getting out from under out-of-market contracts with in-state generators under a similar program known as PURPA. It is estimated that these contracts have cost Vermonters \$400 million above what we would have paid with market prices. These contracts were entered into for the same kind of logic, that we must pay more in the short run to stimulate investment in renewables. Clearly that is not at all what ended up happening and we want to avoid the same mistake. If the projects that are contemplated under this new bill are all built consumer rates could increase as much as 2% over what they could have been. 2% may not seem like a lot to the average consumer, but to one of Vermont's commercial or industrial businesses with bills in the millions, any increase is significant – IBM's annual electric bill is \$30 million/year. We estimate that this program will cost your constituents \$9 million extra per year once these systems are all installed. *See attached analysis.*

Furthermore, there has been no analysis on the cost-benefit of the economic development value from this bill. Folks keep saying this is basic economic development but no one has shown me any data on how the jobs created by the standard contract weigh against increased rates to our consumers and businesses. The Vermont Center for Rural Development (VCRD) modeling showed minimal job creation with renewable energy development – mostly in the construction phase – except for large biomass generation.

Meanwhile Vermont utilities will be paid an arbitrary extra 1.5% premium if they build renewables, costing ratepayers even more. We believe any additional return being guaranteed to utility investors in renewable generation should be made in the regulatory process where all of the utility's financial metrics can be considered together. As a general principal we believe that if utility owned generation presents a favorable rate path then our utilities should be securing those resources for the benefit of ratepayers consistent with the least cost standard. However, we can envision a resource choice brought forward for approval by the PSB that included a premium return.

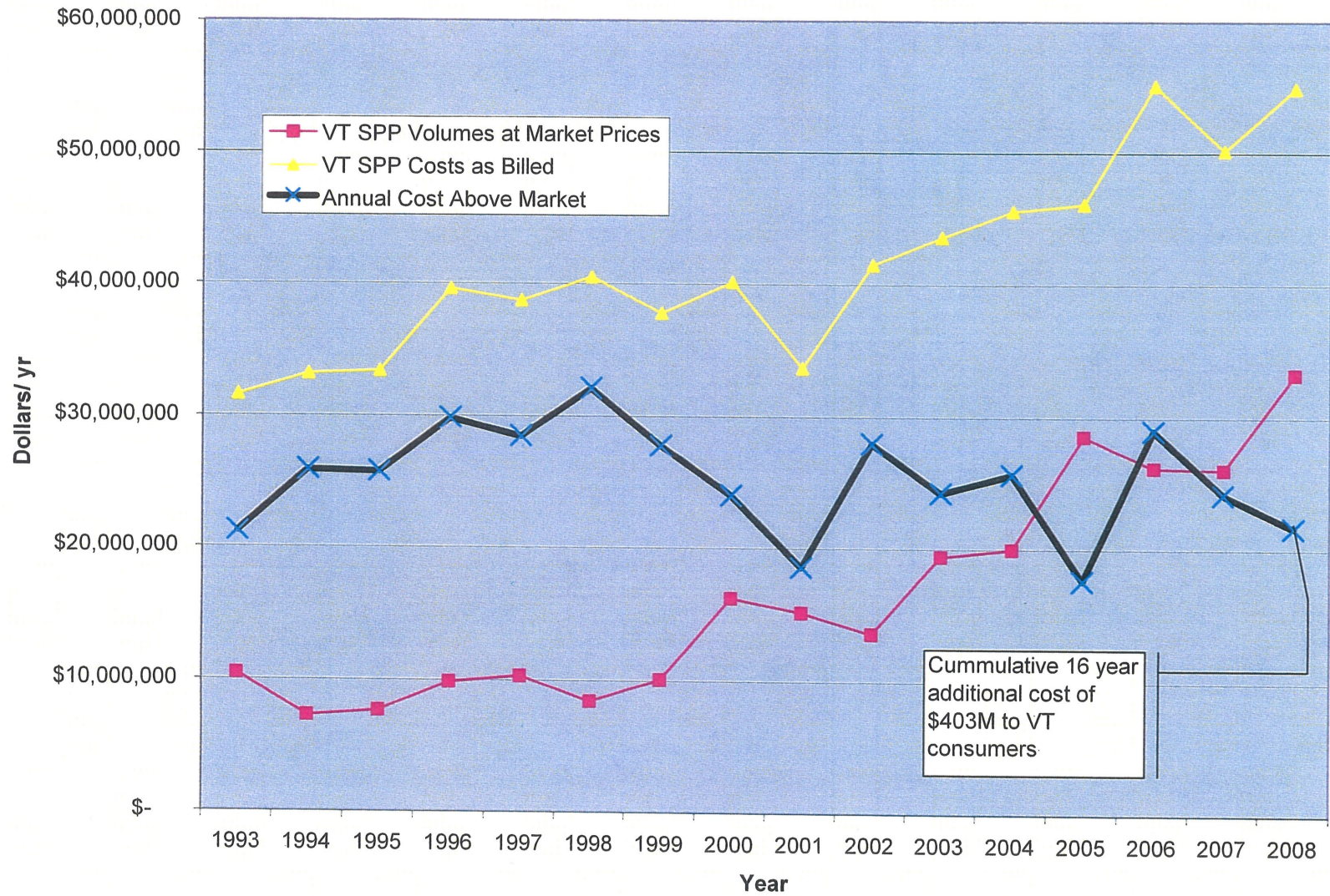
It is certainly a concern to force consumers to pay above market prices for renewables of any size and cost effectiveness; but even worse when it will not accomplish any positive benefit that isn't already being accounted for without increased rates. Potentially, investment in the larger economy will be crowded out, while larger environmental goals were not accomplished in a cost effective manner.

The economic development value has not been shown; renewables are being built under out current regulatory system and current incentives; the utilities can get to the goals in SPEED without triggering an RPS. The renewable industry is getting paid, the utilities are getting paid and IBM is getting paid and your constituents will be forced to pay the bill.

	Renewables analysis							
	Technology	Wind	Lg wind	Solar	LFG	Ag	biomass	Total
	Capacity MW	5.0	15.0	5.0	5.0	10.0	10.0	50.0
	Annual Capacity Factor	20%	25%	15%	85%	85%	85%	
	H446 Rate \$/kWh	\$0.200	\$0.141	\$0.300	\$0.120	\$0.120	\$0.141	
	MWh	8,760	32,850	6,570	37,230	74,460	74,460	234,330
	Cost (\$000)	\$1,752	\$4,632	\$1,971	\$4,468	\$8,935	\$10,499	\$32,257
	RECs Value(\$000)	\$307	\$1,150	\$230	\$1,303	\$2,606	\$2,606	\$0.138
	Net cost (\$000)	\$1,445	\$3,482	\$1,741	\$3,165	\$6,329	\$7,893	
	Market value (\$000)	\$559	\$2,096	\$419	\$2,375	\$4,751	\$4,751	
	Above Mkt Value (\$000)	\$1,193	\$2,536	\$1,552	\$2,092	\$4,185	\$5,748	\$17,306
	Above Mkt Value (\$000)	\$887	\$1,386	\$1,322	\$789	\$1,579	\$3,142	\$9,105
	(Net RECs)							
	2006 Utility Revenues (\$000)	\$782,410						
	Rate Effect (w/o RECs)	2.21%						
	Rate Effect (w RECs)	1.16%						
	Market Assumptions							
	REC Price \$/kWh	\$0.035						
	Market Price \$/kWh	\$0.064						



# **VT Small Power Producers (Rule 4.100)** **Annual Cost To Consumers Above Actual Market Cost**



**State of Vermont**  
**Department of Public Service**  
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EVT Verification by PSD in a nutshell:

1. Mid-March EVT submits savings claim to PSD
2. Our consultant reviews all large custom commercial projects and reviews a sample of mid-small custom projects
3. For prescriptive measures (where savings values have been agreed upon- things like appliance rebates and such) we review to see that the values were applied correctly
4. PSD submits preliminary report to EVT and PSB contract administrator
5. EVT has opportunity to clarify misunderstandings, challenge PSD characterization of projects
6. Final report to Contract Administrator, who makes recommendation to PSB
7. PSB approves/disapproves of savings

Limited site visits -- mostly a paper/electronic file review.





**H.446: SUMMARY OF AMENDMENTS PROPOSED BY SENATE NATURAL RESOURCES AND ENERGY**

Aaron Adler, Legislative Counsel 4/30/09 Page 1

AMEND. NO.	BILL § NO.	SUMMARY OF AMENDMENT
1	4: 30 V.S.A. § 8005(b)(2)	More flexibility to the Public Service Board (PSB) on the term of standard offer contracts, which would be 10 to 20 years and, for solar, 10 to 25 years. Original bill required 20 years and, for solar, 25 years.
2, 3, 9	4: 30 V.S.A. § 8005(b)(2)(A), (B), (E)	Amends standard offer provisions regarding subtraction of tax credits and other incentives provided to plants that accept the offer. Instead of subtracting them on a plant-by-plant basis, the PSB would do so for each category of renewable technology based on generic assumption.
4, 5, 7	4: 30 V.S.A. § 8005(b)(2)(B), (C)	Technical corrections and clarifications to language as passed House.
6, 8	4: 30 V.S.A. § 8005(b)(2)(C)	Amendments to clarify that the PSB may update the standard offer prices more often than the two-year minimum required update.
10	4: 30 V.S.A. § 8005(b)(4)	Amendment to clarify that the PSB should encourage third party developer sponsorship of renewable energy projects, in addition to utility sponsorship of such projects.
11	4: 30 V.S.A. § 8005(g)(2)	Technical correction to conform date in this subsection to dates in subsection (b) as amended on House floor.
12	4: 30 V.S.A. § 8005(g)(4)	Amendment to require that, in addition to the electricity purchased under the standard offer program, the capacity rights associated with that electricity are transferred to the utilities.
13	4: 30 V.S.A. § 8005(g)(5)	Renumbers subdivision (4) as proposed by House to (5). Amends same language to allow the PSB flexibility in allocating the standard offer costs among a utility's ratepayers. This would allow high-volume users to request the PSB allocate a lower percentage of those costs to them.
14	4: 30 V.S.A. § 8005(j)	In connection with standard offer contracts, deletes requirement that wood biomass projects be combined heat and power and lowers required fuel efficiency from 70 to 50 percent.
15	5: 10 V.S.A. § 6523(d)	Amends the Clean Energy Development Fund (CEDF) provisions of H.446 to require continuous funding of the Vermont small-scale renewable energy incentive program, as long as funds are available.
16	5: 10 V.S.A. § 6523(f)	Amends the CEDF provisions to incorporate an energy savings goal per \$1,000 spent of federal stimulus dollars for the state energy program, in accordance with Dept. of Energy guidance.
17	14: 30 V.S.A. § 209(h)	Regarding the self-managed energy efficiency program, requires verification of claimed energy savings according to the same procedures used for verifying Efficiency Vermont's savings claims.
18 – 23	14: 30 V.S.A. § 209(h)	Amendment to the self-managed energy efficiency program to require oversight by the PSB rather than the Department of Public Service (DPS).

**H.446: SUMMARY OF AMENDMENTS PROPOSED BY SENATE NATURAL RESOURCES AND ENERGY**

Aaron Adler, Legislative Counsel 4/30/09 Page 2

<b>AMEND. NO.</b>	<b>BILL § NO.</b>	<b>SUMMARY OF AMENDMENT</b>
24	15, 15a	Add Vermont Village Green Renewable Pilot Program in lieu of green growth zone study.
24	15	Findings and purpose for pilot program.
24	15a : 30 V.S.A. chapter 93	Creates a Vermont Village Green Renewable Pilot Program to consist of two district heating projects using renewable fuels to serve end users in designated downtowns or growth centers in Montpelier and Randolph. Other municipalities may participate in the pilot if either or both of those towns decline. Projects may but do not have to include district power. If wood is used as fuel, the project must meet minimum fuel efficiency requirements. On certification by the DPS, the project is eligible for a sales and use tax exemption for materials and equipment used in construction and installation of the project and, if district power is included, special electric rates to be set by the PSB. Reporting requirements by the host community and DPS are included.
24	15 thru 15d	Adds the same language passed by the Senate in S.18 regarding voluntary energy conservation and renewable energy devices such as solar collectors and clotheslines.
24	15e thru 15k	Adds the same language passed by the Senate in S.54 regarding clean energy assessment districts.

# Senate Committee on Natural Resources and Energy

Date: M/T/W/TH/F, 4/28/09  
MO DY YR

Room No. 8

Type of Committee Meeting: ☒ Standard ☐ Public Hearing  
☐ Joint Meeting with: \_\_\_\_\_

CD No.: 09 - 94 09 - 95 09 - 96 09 - \_\_\_\_\_ 09 - \_\_\_\_\_

## COMMITTEE MEMBERS:

☒ Sen. Virginia Lyons, Chair  
☒ Sen. Robert Hartwell, Clerk  
☒ Sen. Diane Snelling

☒ Sen. Mark MacDonald, Vice-Chair  
☒ Sen. Richard McCormack

Bill No.	Sbj. No.	Title of Bill or Subject
<u>H 446</u>	<u>(1)</u>	<u>H 446 - Renewable Energy</u>

CD No.	TR No.	Witness & Representing	Bill/Sbj No.
<u>94</u>	<u>2</u>	<u>David Mullett, Nken Electric Utilities, VPPSA</u>	<u>(1)</u>
<u>94</u>	<u>2</u>	<u>Aaron Adler, Leg. Counsel</u>	<u>(1)</u>
<u>94</u>	<u>2</u>	<u>Andy Perehlik, R.E.V.</u>	<u>(1)</u>
<u>94</u>	<u>2</u>	<u>Steve Kimbell, GMP</u>	<u>(1)</u>
<u>94</u>	<u>2</u>	<u>Gugg Faber, PSB</u>	<u>(1)</u>
<u>95</u>	<u>1</u>	<u>(BREAK)</u>	
		<u>Aaron Adler, Leg. Counsel</u>	<u>(1)</u>
<u>95</u>	<u>1</u>	<u>Tom Buckley, B.E.D.</u>	<u>(1)</u>
<u>95</u>	<u>1</u>	<u>James Moore, VPIRG</u>	<u>(1)</u>
<u>95</u>	<u>1</u>	<u>Richard Smith, Dep. Comm., DPS</u>	<u>(1)</u>
<u>96</u>	<u>1</u>	<u>Aaron Adler, Leg. Counsel</u>	<u>(1)</u>



# **Summary of Group of Municipal Electric Utilities**

**n Village Inc. Electric Department;  
e of Enosburg Falls Water & Light Department;  
of Hardwick Electric Department;  
e of Hyde Park Electric Department;  
e of Jacksonville Electric Company;  
e of Johnson Water and Light Department;  
e of Ludlow Electric Light Department;  
e of Lyndonville Electric Department;  
e of Morrisville Water & Light Department;  
e of Northfield Electric Department;  
e of Orleans Electric Department;  
of Readsboro Electric Light Department;  
ton Village, Inc. Electric Department**

*H. 446*

# Senate Committee on Natural Resources and Energy

Date: M/T/W/TH/F, 4/27/09  
MO DY YR

Room No. 8

Type of Committee Meeting: ☒ Standard ☐ Public Hearing

☐ Joint Meeting with: \_\_\_\_\_

CD No.: 09 - 91 09 - 92 09 - 93 09 - \_\_\_\_\_ 09 - \_\_\_\_\_

## COMMITTEE MEMBERS:

☒ Sen. Virginia Lyons, Chair  
☒ Sen. Robert Hartwell, Clerk  
Sen. Diane Snelling

☒ Sen. Mark MacDonald, Vice-Chair  
Sen. Richard McCormack

Bill No.	Sbj. No.	Title of Bill or Subject
H.446	(1)	H.446 - Renewable Energy

CD No.	TR No.	Witness & Representing	Bill/Sbj No.
91	2	Rep. Tony Klein, Chair, House Nat. Res. & Energy	(1)
91	2	<sup>21.18</sup> Aaron Adler, Leg. Counsel	(1)
91	2	<sup>62.45</sup> Avram Pett, Gen. mgr., Wash. Elec. Coop	(1)
91	2	Richard Smith, Dep. Comm., DPS	(1)
92	1	Jeffrey Wolfe, GLO Solar phone: 802-359-6597	(1)
92	1	<sup>126</sup> Steve Kimbell, Green Mtn. Power	(1)
92	1	<sup>24.17</sup> Andrew Pereklik, Renewable Energy Vermont	(1)
2	1	<sup>37.45</sup> John O'Keane, mgr., Govt. Affairs, IBM	(1)
92	1	Sandra Levine, Conservation Law Founda	(1)

<u>CD no.</u>	<u>Witness/Representing</u>	<u>Bill / Subject</u>
92	49.42 Brian Keefe, CVPS	(1)
92	Johanna Miller, VNRC	(1)
92	62.48 James Moore VPIRC	(1)
93	Joe Choquette, lobbyist, Win. Stanley Enterprises	(1)
93	Bob Flinn, E.D., Springfield Regional Dev. Corp. Phone: 885-3061	(1)
93	Tom Buckley, B. E. D.	(1)
93	John Randy Pratt, VEC, Johnson	(1)
93	William Dmisco, AIV	(1)
93	Howard Shaffer, engineer phone: 603-632-5139	(1)
93	Guy Roberts, Avatar Energy, Williston Phone: 802-238-3796	(1)

## **“SPEED” SHEET**

Aaron Adler, Legislative Counsel

Prepared 4/17/09

- **“SPEED” stands for Sustainability Priced Energy Enterprise Development**

The legislature enacted the SPEED program in June 2005 (30 V.S.A. § 8005 and § 8001).

- **Goal and concept**

1. SPEED program is to promote the development of new in-state energy sources that use renewable fuels (SPEED resources), to ensure that to the greatest extent possible the economic benefits of these new energy sources flow to the Vermont economy in general, and to the ratepayers in particular.
2. The law authorizes the Public Service Board (PSB) to adopt rules and appoint an entity in order to promote long-term, stably priced contracts between utilities and qualifying SPEED resources. The PSB has adopted rules and appointed a “SPEED Facilitator.”
3. In 2008, the legislature required the PSB to adopt a standard contract price or a set of maximum and minimum provisions (or both) for SPEED resources greater than 1 MW. The PSB has not done so.
4. If SPEED goals are not met by dates in statute, renewable portfolio standards (RPS) under 30 V.S.A. § 8004 come into effect.

- **Timeline 1: SPEED and RPS**

1. **By 1/1/12:** PSB must open proceeding to determine total amount of qualifying SPEED resources.
2. **By 1/1/13:** PSB must determine that total amount.
3. RPS does *not* come into effect *if* PSB determines that:
  - a. Amount of qualifying SPEED resources coming into service between 1/1/05 and 1/1/12 equals or exceeds state load growth during that period and, *in addition*, an amount equal to 5 % of Vermont's 1/1/05 electric retail sales is supplied by qualifying SPEED resources; OR
  - b. The amount of qualifying SPEED resources equals 10 % of total statewide electric retail sales for 2005.
4. RPS goes into effect one year after PSB's determination *if* PSB determines that neither amount in no. 3, immediately above, has been met.

- **Timeline 2: Overall SPEED goal**

1. **By 1/1/17:** 20 percent of total statewide electric retail sales is to be generated by SPEED resources.
2. **Board reports to legislature** on progress in meeting that goal by **12/31/11** and again by **12/31/13**.

- **Other Timelines:** Statute contained other deadlines in 2006 and 2007 for PSB to adopt rules and establish SPEED program. These actions have already occurred.



H. 446 (as passed House): AN ACT RELATING TO RENEWABLE ENERGY AND ENERGY EFFICIENCY  
Summary by Aaron Adler, Legislative Counsel Page 1

BILL SEC. NO.	SUMMARY
1	This section designates the act as the Vermont Energy Act of 2009.
2-4a (standard offer)	Secs. 2 through 4a contain amendments to the existing Sustainably Priced Energy Enterprise or “SPEED” program to require the Public Service Board (PSB) to issue standard offers for renewable energy plants sited in Vermont, up to 50 MW.
2 (standard offer)	<p>This section adds to existing law new definitions related to the standard offer. Important points about these definitions include:</p> <ul style="list-style-type: none"><li>(a) The term “plant” is defined as renewable energy, with a group of common facilities such as a wind project being one “plant.”</li><li>(b) The term “commissioned” means when a plant is put into operation.</li><li>(c) “SPEED facilitator” refers to the entity already appointed by the Public Service Board, under existing law, to implement the SPEED program.</li></ul>
3 (standard offer)	This section amends existing law to allow municipal utilities that are members of the Vermont Public Power Supply Authority to meet the standard offer requirements as a group rather than individually.
4 (standard offer)	This section contains the most significant parts of the standard offer. (A subdivision-by-subdivision summary follows.)
4: § 8005(b)(1) (standard offer)	This subdivision requires the PSB to implement the standard offer through the SPEED facilitator.

H. 446 (as passed House): AN ACT RELATING TO RENEWABLE ENERGY AND ENERGY EFFICIENCY  
Summary by Aaron Adler, Legislative Counsel Page 2

BILL SEC. NO.	SUMMARY
4: § 8005(b)(2) (standard offer)	<p>This subdivision requires the PSB to put a standard offer program for renewable plant in effect by July 15, 2009. The term of a standard offer contract would be 20 years, except that contracts for solar power will be for 25 years. This subdivision sets out the eligibility requirements and how prices to buy power through the standard offer will be set. Those eligibility requirements include:</p> <ul style="list-style-type: none"><li>(a) The capacity of each standard offer plant is capped at 2.2 MW.</li><li>(b) The total capacity allowed for all standard offer plants is capped at 50 MW.</li><li>(c) The plants must be commissioned on or after Sep. 30, 2009.</li><li>(d) If a Vermont utility builds a 2.2 MW or smaller renewable plant after Sep. 30, 2009, that plant would count toward the 50 MW ceiling, even though the utility would not be eligible for the standard offer.</li></ul>
4: § 8005(b)(2) (A) through (F) (standard offer)	<p>These subdivisions state the pricing provisions for the standard offer, which include several parts.</p> <ul style="list-style-type: none"><li>(a) An initial set of prices that would be in effect until the PSB sets cost-based prices later. These prices include 12 cents per kilowatt hour for farm and landfill methane plants, 20 cents per kilowatt hour for small wind, 30 cents per kilowatt hour for solar. Other technologies will receive a price based on average residential electric rates.</li><li>(b) The PSB is to set cost-based prices based on the following criteria: generic costs for each category of renewable energy, a rate of return for the plant owner on its capital investment equal to the highest rate of return paid to a Vermont utility, and any adjustment, up or down, necessary to provide a sufficient incentive to encourage rapid development of renewable energy.</li><li>(c) The PSB is to conduct an informal review by Sep. 15, 2009 of the initial prices to see if they represent a reasonable approximation of the price that would be paid using the bill's pricing criteria and set an interim price if it concludes the prices do not constitute such a reasonable approximation.</li><li>(d) The PSB is to set prices based on a full analysis under the bill's pricing criteria no later than Jan. 15, 2010.</li><li>(e) The PSB is to reevaluate the cost-based prices every two years, starting in 2012.</li><li>(f) Once the PSB sets cost-based prices, those prices will be in effect for new contracts after the prices are set. Previously signed contracts would remain at the price set out in the contract.</li><li>(g) The price paid to a generator in a specific standard offer contract will be reduced by any tax credits or other incentives paid by the government to the generator.</li></ul>

H. 446 (as passed House): AN ACT RELATING TO RENEWABLE ENERGY AND ENERGY EFFICIENCY  
Summary by Aaron Adler, Legislative Counsel Page 3

BILL SEC. NO.	SUMMARY
4: § 8005(b)(5) (standard offer)	This subdivision requires all Vermont utilities to purchase the power generated by the plants that accept the standard offer, according to a formula set out later in the bill.
4: § 8005(b)(6) (standard offer)	This subdivision requires all renewable energy credits associated with the plants that accept the standard offer to be transferred to the utilities, except that the owner of an agricultural methane plant would get to keep those credits and be able to sell them on the market.
4: § 8005(g) (standard offer)	<p>This subsection contains several provisions on executed contracts for standard offers. Important points here include:</p> <ul style="list-style-type: none"><li>(a) The costs of the contracts are distributed to the Vermont utilities pro rata, according to their share of retail electric sales.</li><li>(b) Utilities can get a credit against these costs for plants that are 2.2 MW or less that they put into operation after July 15, 2009. <i>Note: this should be corrected to Sep.30, 2009 to conform to § 8005(b) as passed.</i></li><li>(c) Vermont utilities would receive ownership of renewable energy credits associated with the plants, except for agricultural methane.</li><li>(d) Vermont utilities would recover from ratepayers their reasonable costs associated with these contracts.</li></ul>
4: § 8005(h) (standard offer)	<p>This subsection requires the PSB to determine the following:</p> <ul style="list-style-type: none"><li>(a) How the SPEED facilitator's expenses are allocated among the utilities and the plant owners.</li><li>(b) The manner and timing of payments to plant owners.</li><li>(c) The manner and timing of payments by utilities.</li><li>(d) Reporting requirements.</li></ul>
4: § 8005(i) (standard offer)	This subsection requires the PSB to revise existing rules as needed to address the interconnection and metering of the plants that accept the standard offer.

H. 446 (as passed House): AN ACT RELATING TO RENEWABLE ENERGY AND ENERGY EFFICIENCY  
Summary by Aaron Adler, Legislative Counsel Page 4

BILL SEC. NO.	SUMMARY
4: § 8005(j) (standard offer)	This subsection requires any wood biomass plant that wants to participate in the standard offer to achieve a fuel efficiency of 70 percent.
4: § 8005(k) (standard offer)	This subsection states that a Vermont utility is not eligible for the standard offer.
4: § 8005(l) (standard offer)	This subsection states that the standard offer does not preclude a voluntary contract between a utility and plant owner.
4: § 8005(m) (standard offer)	This subsection protects the state from liability for the costs of the SPEED program, including the standard offer.
4: § 8005(n) (standard offer)	This subsection requires the PSB, starting in 2011 and every 2 years afterward, to report on the standard offer program.
4a (standard offer)	Because this bill would require utilities to accept standard offer power, this section would change existing law to make utility renewable energy pricing programs voluntary instead of mandatory.
5 (Clean Energy Development Fund)	This section amends the Clean Energy Development Fund statutes to allow the fund to finance thermal energy and geothermal projects, and to direct that the funds appropriated to Vermont by the federal stimulus legislation under the “state energy program” (approximately \$21 million) be deposited into the Clean Energy Development Fund.

H. 446 (as passed House): AN ACT RELATING TO RENEWABLE ENERGY AND ENERGY EFFICIENCY  
Summary by Aaron Adler, Legislative Counsel Page 5

BILL SEC. NO.	SUMMARY
6 (renewable energy incentives)	<p>This section amends Title 30 to provide the following incentives to rate-regulated electric utilities:</p> <ul style="list-style-type: none"> <li>(a) Recovery of prudently incurred permitting costs for renewable energy projects, whether or not the permit is granted.</li> <li>(b) An additional one and one-half percent return on equity.</li> </ul>
7 (wind project regulatory review)	<p>This section would allow a wind developer, when applying for a permit from the PSB, to provide the maximum dimensions and decibel levels for its proposed wind turbines and rotors rather than specifying the exact make and model.</p>
8 (wind on state lands)	<p>This section addresses the Agency of Natural Resources' current policy against siting large-scale wind projects on state lands. This section would:</p> <ul style="list-style-type: none"> <li>(a) state that it is reasonable to site wind turbines on state lands, including turbines of commercial scale.</li> <li>(b) recognize that wind turbine siting on state lands should not conflict with legal restrictions on the use of those lands and should be environmentally responsible.</li> <li>(c) provide that the agency's policy does not bar the agency from considering commercial-scale wind development.</li> <li>(d) require the agency to revisit its existing policy if it receives significant new information.</li> <li>(e) require the agency to report to the legislature on whether it revisits or revises its policy, whether it receives any proposals for wind turbine siting on its lands, and what its response was to any such proposals.</li> </ul>
9, 9a thru 9e, & 10 (solar energy tax credits)	<p>Sec. 9 clarifies that the solar investment tax credit for individuals be attributable to Vermont property; provides that a taxpayer may either use a grant or use the tax credit, but not both; and provides that unused investment tax credits and solar energy investment credits be carried forward no more than 5 years.</p> <p>Sec. 9a, on the solar energy tax credit for corporations, provides that a taxpayer may either take a grant or use the tax credit, but not both, and that unused solar energy investment credits be carried forward no more than 5 years.</p>

H. 446 (as passed House): AN ACT RELATING TO RENEWABLE ENERGY AND ENERGY EFFICIENCY  
Summary by Aaron Adler, Legislative Counsel Page 6

BILL SEC. NO.	SUMMARY
	<p>Sec. 9b repeals the 76-percent business solar tax credit effective Jan. 1, 2011 (but leaves in place the 5-year carry forward).</p> <p>Sec. 9c repeals the solar energy investment tax credit for corporations effective Jan. 1, 2011 (but leaves in place the five-year carry forward).</p> <p>Sec. 9d provides transition rules for 9b and 9c.</p> <p>Sec. 9e requires that the solar tax credits be funded from the clean energy development fund (both individual and corporate credits).</p> <p>Sec. 10 clarifies session law from 2007, relating to the recapture of federal tax credits.</p>
11 & 12 (building energy standards)	<p>These sections amend the residential and commercial building energy standard statutes to require that, by January 1, 2011, the Department of Public Service revise the standards to conform to the requirements of the federal American Recovery and Reinvestment Act (ARRA). These statutory revisions ensure compliance with that act so that Vermont can receive stimulus funds.</p>
11 (residential building energy standards)	<p>As required by the ARRA, Sec. 11 of the bill requires that new residential construction comply with the 2009 edition of the International Energy Conservation Code. This will become effective on or before January 1, 2011, when the department is to complete rulemaking to change the existing standards.</p>
12 (commercial building energy standards)	<p>Consistent with the ARRA, Sec. 12 of the bill requires that new commercial construction comply with the so-called "ASHRAE" 90.1-2007 code or the 2009 edition of the International Energy Conservation Code, whichever provides the greatest level of energy savings. This will become effective on or before January 1, 2011, when the department is to complete rulemaking.</p>

H. 446 (as passed House): AN ACT RELATING TO RENEWABLE ENERGY AND ENERGY EFFICIENCY  
Summary by Aaron Adler, Legislative Counsel Page 7

BILL SEC. NO.	SUMMARY
13 (building energy standards – compliance plan)	<p>The ARRA requires that states create an energy code compliance plan that will ensure 90 percent compliance by 2017, and to establish active training and enforcement programs for energy standards and a system for measuring the rate of compliance. This section would require the Department of Public Service to produce that plan by September 1, 2011, after seeking comments and recommendations from potentially affected parties and persons with expertise. The department also would be required to set up the training and enforcement programs and the compliance measurement system by June 30, 2012.</p>
14 (self-managed efficiency programs)	<p>This section enacts a three-year pilot project for a self-managed energy efficiency program for very large transmission and industrial ratepayers. Important points about this program include:</p> <ul style="list-style-type: none"><li>(a) The Department of Public Service would propose the program to the Public Service Board, which would adopt it by December 31, 2009 for effect January 1, 2010.</li><li>(b) Approved participants would be exempt from the statewide energy efficiency charge.</li><li>(c) Eligible participants are only those who had an energy efficiency charge bill of at least \$1.5 million in 2008.</li><li>(d) The approved participant would commit to a three-year investment of an annual average of \$1 million in electric or other energy efficiency improvements.</li><li>(e) The bill would require independent verification of energy savings claims.</li><li>(f) The bill would include requirements for annual accounting by the applicant and reporting by the department to the board and general assembly.</li><li>(g) The department would be required to terminate the participant's eligibility if it found the participant was not living up to its commitment.</li><li>(h) The participant would be required to pay the difference between its investment and what it would have paid under the energy efficiency charge if either one of two things occurs: (1) the department determines, during the course of the three-year pilot, that the participant is not meeting its commitment; or (2) at the end of the third year, the participant has not met its commitment.</li></ul>



H. 446 (as passed House): AN ACT RELATING TO RENEWABLE ENERGY AND ENERGY EFFICIENCY  
Summary by Aaron Adler, Legislative Counsel Page 8

BILL SEC. NO.	SUMMARY
15 (green growth zone study and report)	This section would require the department to study the issue of creating a pilot project for “green growth zones” in consultation with appropriate state agencies and stakeholders, and file a report with the legislature by December 15, 2009 that states the results of its study and provides a fully formed proposal for a green growth zone pilot project along with draft legislation.
16 (effective date)	This act would take effect from passage. This section also clarifies the amount of credits available for each of taxable years 2008, 2009, and 2010.



## Washington Electric Cooperative, Inc.

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### **H. 446, VERMONT ENERGY ACT OF 2009**

Senate Natural Resources and Energy Committee  
April 27, 2009

Avram Patt, General Manager

#### **STANDARD OFFER**

- WEC supports the concept of a standard offer for small renewables.
- Page 10: exempts utilities with significant qualify SPEED resources under existing statute from paying the standard offer rate for additional energy.

#### **RENEWABLE ENERGY PRICING**

- Page 15. WEC supports making green pricing programs voluntary rather than mandatory for utilities.

#### **JURISDICTION OVER RATES AND CHARGES**

- Page 20. Establishes comparable incentive for cooperative and municipal utilities investing in renewables as the bill offers investor-owned utilities.

## Renewable Energy Stakeholders Collaborative

Catalyst Financial Group, Inc.  
Bob Barton, CEO

Earth Turbines  
David Blittersdorf

groSolar  
Jeffrey Wolfe, P.E., CEO

New Generation Partners  
Lawrence Mott

Renewable Energy Vermont  
Andrew Perchlik, Executive Director

Vermont Businesses for Social  
Responsibility  
Will Patten, Executive Director

Vermont Electric Cooperative, Inc.  
David Hallquist, CEO

Vermont Natural Resources Council  
Elizabeth Courtney, Executive Director

Vermont Sustainable Jobs Fund  
Ellen Kahler, Executive Director

Conservation Law Foundation  
Sandra Levine, Senior Attorney

Green Mountain Power  
Robert Dostis and others

Lake Champlain Regional Chamber of  
Commerce  
Tom Torti, President

Pomerleau Real Estate  
Ernie Pomerleau

Smart Growth Vermont  
Noelle Mackay, Executive Director

Vermont Center for Emerging  
Technologies, Inc.  
David Bradbury, President

Vermont Environmental Research  
Associates  
Martha Staskus, Vice President

Vermont Public Interest Research Group  
James Moore, Clean Energy Advocate

4.446  
4/27/09  
from: Steve Kimbell  
GMP

## Explanation of Proposed Amendments to Standard Offer Provisions in H.446

Prepared for the Senate Committee on Natural Resources & Energy  
by Green Mountain Power  
April 27, 2009

### *First Proposal of Amendment*

- Provides that the duration of standard offer contracts shall be *up to* 20 years (25 in the case of solar), as opposed to always being for 20 (or 25) years.

*Rationale:* This gives plant owners and the PSB discretion to set the length of standard offer contracts.

- Decreases the initial kwh price for methane powered generation from \$0.12 to \$0.08, and solar powered generation from \$0.30 to \$0.25.

*Rationale:* Reducing the initial prices for these types of generation prevents ratepayers from paying more than is needed to provide an incentive for developing those types of generation.

It should be noted that under the bill the owners of farm methane generators would be able to keep and separately sell the renewable energy credits created by renewable energy generation, which currently sell for approximately \$0.03--\$0.04 per kwh.

It should also be noted that farm methane generation has a high effective capacity factor, i.e., it is continuous, base load power, and as a result the prices paid to owners of farm methane generators have more of an impact on ratepayers than the prices paid to lower effective capacity generators such as wind and solar.

### *Second Proposal of Amendment:*

- Provides that the tax benefits and other incentives available to owners of renewable generation facilities shall be considered by the PSB in setting the generic, across the board price to be paid for each category of renewable generation.

*Rationale:* The House passed version of the bill provided that tax benefits and other incentives would be factored into the price paid to generators on a plant by plant basis. That meant that an owner of a plant who did not or could not take advantage of the tax benefits and other incentives would receive a higher price than the owner of a plant who takes advantage of the benefits/incentives. The standard offer concept should encourage renewable generation in a way that minimizes the impact on ratepayers, and tax benefits and other incentives should be fully utilized to accomplish that goal. Additionally, consideration of these benefits and incentives on a generic, across the board basis reduces administrative complexity.

- Provides that in setting prices the PSB is to give due regard to the lowest present value life cycle cost, including environmental and economic costs, within each category of generation.

*Rationale:* This would make it clear that in setting prices for each category of generation the PSB should base its decision on the most cost effective type of plant, both with respect to economic and environmental considerations, within each category of generation.

- Makes it clear that in setting prices the PSB is to balance the need for providing an adequate (but not excessive) incentive for developing renewable generation with the impact such prices will have on ratepayers.

*Rationale:* The House passed version speaks only to setting prices at levels needed to provide an incentive for the development of renewable generation. In setting those prices the PSB should also consider the impact on ratepayers.

### ***Third Proposal of Amendment***

- Deletes the reference to the subdivision that called for consideration of tax benefits and other incentives on a plant by plant basis and otherwise makes the language in the provision being amended more concise.

*Rationale:* Under the Second Proposal of Amendment the consideration of tax benefits and other incentives is to be done on a generic, across the board basis, and under the Fourth Proposal of Amendment the provision calling for consideration of tax benefits and other incentives on a plant by plant basis is deleted.

### ***Fourth Proposal of Amendment***

- Deletes the provision calling for consideration of tax benefits and other incentives on a plant by plant basis.

### ***Fifth Proposal of Amendment***

- Makes it clear that the “capacity rights” associated with the standard offer generation is transferred to the SPEED facilitator along with the energy.

*Rationale:* Under ISO New England’s rules utilities are responsible for their share of the capacity requirements for the region. This amendment makes it clear that the capacity rights associated with standard offer generation accompany the energy being sold to the SPEED facilitator (and then distributed to Vermont’s retail utilities on a pro-rata basis) so that the retail utilities do not have to separately purchase those capacity rights.

Proposed Amendments to H.446  
Prepared for the Senate Committee on Natural Resources & Energy  
by Green Mountain Power  
April 27, 2009

***First Proposal of Amendment:***

Revise 30 V.S.A. § 8005(b)(2) in Sec. 4 as follows:

(2) No later than July 15, 2009, put into effect, on behalf of all Vermont retail electricity providers, standard offers for qualifying SPEED resources with a plant capacity of 2.2 MW or less. These standard offers shall be available until the cumulative plant capacity of all such resources commissioned in the state that have accepted a standard offer under this subdivision (b)(2) equals or exceeds 50 MW; provided, however, that a plant owned and operated by a Vermont retail electricity provider shall count toward this 50-MW ceiling if the plant has a plant capacity of 2.2 MW or less and is commissioned on or after July 15, 2009. The term of a standard offer required by this subdivision (b)(2) shall be **up to 20 years**, except that the term of a standard offer for a plant using solar power shall be **up to 25 years**. The price paid to a plant owner under a standard offer required by this subdivision shall include an amount for each kilowatt-hour (kWh) generated that shall be set as follows:

(A) Until the board determines the price to be paid to a plant owner in accordance with subdivision (2)(B) of this subsection, the price shall be:

(i) For a plant using methane derived from a landfill or an agricultural operation, ~~\$0.08~~ ~~\$0.12~~ per kWh.

(ii) For a plant using wind power that has a plant capacity of 15 kW or less, \$0.20 per kWh.

(iii) For a plant using solar power, ~~\$0.25~~ ~~\$0.30~~ per kWh.

(iv) For a plant using hydropower, wind power with a plant capacity greater than 15 kW, or biomass power that is not subject to subdivision (2)(A)(i) of this subsection, a price equal, at the time of the plant's commissioning, to the average residential rate per kWh charged by all of the state's retail electricity providers weighted in accordance with each such provider's share of the state's electric load.

***Second Proposal of Amendment:***

Revise 30 V.S.A. § 8005(b)(2)(B) in Sec. 4 as follows:

(B) In accordance with the provisions of this subdivision, the board by order shall set the price to be paid to a plant owner under a standard offer, including the owner of a plant described in subdivisions (2)(A)(i)–(iv) of this subsection.

(i) The board shall use the following criteria in setting a price under this subdivision:

(I) The board shall determine a generic cost, based on an economic analysis, for each category of generation technology that constitutes renewable energy. **In conducting such an economic analysis the board shall:**

(a) give due regard to tax credits and other incentives provided by federal and state government or available from other sources, and

(b) give due regard to the lowest present value life cycle cost, including environmental and economic costs. ~~Within each such category, the board shall consider different generic costs for plants of different plant capacities.~~

(II) The board shall include a rate of return **on equity** not less than the highest rate of return **on equity** received by a Vermont investor-owned retail electric service provider under its board-approved rates as of the date a standard offer goes into effect.

(III) The board shall include such adjustments **to the costs determined in subdivision (I) and the rate of return determined in subdivision (II)** as the board determines to be necessary to **balance (a)** the price of providing sufficient incentive for the rapid development and commissioning of plants **while** not exceeding the amount needed to provide such an incentive **and (b) the rate impact on Vermont electric customers.**

(ii) No later than September 15, 2009, the board shall open and complete a noncontested case docket to accomplish each of the following tasks:

(I) Determine whether there is a substantial likelihood that one or more of the prices stated in subdivision (2)(A) of this subsection do not constitute a reasonable approximation of the price that would be paid applying the criteria of subdivision (2)(B)(i).

(II) If the board determines that one or more of the prices stated in subdivision (2)(A) of this subsection do not constitute such an approximation, set interim prices that constitute a reasonable approximation of the price that would be paid applying the criteria of subdivision (2)(B)(i). Once the board sets such an interim price, that interim price shall be used in subsequent standard offers until the board sets prices under subdivision (B)(iii) of this subdivision (2).

(iii) Regardless of its determination under subdivision (2)(B)(ii) of this subsection, the board shall proceed to set, no later than January 15, 2010, the price to be paid to a plant owner under a standard offer applying the criteria of subdivision (2)(B)(i) of this subsection.

***Third Proposal of Amendment:***

Revise 30 V.S.A. § 8005(b)(2)(E) in Sec. 4 as follows:

(D) Once the board **makes its determination** ~~determines~~, under subdivision (2)(B) or (C) of this subsection, ~~the generic cost and rate of return elements for a category of renewable energy~~, the price paid to a plant owner under a subsequently executed standard offer contract shall comply with that determination, ~~subject to the provisions of subdivision 2(E) of this subsection.~~



***Fourth Proposal of Amendment:***

In Sec. 4, delete subdivision (E) in 30 V.S.A. § 8005(b)(2)

***Fifth Proposal of Amendment:***

In Sec. 4, 30 V.S.A. § 8005(g) by inserting a new subdivision (4), as follows:

**(4) The SPEED facilitator shall transfer all capacity rights attributable to the generation capacity associated with the electricity purchased under standard offer contracts to the Vermont retail electricity providers in accordance with their pro rata share of the costs for such electricity as determined under subdivision (2) of this subsection.**

and renumbering the existing subdivision (4) as subdivision (5).



We submit the following proposed amendments to H.446 as passed by the House. Each proposed amendment is followed by justification for the amendment.

### **First Proposed Amendment:**

Revise 30 V.S.A. §8005(b)(2) in Sec. 4 as follows:

Change all occurrences of "September 30, 2009" to "July 15, 2009"

#### **Justification:**

Vermont needs a significant increase in electrical energy supply prior to 2012. Renewable energy systems are the fastest to deploy in scale. By setting the date of availability of the Standard Offer on September 30, 2009 (and also making that the date of 'approval' of the Standard Offer rates, see paragraph 8005(b)(2)(B)(ii)) will eliminate the **start** of development until after September 30, 2009. Based on the state's energy situation, the need to create jobs in the immediate future, and the climate situation, we do not believe Vermont has the time to wait.

While we believe that the suggested Standard Offer rates are as low as possible, the potential added costs to the state (as compared to a rate the Public Service Board may set) are of extremely minimal impact to ratepayers, while the benefits of additional instate energy and jobs are of much greater impact.

This date change would also apply to the Public Service Board's review of the standard offer rates set in the legislation. We believe that if this review is required, it must be done as soon as possible.

The impact on electric rates for development based on the rates included in the bill has been projected at less than \$0.10/month for a typical residential customer in the first year of the program, based upon rates included in this legislation. Total impact of the program, assuming cost declines now seen in renewable energy, is projected to be less than \$0.50/month for a typical homeowner. These numbers are supported by both Renewable Energy Vermont and Green Mountain Power. These levels of rate impacts will be offset by increased electric system reliability, increased jobs, and increased wholesale electric prices.

### **Second Proposed Amendment**

Revise 30 V.S.A. §8005(b)(2)

The term of a standard offer required by this subdivision (b)(2) shall be 10, 15, 20 or 205 years at the option of the plant owner, except that the term of a standard offer for a plant using solar power shall be 25 years.



**Justification:**

Different renewable energy technologies require different contract terms to promote development. A 15 year term for a solar project is likely to be too short while for a farm methane or a biomass system it likely is too long. Allowing the developer to choose the length of the contract, with a 10 year minimum will still provide rate payers with cost stability while also providing more diversity and promoting a greater number of projects.

**Third Proposed Amendment**

Strike 30 V.S.A. §8005(b)(2)(A)(v)

~~(v) The prices stated in this subdivision shall be subject to the provisions of subdivision (2)(E) of this subsection.~~

**Justification:**

See proposed amendment # 6, which strikes sub-section (E).

**Fourth Proposed Amendment:**

Revise 30 V.S.A. §8005(b)(2)(B)(i)(I) in Sec. 4 as follows:

(I) The board shall determine a generic cost, based on an economic analysis, for each category of generation technology that constitutes renewable energy. In conducting such an economic analysis the board shall:

(a) give due regard to reasonably available tax credits and other incentives provided by federal and state government or reasonably available from other sources, and

(b) Within each such category, the board shall consider different generic costs for plants of different plant capacities.



(II) The board shall include a rate of return on equity not less than the highest rate of return on equity received by a Vermont investor-owned retail electric service provider under its board-approved rates as of the date a standard offer goes into effect.

**Justification:**

The intent of the Standard Offer legislation is to make renewable energy projects economically viable for construction by both utilities and independent developers. As such, the price basis for the Standard Offer is to be based on actual economics for generic plants.

The Public Service Board analysis must take into account all of the economic conditions of the generic projects, including other sources of funding, such as Federal and State tax credits, grants, loan guarantees, etc. (The current level proposed in the legislation for solar, \$0.30/kWh, considers these other funding sources.)

(a) Some of these other funding sources, while available, may not be 'reasonably' available. For example, a third party developer may not have the ability to capture the Vermont tax credit, making that funding not reasonably available.

(b) Different plant sizes have different cost structures, and need different incentives. If one uniform incentive is offered, only the largest plants will be constructed.

(II) The rate of return offered to private third party developers should be higher than that offered utilities, since utilities have the ability to recover all development costs, whether successful or not, whereas third party developers are at risk. The rate of return should include any 'bonus' rate that utilities get for constructing renewable power projects.

**Fifth Proposed Amendment**

Revise 30 V.S.A. §8005(b)(2)(C)

(C) On or before January 15, 2012 and on or before every second January 15 after that date, the board shall open a non-contested case docket to review the prices set under subdivision (2)(B) of this subsection and determine whether such prices are providing sufficient incentive for the rapid development and commissioning of plants. In the event the board determines that such a price is inadequate or excessive, the board shall reestablish the price, in accordance with the requirements of subdivisions (2)(B)(i)-(iii) of this subsection, for effect on a prospective basis commencing two months after the reestablished price has been set on March 1 of the following year.



**Justification:**

This allows the PSB to re-set the rates prior to the two year cycle if changes on the ground cause the rates set to be inadequate or excessive.

**Sixth Proposed Amendment**

Strike 30 V.S.A. §8005(b)(2)(E)

~~(E) The board shall provide that, when a standard offer contract is executed with respect to a particular plant, any tax credits and other incentives provided by federal, state, or local government to a plant are subtracted from the price that would otherwise be paid to the plant owner under that contract. For the purpose of this subdivision (b)(2)(E), the term "tax credits and other incentives" excludes tradeable renewable energy credits.~~

**Justification:**

We believe that this review of each project makes the standard offer unworkable and would cause unnecessary upward impact on rates. The Board will be taking into account the incentives reasonably available when they set the standard offer rates. Thus, there is no need to do so again for each project. To do so would create a disincentive to obtain federal and other grants because the developer would get a higher rate if they do not obtain these incentives.

**Seventh Proposed Amendment:**

In Sec. 4, 30 V.S.A. § 8005(g) by inserting a new subdivision (4), as follows:

(4) The SPEED facilitator shall transfer all capacity rights attributable to the generation capacity associated with the electricity purchased under standard offer contracts to the Vermont retail electricity providers in accordance with their pro rata share of the costs for such electricity as determined under subdivision (2) of this subsection.

**Justification:**

This change properly assigns the capacity rights from the plant receiving the Standard Offer contract to the SPEED facilitator, and thence to the utilities.

**Eighth Proposed Amendment:**

Revise in Sec. 4 as §8005(b)(4),





~~(5)(4) encourage~~ Encourage retail electricity provider and third party developer sponsorship and partnerships in the development of renewable energy projects.

**Justification:**

The legislation should be to encourage **both** utilities and third party developers to build renewable energy facilities. The rules and pricing set by the Public Service Board subsequent to this legislation should reflect that.

**Ninth Proposed Amendment**

Revise 10 V.S.A. §6523(f)(1) in Sec. 5. As follows:

**(1) 50% to €** The Vermont small-scale renewable energy incentive program currently administered by the renewable energy resource center, for use in residential and business installations. These funds may be used by the program for all forms of renewable energy as that term is defined under 30 V.S.A. § 8002(2), including biomass and geothermal heating.

**Justification:**

The Vermont small solar and wind partnership program has been an extremely successful CEDF program. One of the key goals of the federal ARRA funds is job creation. Deployment of these funds quickly into this successful program will create and stabilize more jobs faster than any other CEDF program. Directing 50% of the funding through legislation will speed the process of execution, and ensure faster job creation and renewable deployment.

**Tenth Proposed Amendment**

Revise 32 V.S.A. §5822(d) Sec. 9. as follows:

(d) A taxpayer shall be entitled to a credit against the tax imposed under this section of 24 percent of each of the credits allowed against the taxpayer's federal income tax for the taxable year as follows: elderly and permanently totally disabled credit, investment tax credit attributable



to the Vermont-property portion of the investment, and child care and dependent care credits. A taxpayer shall also be entitled to a credit against the tax imposed under this section of 76 percent of the Vermont-property portion of the business solar energy investment tax credit component of the federal investment tax credit allowed against the taxpayer's federal income tax for the taxable year under Section 48 of the Internal Revenue Code; provided, however, that a taxpayer who receives any grants or similar funding from any public or private program that assists in providing capital investment for a renewable energy project the Vermont Clean Energy Development Fund is not eligible to claim the business solar energy tax credit for that project. Any unused business solar energy investment tax credit under this section may be carried forward for no more than five years following the first year in which the credit is claimed.

**Justification:**

As written, this would eliminate the Vermont State Tax credit for almost all applicants. There are many other sources of funding which large projects receive. Additionally, many large projects will now opt to use the Federal "grant in lieu of ITC" program, providing them a grant, which would eliminate the opportunity to gain the Vermont Tax Credit. Furthermore, federal loan guarantees, USDA agricultural programs, and other programs are available which do not use state funds, but improve project economics. The proposed amendment clarifies that no CEDF funds can be expended on a project which also receives the Vermont Tax Credit. We are in support of that measure.

**Eleventh proposed amendment**

Revise 32 V.S.A. §5930z Sec. 9a. as follows:

- (a) A taxpayer of this state shall be eligible for a credit against the tax imposed under section



5832 of this title in an amount equal to 100 percent of the Vermont-property portion of the business solar energy investment tax credit component of the federal investment tax credit allowed against the taxpayer's federal income tax for the taxable year under Section 48 of the Internal Revenue Code; provided, however, that a taxpayer who receives any grants or similar funding from any public or private program that assists in providing capital investment for a renewable energy project the Vermont Clean Energy Development Fund is not eligible to claim the business solar energy tax credit for that project.

**Justification:**

This has the same effect as our Tenth proposed amendment.



# CONSERVATION LAW FOUNDATION

Comments of Conservation Law Foundation to  
the Senate Natural Resources & Energy Committee  
regarding H.446 – Renewable Energy & Energy Efficiency  
April 27, 2009

## **Renewable Energy Provisions**

Conservation Law Foundation (CLF) generally supports H.446 and its provisions regarding renewable energy development. These are measures that would help Vermont develop more renewable energy resources and help reduce pollution and global warming emissions.

## **Building Codes and Clean Energy Development Fund**

Conservation Law Foundation also supports the provisions regarding building codes and directing funds received under the American Recovery and Reinvestment Act to the existing Vermont Clean Energy Development Fund. These are important provisions that will facilitate Vermont obtaining Recovery Act funds.

## **Direct funds for Energy Efficiency**

CLF is disappointed that this provision does not more explicitly direct funds for energy efficiency investments. Energy efficiency continues to be the lowest cost and least polluting resource. There continue to be additional energy efficiency investments to make that would provide both cost and pollution savings for Vermonters. In light of the goals in the Department of Energy guidance regarding energy savings per dollar invested, expanding efficiency will be necessary to actually achieve the goal of “no less than 10 million source BTUs saved per \$1,000 spent.” DOE Guidance at §5.7 Energy Savings. It is critical that for Vermont to continue to obtain energy grants, Vermont will have to demonstrate aggressive and cost effective savings. Rather than provide all the funds to the Clean Energy Development Fund for all the possible uses, CLF would recommend that 50% of the funds be specifically allocated to support energy efficiency for unregulated fuels through existing energy efficiency programs.

## **Eliminate IBM Exemption**

Conservation Law Foundation does not support the proposed “Self-Managed Efficiency Programs.” This is essentially an exemption for IBM from making its share of contributions to support energy efficiency investments that will provide statewide benefits. As a matter of policy this change is not sound. The investments made by Vermont’s energy efficiency utility provide broad benefits and reduce both costs and pollution for all Vermont. Carving out an exemption for one large user, IBM, allows a “free ride” for IBM. It allows IBM to receive the benefits of the investments the rest of us make, without providing its own fair share of a contribution.

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## CONSERVATION LAW FOUNDATION

Under existing law, IBM and any other customer can use efficiency funds to make sound efficiency investments in their own facilities. This provision ensures that the investments made provide broad benefits in terms of savings and pollution reduction.

CLF understands that the exemption was created specifically to benefit IBM which is an important employer in Vermont.

### **Changes to IBM Exemption**

If the Committee chooses to keep the "Self-managed Efficiency Program" in this bill, CLF would recommend two specific changes to ensure that the investments made will produce real savings. First, the Public Service Board should provide oversight for this program as it does with other efficiency programs. Second, the verification of savings should be the same as the verification required for other efficiency programs. CLF would be pleased to provide specific language on this if the Committee would like to make these changes.



## MEMO

**Date:** April 24, 2009  
**To:** Senate Natural Resources & Energy Committee  
**From:** Johanna Miller, Energy Coordinator and Outreach Director, VNRC

**RE: H.446**

Thank you for the opportunity to speak with you today, and for all you've done to help Vermont tackle the energy and climate change challenges facing the state.

There remains much more to do, however, to help Vermonters make their homes more energy efficient and reduce their heat and power bills, develop local, renewable supplies to help meet the state's energy needs and create good Vermont jobs. VNRC views H.446 as another important step to address these issues, and I am here today to express our support of this bill.

For the past 46 years, VNRC has worked to advance reasoned, forward-looking solutions to environmental and energy-related challenges. We have spent the last few years in our role as a founding partner in the Vermont Energy and Climate Action Network helping to start and support town energy committees across Vermont — now numbering over 75 — many of whom are interested in what happens here under the Golden Dome and would like to see initiatives like H.446 become law.

VNRC testified in support of this bill in the House, and we are glad to reiterate our support for the bill before the SNRE committee today.

A few of the elements of this bill that VNRC believes are particularly important are:

**Sec. 4 — Expansion of the SPEED program requiring long-term, standard offer contracts for small-scale renewable energy projects.** While VNRC defers to utility rate structure experts like REV to support fair and reasonable prices for renewables, VNRC believes that this requirement will help create the stable, competitive and much-needed pricing structure renewable energy developers need to expand in-state renewable energy supplies. It is also important to note that policies like this are a strong and clear reflection of the will of the majority of Vermonters who have overwhelmingly indicated their support for expanding renewable energy development projects in the state. Many Vermonters also expressed, through the DPS's public engagement process last year, that they would even be willing to pay more for renewable energy. This key provision lays a more solid and stable foundation for bringing more smaller-scale renewable energy projects online, which will not only begin to diversify the state's energy portfolio, but create good, Vermont jobs.

**Sec. 5 — Vermont Clean Energy Development Fund.** This section does two important things. First, it directs monies from the federal stimulus bill — the American Recovery

and Reinvestment Act — to the CEDF. And, second, it expands the types of projects that the CEDF can support to include thermal or geothermal resources. Expanding the CEDF to support approved thermal energy and geothermal projects will help expand renewable energy innovation and generation in a crucial sector — heating.

**Sec. 8 — Wind Energy Generation; State Lands.** VNRC supports the approach taken in this section as it allows for the exploration of opportunities to develop commercial-scale wind energy on state lands, which could provide a public benefit, while also ensuring that potential projects are compatible with existing natural resource protection policies in the state.

**Sec. 12 — Commercial Building Energy Standards.** Provisions like this which require that the state's building codes support key national and international building standards, or standards which provide the greatest level of energy savings, are important to help reduce energy consumption and greenhouse gas emissions.

Lastly, it's important to note that these and the other important provisions in this bill, in total, reflect the essential steps the state must take to meet the greenhouse gas reduction goals already in Vermont statute — 25 percent by 2012, 50 percent by 2028 and 75 percent by 2050.

Thank you in advance for your consideration of this important bill.



SNRE- April 26, 2009

**Suggested changes to "Self-Managed Efficiency Programs"**  
**Section 14 of H. 446**

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**Issue:** Consistent with established jurisdiction of the Board and the Department, oversight of self-managed customers should be provided by the Public Service Board, not the Department of Public Service. As with prior self-administration that IBM participated in (the "Customer Credit" Program, and the self-administration option added to statute previously by the Legislature (the "Energy Savings Account")), these programs are all programs that are being conducted on behalf of utilities to fulfill utilities' obligations under least-cost planning and other statutes. Both the programs and the utilities are under the regulatory jurisdiction of the PSB. While the DPS may be called upon here to propose programs to the Board, it is the Board that should be responsible for oversight.

The changes to correct this are to replace the word "department" with "board" in all occurrences in subsections (h)(4)(C), (h)(4)(F), (h)(4)(H), (h)(4)(I), (h)(4)(J), and (h)(4)(K), and in (h)(4)(G), to replace the words "department shall report to the board and the general assembly" with the words "board shall report to the general assembly."

**Issue:** Savings verification for self-managed customers should be consistent with verification for all other efficiency programs under the jurisdiction of the Board. These efficiency efforts are being conducted in fulfillment of the obligations of utilities under the jurisdiction of the Board. Moreover, the Board and utilities rely on the validity of these savings in resource planning, setting budgets for statewide efficiency resource acquisition and evaluating the performance of efficiency efforts. For all other efficiency programs under the jurisdiction of the Board, the Department conducts a savings verification process using methods and standards that it determines to be appropriate, and then makes a recommendation. The entity making the savings claim (Efficiency Vermont or a utility) may agree with the DPS or propose different savings values. The final judgment of verified savings is made by the Board. It is unnecessary and unreasonable to remove or limit the Board's exercise of regulatory oversight in this regard. As with other efficiency programs, the DPS should conduct savings verification using whatever means and standards it determines to be appropriate, but the acceptance of results from such verification activities should still be a determination of the Board.

James Moore  
4/27/09

The change to correct this is to modify (h)(4)(B) as follows::

(B) A cost-based fee to be determined by the board shall be charged to the applicant to cover the administrative costs, including savings verification, incurred by the board and department. Procedures for verification shall be determined by the board, and shall be consistent with savings verification procedures established for the entities described in section 209(d)(2). ~~Certification of the project by a licensed professional engineer in the appropriate engineering field shall suffice as verification of savings. The person performing the savings verification shall be selected by the department and shall not be an employee of the applicant.~~



## Vermont Electric Cooperative

Rate Impact Analysis of H.446

VEC load share 7.77%  
 Full build out 50 MW  
 VEC share of Standard Offer Renewables 3.885 MW

Scenario #1	% deployed	Capacity Factor	kWh/year*	SO Price	Total Cost to VEC	% Rate Increase
Solar	33%	17%	1,928,514	\$ 0.30	\$578,554	
Wind	33%	35%	3,970,470	\$ 0.20	\$794,094	
Biomass	33%	90%	10,209,780	\$ 0.12	\$1,225,174	
			16,108,764		\$2,597,822	
			what we would otherwise pay =>		\$1,047,070	
			REC value (3 cents/kwh) =>		\$483,263	
			Total rate increase =>		\$1,067,489	1.64%

Scenario #2	% deployed	Capacity Factor	kWh/year*	SO Price	Total Cost to VEC	
Solar	10%	17%	578,554	\$ 0.30	\$173,566	
Wind	10%	35%	1,191,141	\$ 0.20	\$238,228	
Biomass	80%	90%	24,503,472	\$ 0.12	\$2,940,417	
			26,273,167		\$3,352,211	
			what we would otherwise pay =>		\$1,707,756	
			REC value (3 cents/kwh) =>		\$788,195	
			Total rate increase =>		\$856,260	1.32%

Scenario #3	% deployed	Capacity Factor	kWh/year*	SO Price	Total Cost to VEC	
Solar	80%	17%	4,628,434	\$ 0.30	\$1,388,530	
Wind	10%	35%	1,191,141	\$ 0.20	\$238,228	
Biomass	10%	90%	3,062,934	\$ 0.12	\$367,552	
			8,882,509		\$1,994,310	
			what we would otherwise pay =>		\$577,363	
			REC value (3 cents/kwh) =>		\$266,475	
			Total rate increase =>		\$1,150,472	1.77%

Scenario #4	% deployed	Capacity Factor	kWh/year*	SO Price	Total Cost to VEC	
Solar	10%	17%	578,554	\$ 0.30	\$173,566	
Wind	80%	35%	9,529,128	\$ 0.20	\$1,905,826	
Biomass	10%	90%	3,062,934	\$ 0.12	\$367,552	
			13,170,616		\$2,446,944	
			what we would otherwise pay =>		\$856,090	
			REC value (3 cents/kwh) =>		\$395,118	
			Total rate increase =>		\$1,195,735	1.84%

\* 8760 hours/year x 3,885 kW x percent deployed x capacity factor