

From: Maja Göpel <maja@worldfuturecouncil.org>

Date: Mon, February 8, 2010 10:59 am

STUDY ON RESULTS OF FOCUS ON SUPPLY SIDE ONLY W/O ENERGY CONSUMPTION WORK

My slide illustrates that the "highly successful" renewable electricity policy in Germany turns out to be a total failure when it come to greenhouse gas emissions reductions. After having built over 20,000 windmills, installed 3,800 MW of photovoltaic solar power and increased the share of renewable energy from 3% to 14%, the total emissions from the German electricity sector are exactly the same in 2007 than they were in 1990.

The reason is simple: while the kWh was indeed "decarbonized" to some extent, the steady increase of power consumption in Germany more than compensated the effect of the introduction of renewable energies:

In fact, I am totally convinced that you will hardly find a German citizen that is aware of the situation described above. Wind turbines and solar panels are visible everywhere. People are convinced the country is on the right track, while the ship is still steering towards the iceberg. And can you picture at what phenomenal cost Germany barely managed to come back to the same emission level?

I had made this point already in my initial message that kicked off the "Changing Course" debate, but I thought the figures might clarify what I am trying to say.

In fact Germany is not the only bad energy and climate news from Europe. Spain, solar power champion in 2008, when it added alone half of the world's new capacity, is expected to be a staggering 37% off Kyoto target by 2010. Denmark, the wind power champion of all times, with around 20% in national electricity generation, is expected to be off Kyoto target by 19% in 2010. Both countries are expected to fail their respective Kyoto targets even with additional measures.

Unless we radically rethink how we provide energy services, the massive introduction of renewable energy production will not change anything. The attempt to provide our current level of consumption with renewable energies is doomed to failure. It is indeed hardly possible to imagine a more successful renewable energy production strategy than the German feed-in tarif boosted one. But this is not about production. The key issue is how we conceive energy services from a systemic point of view.

Dr. Maja Göpel, Director Future Justice
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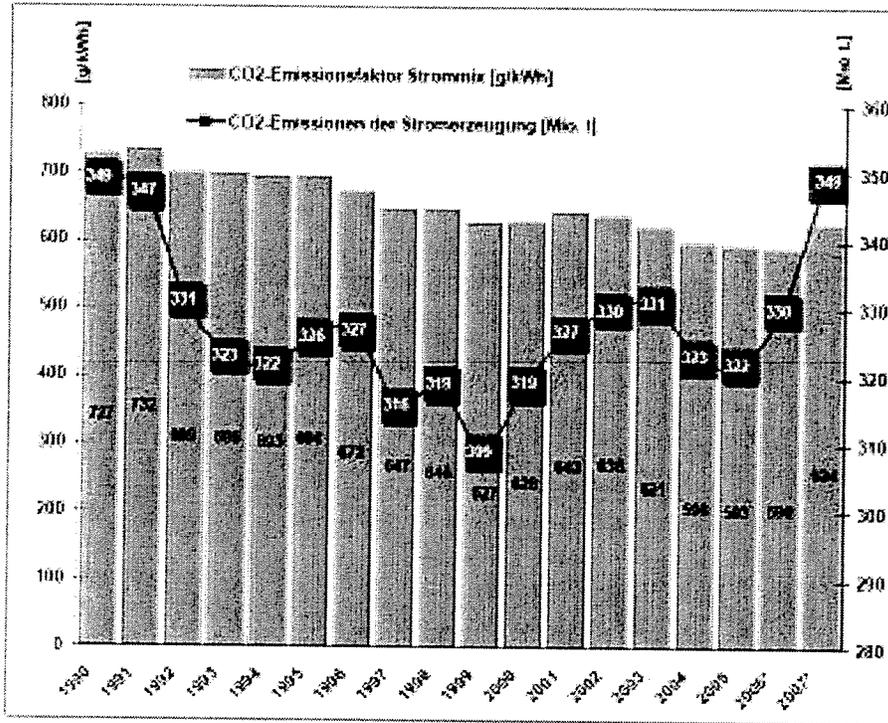
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Germany

	RE 1990	2007
Share %	3	14
Prod. TWh	17	88
Wind MW	68	22,000
PV MW	2	3,800
CO2 mt	349	349

Source: BMU/ 2008



Source: Umweltbundesamt, 2008



February 17, 2010

Debra A. Howland
Executive Director and Secretary
New Hampshire Public Utilities Commission
21 South Fruit Street, Suite 10
Concord, NH 03301

RE: Unitil Comments in Docket DE 10-024

Dear Secretary Howland:

Thank you for the opportunity to provide comments in Docket DE 10-024 regarding program ideas under the Renewable Energy Fund. We would offer the following recommendations for newly developed commercial and industrial programs:

1. We recommend that rebates be payable to third parties designated by the customer. This provision will allow for less cash outlay by the customer if an installer is willing to defer upfront payment and later receive the rebate directly from the PUC. This will also allow for Power Purchase Agreement (PPA) Developers to build into their economic models a guarantee that these funds will be forthcoming from the PUC.
2. We also recommend that rebates be payable for a project regardless of ownership of the equipment/system. Such a provision would allow PPA Developers to install projects on customers' buildings and the project would still qualify for a rebate. Third party project development is an important option for development and implementation of new renewable projects due to the significant economic and technical barriers, and we think it is important to allow this approach to be eligible for rebates.

Please feel free to contact me if you have any questions.

Regards,

Thomas Palma, Esq.
Manager, Distributed Energy Resources
Planning and Design
(603) 294-5172

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Ruderman, Jack

From: Russ Aney [russaney@yahoo.com]
Sent: Tuesday, February 09, 2010 12:18 PM
To: Ruderman, Jack
Subject: RE: 10-024 Renewable Energy Fund Order of Notice

Jack,

I look forward to the session on the 26th. I also have a suggestion that colors a bit outside of the lines defined by your notice. Although you note:

Pursuant to RSA 362-F:10, VIII, the Commission, after notice and hearing, by order or rule, may also establish "additional incentive or rebate programs for customer-sited thermal and renewable energy projects" to be supported by the REF

RSA 362-F, I also notes that:

The moneys...shall be used by the commission to support thermal and electrical renewable energy initiatives...

Given limited funds, and in consideration of the key market barriers to renewable energy investments, it might make more sense to spend the limited funds in helping potential investors in renewable energy generation to make better decisions, noting that many investments already produce a positive net present value with a reasonable discount rate. I believe this would qualify as "an initiative in support of renewable energy." A resource acquisition strategy of buying down initial costs is only one tool that the state can use to promote renewable investment.

Currently, it is very difficult for people to go through the decision making process on renewable energy investments, increasing the 'transaction costs' of doing so. The unknowns of renewable energy generation also increase the perceived risk premium. The state could significantly reduce the transaction costs and perceived risk premiums. I would like to suggest a program along these lines might also be worthy of discussion on the 26th. Indeed, until investments are made in this area, the state will likely have to overspend on incentives to achieve a similar market impact because the perceived market premium for considering and investment is higher. If you would like to discuss what such programs might look like, I would be glad to meet with you to discuss them.

Best,

Russ
T: 603.865.7488
russaney@yahoo.com

From: Bateman, Diane [mailto:Diane.Bateman@puc.nh.gov]
Sent: Tuesday, February 09, 2010 10:01 AM
To: adavis@hrclough.com; aduncan@bldenergytech.com; akarg@ruger.com; akrygeris@gsinet.net; alee@laundrylist.org; alice.chamberlin@2c1forest.org; alinder@nhla.org; amanda.merrill@leg.state.nh.us; Noonan, Amanda; Noonan, Amanda; amandaking670@hotmail.com; amy.ignatius@nh.gov; andrea.obrien@unh.edu; andyduncan@comcast.net; aoconnor@nepga.org; ardencala@yahoo.com; armarchildon@lssne.org; arobinson@sealib.org; avolinsky@bernsteinshur.com; bambimillersccd@aol.com; barry.needleman@mclane.com; bburtis@cleanair-coolplanet.org; bclendenning@nfainfo.org; bearnotchdesign@hughes.net; belaitr@psnh.com; belchera@asme.org; ben@garlandmill.com; berniegraves@yahoo.com; Bertandcardi@msn.com; bethsgarden@myfairpoint.net; bfrost@nhhfa.org; bgabler@cleanpowerdevelopment.us; bgrace@seadvantage.com; bhollingworth@nh.gov; billzhome@juno.com;

2/18/2010

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Ruderman, Jack

From: madeline.nhsea@gmail.com on behalf of Madeline McElaney [madeline@nhsea.org]
Sent: Friday, January 08, 2010 7:14 PM
To: Ruderman, Jack
Subject: PUC renewable energy rebate
Follow Up Flag: Follow up
Flag Status: Flagged

Hi Jack,

The conversation about NH's renewable energy rebate program at today's EESE Board meeting got me thinking. I'd like to just run the following thoughts by you (and put them in writing before I lose them). If any of this does not make sense, feel free to ask for clarification or call me. It's late on a Friday and my brain is mush at this point!

Everyone seems to agree that energy efficiency measures should be taken as a first step. Some suggested that energy efficiency measures should be a pre-requisite for an individual or business to receive funding from the PUC rebate program. What if the \$\$ available for rebates on renewable energy systems was divided into 2 pots- 1 pot of money was for everyone and was given out at (and I'll use a random \$\$ amount here) \$3 a watt. The other pot of money was specifically for applicants that have already taken significant steps to achieve a certain level of energy efficiency and are now ready for a renewable energy system. As Julia suggested, we can use the web portal that NE Carbon Challenge and NHSEA are building to help set and track criteria/standards for EE work. Since they have already done EE work, the renewable energy system that would suit their site would be smaller than it would have been if they had NOT done any EE work. Therefor the applicant should be "rewarded" for this by getting a higher dollar value per watt rebate. (It *might* even work out to be the same \$ amount in rebates as they would have gotten if they were in category 1 and had not done any EE .)

Another thought, to answer your question "Renewable thermal technologies such as wood pellet boilers and solar hot water systems are generally considered more cost-effective than electrical renewables, e.g. wind and photovoltaics. Should thermal technologies therefore be given a higher priority?".

Maybe the PUC should consider the life span of a renewable energy system when or if deciding whether a particular system is given a higher priority? PV panels might cost more than a boiler (and have a longer payback period) but will one product need more maintenance over time? or need to be replaced more often? I don't know the answer to this.

Please keep me in the loop on any upcoming hearings regarding the renewable energy rebate programs. I want to make sure that NHSEA is involved in this conversation.

Thanks,
Madeline

--

Madeline McElaney
Program and Outreach Coordinator
New Hampshire Sustainable Energy Association
603-226-4732
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2/15/2010

Ruderman, Jack

From: sandra@plymouthenergy.org
Sent: Tuesday, January 12, 2010 2:49 PM
To: ro@nhcf.org; Ruderman, Jack
Cc: sandra@plymouthenergy.org; craig@plymouthenergy.org; peter@plymouthenergy.org
Subject: feedback on rebate questions

Follow Up Flag: Follow up
Flag Status: Flagged

To: Jack Ruderman and Richard Ober
From: Plymouth Area Renewable Energy Initiative

We saw the questions you posed to the EESE Board about the rebates and we wanted to send along our brainstorm on those questions. My apologies for the informal format here and any contradictions within the ranks. Myself, Craig Cadieux (our Energy Solutions Manager) and my Co-Director Peter Adams have offered our thoughts on the questions you posed. For what it is worth we thought we'd send it along to you. Thank you for all the work you are doing with the EESE Board to further renewable energy and conservation in New Hampshire. We keep an eye on your agenda and minutes and try to stay informed about what is happening at the statewide level. We hope we can continue to be an ear on the front lines for you.

Sincerely,
Sandra Jones
Plymouth Area Renewable Energy Initiative

QUESTIONS posed to EESE Board FOR DISCUSSION:

1) Given the uncertainty of future funding, how should the PUC go about planning and budgeting for new rebate programs?

. Should we limit the number of new programs?

Yes, I think it should be for solar water and solar pv. Wind is less reliable. The rebates should be 15% of the cost of the system and capped at \$1000 (for thermal and 20% up to \$2000 for solar pv) so the rebate money lasts longer but is still large enough to help a family meet the price of installation.

If giving out a wind rebate, start by requiring a year long wind study and give a % rebate on the cost of conducting this study. If it's not a good site, which is often the case, this will save homeowners money down the road and encourage them instead to apply their investment to solar that will produce more power for them.

Yes, The problem with rebates is that people and the markets use them as crutches and they don't build up real, sustainable markets for the future. Monies should be spent promoting/marketing the attributes of renewables and conservation (as there are many) and let the markets build sustainably. Rebates are the easy way out but they don't build the future.

o If so, do certain technologies get preference over others?

I believe it is up to EESE to determine what technologies they want to promote in the short

term. Every technology has its positives and negatives so pick one and stick with it. I believe it should promote solar pv and solar thermal.

o If so, do we set a cap on the number of recipients in each program in each year?

Capping a program will be a headache for contractors and for your office. Make the rebates of a size that anyone can participate and is sustainable for a very long time. The most educated and savvy people that grab big rebates are often the people that need them the least. Make them smaller but meaningful and sustainable for many years otherwise the industry will not take them seriously. If we have to ask every six months as to whether there is still money in the pot it will move the industry backwards and frustrate local contractors to the point of not offering renewable energy installations .

. Create a range of new programs but fund them only at modest levels? Yes, see above. Solar Thermal, PV; Wind Study, Wind (if studied), Biomass, Feasibility Site Visits

o How to allocate limited funds?

First come first served, I like the current pre-approval process so homeowners know whether they have the rebate prior to installing.

If the rebate is going to be small say \$500. Make the application process easier.

One way to allocate funds is to offer two rebates One) full rebate up to \$300 on professional site visit fee (would include the professional submitting the rebate app and attachments) and 2) % of cost for the installation rebate. Offering a rebate on the site visit whether or not the project moves forward would increase the educational effort, encourage people to take the first step and financially support contractors with upfront costs that they often absorb.

o First come, first served with no preference for technology? If you set the rebates at a sustainable amount for many years you won't have to worry about first come first serve.

. Starting in 2011, should we reduce the rebate level in the current program, in turn providing more funds for other programs and supporting a policy of reducing rebates as prices and market barriers decrease?

Whatever builds, sustainability in the industry. Adding and pulling rebates hurts the industry. So if you are thinking of pulling a rebate, pull it now, or don't start it in the first place. Educational organizations like PAREI and NHSEA are gasping for air when it comes to getting or staying funded, but (due to their front line work) have moved more conservation and renewable projects than any rebate program. Let programs that provide support and education die and we will have a failed renewable energy industry in NH.

2) Renewable thermal technologies such as wood pellet boilers and solar hot water systems are generally considered more cost-effective than electrical renewables, e.g. wind and photovoltaics. Should thermal technologies therefore be given a higher priority?

I disagree, PV should be given priority. Thermal is a better payoff in the short run, but most likely has a higher maintenance cost in the future. A pellet boiler might only last 10-15 years.

Most PV can go for 30-40 years without a hiccup. Where will the concerns and cost of energy be in 15 years and what technologies will still be in operation?

I think PV and Thermal should be given equal priority. Thermal, is at a price point easier to get into although I do agree it's maintenance issues are greater and life expectancy possibly 5 – 10 years less.

Yes, funding should be available for solar project and biomass projects.

Other Comment:

The key is how to get momentum going, sustain it, spur innovation, prod market forces to reduce costs for renewables, and prod carbon fuel users to reduce their usage. My position is state funding should be in the form of a percentage of a projects cost (or carbon savings) as opposed to a dollar amount. Funding should be coming from the users of carbon based fuels. A set amount of funds are available every year and they are allocated on a first come first serve basis. As there is a reduction in the use of carbon based fuels, there will be a decrease in the amount of funds available.

mail2web - Check your email from the web at <http://link.mail2web.com/mail2web>

From: Steve Condon [scondon@alterisinc.com]
Sent: Tuesday, March 02, 2010 11:25 AM
To: Bernstein, Barbara
Subject: RE: recommendation on application

Follow Up Flag: Follow up
Due By: Wednesday, March 03, 2010 9:00 AM
Flag Status: Flagged
Hello Barbara,

Thanks for having us out and I appreciate the opportunity to participate. The following would be something that would make sense from my perspective, as both a homeowner and a representative with Alteris:

# 4 x 8 Flat Plate Collectors - SHW System	Estimated Investment	Suggested NH REF Rebate	Federal ITC 30%	Final Investment after Incentives	Total % Incentivized
1	\$8,000.00	\$1,000.00	\$2,100.00	\$4,900.00	38.75%
2	\$10,000.00	\$1,500.00	\$2,550.00	\$5,950.00	40.50%
3 plus	\$12,000.00	\$2,000.00	\$3,000.00	\$7,000.00	41.67%

The spreadsheet is quick and dirty reflecting an average investment and the incentives that I would like to see coincide. That said, 1 collector may be good for a family of 1 person, 2 collectors roughly 2-3 person family and 2 collector system would be great for a family of 3-5 people (kids) for domestic hot water preheating. My personal thought would be that if people are interested in space heating than they would likely be looking at a minimum of 4 plus collectors should apply to the max incentive noted above. All systems will reduce our dependence on fossil fuels substantially and each incentive should provide a positive outlook on the investment. If some wish to invest in space heating than they will assume the added investment and benefits while taking advantage of a \$2,000.00 capped rebate.

Site Assessment and Minimum Standards:

A personal suggestion would be to have all participants provide a "pathfinder, Solmetric SunEye" or equivalent report taken from the roof or location of the proposed system. The pathfinder and SunEye (or equivalent) are a standard in the industry noting "site efficiency" which realistically is how much sun the site will see as a percentage of "perfect conditions". For the sake of simplicity I would suggest requiring that a site inclusive of roof pitch, orientation and shading need be a minimum of say anywhere from 70-80% productive. This is easily reflected in a column on the Pathfinder Report as well as what is noted as the TSFR on a SunEye Report. I attached a SunEye and a Pathfinder Report for your review as well. The TSFR can be found on Page 2 at the bottom as follows:

TSRF for the skyline in this session: 91% - that means that the site orientation, shade, roof pitch, combined will see a 9% loss in the potential output of the system.

The Pathfinder notes a "summary report" on the last page where the column noted "Actual Site Efficiency" provides the same concept as the TSFR in the suneye. All in all 80% is a great producer whereas solar hot water is more shade tolerant so maybe the standard be set at 70%? I heard that suggested by several people in the room on Friday. If below this point than the rebate may not apply.

Thanks Barbara. I hope that this is helpful. It's a lot of information so please don't hesitate to call me and I will be happy to walk you through the reports and/or my thought process. The rebates noted above are ideal in my book whereas I think anything will help. If you think reducing them would provide more long term benefits than every little bit helps!

Steve Condon
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Alteris Renewables™

From: Bernstein, Barbara [mailto:Barbara.Bernstein@puc.nh.gov]
Sent: Monday, March 01, 2010 10:33 AM
To: scondon@alterisinc.com
Subject: recommendation on application

Steve,

First, thanks so much for taking the day on Friday to provide us with input on the application and guidance on our future direction for the Renewable Energy Fund program. We greatly appreciate your input. At one point you discussed the best way to structure the rebate through the use of a 3-tier system w/ a cap. Would you please spell that out for me specifically so I can use that system in our application? There seemed to be consensus for that approach.

I greatly appreciate your guidance!

Barbara Bernstein
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From: Bateman, Diane
Sent: Monday, February 22, 2010 10:15 AM
To: Ruderman, Jack
Cc: Bernstein, Barbara
Subject: FW: 10-024 Renewable Energy Fund Order of Notice

I received some responses of the email I sent and just haven't forwarded them on.....so, here is one of a few.

-----Original Message-----

From: Richard P. Morse [mailto:Richard.P.Morse@hitchcock.org]
Sent: Tuesday, February 09, 2010 9:50 PM
To: Bateman, Diane
Subject: RE: 10-024 Renewable Energy Fund Order of Notice

Hello, and thanks for the update. I have two questions: 1. The solar hot water system rebate program, will it go back retroactively? We put ours in at the same time we put in our PV system. 2. It would be appreciated if it could be a true rebate and NOT a taxable (federal gov't) item, as this radically reduces the value of the rebate. We put our system in the year before the new president had up to 1/3rd of the cost of a new system (no limit!) deductible, so we unfortunately really missed out. However, it was the right thing to do and we would have done it anyway, even with no rebate at all.

This is great work, and I hope that a program that provides people incentives to "go solar" can keep up the momentum in NH. Thanks for all that you do.

Richard P. Morse

From: Bateman, Diane [mailto:Diane.Bateman@puc.nh.gov]
Sent: Tuesday, February 09, 2010 10:01 AM
To: adavis@hrclough.com; aduncan@bldenergytech.com; akarg@ruger.com; akrygeris@gsinet.net; alee@laundrylist.org; alice.chamberlin@2c1forest.org; alinder@nhla.org; amanda.merrill@leg.state.nh.us; Noonan, Amanda; Noonan, Amanda; amandaking670@hotmail.com; amy.ignatius@nh.gov; andrea.obrien@unh.edu; andyduncan@comcast.net; aoconnor@nepga.org; ardencala@yahoo.com; armarchildon@lssne.org; arobinson@sealib.org; avolinsky@bernsteinshur.com; bambimillersccd@aol.com; barry.needleman@mclane.com; bburtis@cleanair-coolplanet.org; bclendenning@nfainfo.org; bearnotchdesign@hughes.net; belaitr@psnh.com; belchera@asme.org; ben@garlandmill.com; berniegraves@yahoo.com; Bertandcardi@msn.com; bethsgarden@myfairpoint.net; bfrost@nhhfa.org; bgabler@cleanpowerdevelopment.us; bgrace@seadvantage.com; bhollingworth@nh.gov; billzhome@juno.com; bking@gaw.com; bob.marcotte@honeywell.com; Rohnstock, Bob; bouchmj@nu.com; brandonjg@aol.com; brian@freedomrenewable.com; brianwujcik@aol.com; bruce.bennett@gdsassociates.com; buffiegee@yahoo.com; buflo3637@aol.com; c_siembieda@msn.com; carl@gvengineeringllc.com; Carroll@unitil.com; caslin@bernsteinshur.com; catherine.corkery@sierraclub.org; catie3@gmail.com; ccadieaux@123mail.net; ccassarino@lti-global.com; cgsnyder@post.harvard.edu; cgw@rathlaw.com; chad@marcorubber.com; chapmanjk@yahoo.com; chipandjenn@mac.com; chowsea@ymail.com; Martin, Christina; christopher.way@dred.state.nh.us; cknight1@babson.edu; cknight1@babson.edu; kcoehler@cleanair-coolplanet.org; cleanenergydesign@msn.com; clearviewhi@yahoo.com; cleve_kapala@transcanada.com; Below, Clifton; clover@gsinet.net; clucet@aol.com; craig@zilkha.com; CRS40@comcast.net; csherman@nepga.org; csomma@wrsdsau59.org; cwell@forestsociety.org; cynggunn@aol.com; dan@newenglandgeothermal.com; danderson@alterisinc.com; danielle@eralston.net; dannisews@earthlink.net; danr@aplusenergyservices.com; david.green@rochesternh.net; david.lamothe@gza.com; david.wunsch@des.nh.gov; davidaborden@aol.com; davidaborden@aol.com; daystar@conknet.com; dbogen@cleanwater.org; dbresnahan1@comcast.net; dchriston@nhhfa.org; ddennybrown@neep.org; deb@debpiagnatelli.com; debora.pignatelli@nh.gov; Howland, Debra; decarroll2000@yahoo.com; dfeltes@nhla.org; dhale@keyspanenergy.com; dhs@dhslandlaw.com;

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Subject: 10-024 Renewable Energy Fund Order of Notice

Dear Friends – As many of you know, the State launched a residential renewable energy rebate program this past July. The program has been a great success, with more than 240 homeowners requesting rebates of up to \$6,000 for solar electric (photovoltaic) and wind turbine systems under 5 kilowatts. The combined generation capacity of these systems is roughly 600 kilowatts.

These rebates are funded by the State's Renewable Energy Fund, which is managed by the PUC. We are now looking to launch additional programs to support the development of thermal and electrical renewable installations in New Hampshire. We have had a great deal of interest in residential solar hot water systems, and we are aiming to establish a new rebate program for such systems by April 22. In addition, we are considering developing one or more commercial scale rebate programs and/or issuing a competitive request for proposals for renewable energy projects.

We are interested in hearing from stakeholders about these developments, and would welcome input on how best to design the programs within the funding constraints of the Renewable Energy Fund. To that end, we have issued the attached Notice of Opportunity to Comment to inform stakeholders of opportunities to provide input to the PUC on the design and funding of any new rebate or grant programs. Please read the Notice for additional information and details on how to participate in this

process. There will be a technical session on February 26 and a public comment hearing on March 18, and comments may also be provided in writing.

We value your input, as stakeholders committed to renewable energy, and will benefit from your guidance on these issues.

Thank you for your continued interest in our work.

Regards,

Jack

Jack K. Ruderman
Director, Sustainable Energy Division
NH Public Utilities Commission
21 South Fruit Street, Suite 10
Concord, NH 03301

603-271-6012
jack.ruderman@puc.nh.gov
<http://www.puc.nh.gov>

FW 10-024 Renewable Energy Fund comment and data from Kate
From: Bateman, Diane
Sent: Monday, February 22, 2010 10:17 AM
To: Ruderman, Jack
Cc: Bernstein, Barbara
Subject: FW: 10-024 Renewable Energy Fund comment and data from Kate

-----Original Message-----

From: Kate Hartnett [mailto:nhkate@ncia.net]
Sent: Thursday, February 11, 2010 10:30 AM
To: Bateman, Diane
Cc: Ruderman, Jack
Subject: 10-024 Renewable Energy Fund comment and data from Kate

Hello Jack et al. Thx very much for the notice. I can't attend the mtgs, and would like to offer a brief comment, consistent w/past suggestions:

Would it be possible to sequence any renewable energy installation to come AFTER an energy audit and work to minimize load first?

I provide a memo and two slides that accompanied a talk on "Lessons from Europe," w/data that show that providing renewables only w/o reducing base load is not reducing carbon emissions.

THX very much.

Kate Hartnett
nhkate@ncia.net
Deerfield 603.463.9091
Berlin 603.752.2666

> Dear Friends - As many of you know, the State launched a residential
> renewable energy rebate program this past July. The program has been
> a great success, with more than 240 homeowners requesting rebates of
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Page 1

FW 10-024 Renewable Energy Fund comment and data from Kate
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>
> Regards,

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>
> Jack

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>
> Jack K. Ruderman
> Director, Sustainable Energy Division
> NH Public Utilities Commission
> 21 South Fruit Street, suite 10
> Concord, NH 03301

>
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> <http://www.puc.nh.gov>

From: Ruderman, Jack
Sent: Sunday, February 21, 2010 1:42 PM
To: Amidon, Suzanne; Bernstein, Barbara
Subject: FW: Solar Thermal Incentives and DE 10-024

Jack K. Ruderman
Director, Sustainable Energy Division
NH Public Utilities Commission
21 South Fruit Street, Suite 10
Concord, NH 03301

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jack.ruderman@puc.nh.gov
<http://www.puc.nh.gov>

-----Original Message-----

From: donohome@aol.com [mailto:donohome@aol.com]
Sent: Tuesday, February 09, 2010 5:39 PM
To: Ruderman, Jack
Cc: DONOHOME@aol.com
Subject: Solar Thermal Incentives and DE 10-024

Dear Jack,

I was delighted to see solar thermal rebates on the PUC agenda. I'd like to recall the original intent of the REF, HB1628, and RSA 362-F. The wording and intention went more like renewable energy systems (including solar thermal under the definition of Class I technology) should be eligible based on "the equivalent amount of electricity they displace" up to lesser of \$6k or 50% of installed cost. Last year the PUC created a de facto redefinition of the intent and eligible systems by excluding solar thermal with the promise that a later parallel program and, importantly, parallel financial resources would be available.

I would hope that

- my comments from last year's comment period relevant to solar thermal would carry forward,
- the entire rebate program should treat solar thermal technologies not as a secondary beneficiary of the REF but, by common sense analysis, be given equal footing, if not preference, over photovoltaic for these resources
- any renewable installation (thermal or PV or wind etc) be required to submit a realistic Return on Investment Statement requiring it to be less than the expected lifetime of the proposed equipment installation under current conditions
- you use the ratings created by the Solar Rating and Certification Corporation (<http://www.solar-rating.org/>) for nameplate rating of solar system capacity.
- a separate program be developed for C&I that is not in competition for dollars with the residential rebate program
- preference in the C&I program (or other similar program) be given to non-profit, schools and other municipal organizations

- maintain a searchable publicly accessible database of technologies with comparable NH-installed use data and prices
- provide a clearinghouse to enable combined purchasing power of equipment
- installations dating back to the passage of enabling legislation be grandfathered

I look forward to quick passage of the solar thermal rebate program.

Regards,
Terry Donoghue

From: Sandra Jones, PAREI [sandra@plymouthenergy.org]
Sent: Thursday, February 25, 2010 2:16 PM
To: Bernstein, Barbara
Cc: Adams (PAREI), Peter; 'Craig Cadieux'; Irene Grace Garvey; 'BobRealsJr'; 'Carl & Milan McNall'; Gotwols Tim
Subject: Input on Renewable Energy Fund
Hi Barbara,

Originally our plan was to attend only the public hearing in March, I discovered that was the reason we didn't have tomorrow's tech session on our schedule. We've had a packed week and tomorrow is really busy making us unable to make the trip to Concord. We have two energy audits tomorrow, a housewarming and an energy raiser on Saturday going on. As well as a Button Up NH presentation tonight!

Our apologies for not being able to make it down. We always struggle with finding time for this sort of meeting.

I am impressed with the thought that is going into the use of this fund. The questions, the transparency.....it's all excellent and can only lead to good things. But ofcourse we still have an opinion!

Over the last two weeks I have been gathering input from PAREI members on the Renewable Energy Fund including input from Peter and I. I have attached it here. Please feel free to submit it at the meeting on our behalf if that is appropriate.

Thank you,
Sandra

Sandra Jones
Co-Director
Plymouth Area Renewable Energy Initiative
PO Box 753
Plymouth, NH 03264
603-536-5030
www.plymouthenergy.org

From: Ruderman, Jack
Sent: Wednesday, March 03, 2010 4:50 PM
To: Bernstein, Barbara
Subject: FW: A good rebate
did I already forward this to you? some interesting comments on our solar hot water draft application.

Jack K. Ruderman
Director, Sustainable Energy Division
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Concord, NH 03301

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-----Original Message-----

From: Patrick Coon [mailto:pat@revisionenergy.com]
Sent: Thursday, February 18, 2010 10:28 AM
To: 'Richardson, Laura'
Cc: Ruderman, Jack
Subject: RE: A good rebate

Laura,

Thanks for your thoughts. It's a challenging time, with insufficient funds to go a long way. The state and the installer want the same thing, for rebate dollars to create new business. We're seeing the same thing in Maine, that "incentives" of less than 10% are not incentives at all, as they are not big enough to tip the scale, and are effectively wasting taxpayer money to go to people who would have done projects anyway. The 10% figure is the "actual" incentive, which is the incentive minus the extra paperwork it entails.

My biggest concern is that the process for pre approval is so onerous. In Maine, you simply get in line to get pre approved, then you do the paperwork.

My second concern is that it puts the PUC in the position of system designer. It is often more cost effective to put a bigger array than to tilt the array, but this rebate structure would have us do the latter, even if it isn't as cost effective.

Jack, have a read of the document, the MPUC has enjoyed it thoroughly!

Pat

From: Richardson, Laura [mailto:Laura.Richardson@nh.gov]
Sent: Thursday, February 18, 2010 8:38 AM
To: Patrick Coon
Subject: RE: A good rebate

Hi Patrick,

Thanks for sharing your thoughts on the rebate development process. You might want to share this with the folks at the PUC (jack.ruderman@puc.nh.gov), who are administering the rebate programs, including the stacked (REF and ARRA-Appliance Rebate) programs for Solar Hot Water, the imminent Pellet program, and the existing residential PV/wind rebate. NH's situation is different than many other states that have stable funding sources for such programs. That is part of the challenge with this program. Additionally, many of these funds come with strings attached and while we may "want" to make it simpler, we don't always have that luxury. I am working from home this morning, as I have a funeral to attend this afternoon, otherwise I'd give you a buzz to chat.

Hope you are well,
Laura

Laura Richardson
ARRA Coordinator for SEP
Office of Energy and Planning
Concord, NH 03301
603-271-6092
laura.richardson@nh.gov
www.nh.gov/oepp

From: Patrick Coon [<mailto:pat@revisionenergy.com>]
Sent: Thu 2/18/2010 8:15 AM
To: Richardson, Laura
Subject: A good rebate

Laura,

I just saw a copy of NH's Solar Thermal rebate pre-approval, and I thought I'd send you this, which I prepared for the Efficiency Maine Board of Trustees.

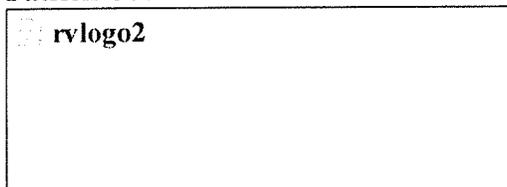
At a glance, there are some big issues with the application. First, it's an awful lot to pull together for a pre-approval. That puts the burden on the contractor to pull the permit, deal with the towns, each one is a little fiefdom with it's own rules and regulations, and to fill out the form with all of it's requirements, all for \$1,000.

A key point about rebates is that for every dollar worth of red tape you put in them to get them approved, you lose that dollar in effective rebates. A much more cost effective way to run a rebate program is to require the contractor have a high standard of certification, and then simply require that level of certification. That puts the burden of technical competence on the installer and off of the PUC.

Another key point to designing a rebate is to make sure the dollar amounts are enough to actually leverage action. Effective rebate amounts (rebate minus red tape) that are too small simply reward people who were going to do it anyway. It looks like that's what this rebate will do. We'll have to build into our price all of the front end work that we'll have to do only to have the client not pull the trigger, and pass that on to other clients.

Anyway, I intend this to be constructive engagement, not to be too critical. A rebate is great!

Patrick Coon



From: Ruderman, Jack
Sent: Tuesday, February 23, 2010 5:20 PM
To: 'bethsgarden@myfairpoint.net'
Cc: Bernstein, Barbara; Bateman, Diane; Amidon, Suzanne
Subject: RE: 10-024 Renewable Energy Fund Order of Notice

Hi Beth – Thanks for your comments. You raise an issue that no doubt will be discussed and debated as we move forward with designing the rebate program. And, having refinanced my home mortgage recently, I can certainly see why you want to lock in low rates. One thought: Is it possible to refinance but set aside some funds for future use for a solar hot water system?

Thanks again for your feedback.

Regards,

Jack

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-----Original Message-----

From: Bateman, Diane
Sent: Monday, February 22, 2010 10:15 AM
To: Ruderman, Jack
Cc: Bernstein, Barbara
Subject: FW: 10-024 Renewable Energy Fund Order of Notice

-----Original Message-----

From: BethsGarden [mailto:bethsgarden@myfairpoint.net]
Sent: Tuesday, February 09, 2010 9:09 PM
To: Bateman, Diane
Subject: RE: 10-024 Renewable Energy Fund Order of Notice

Jack,

Thanks for your e-mail! I was just looking at solar hot water systems on line today, and may want to roll the cost into a refinance of our mortgage. We want to refinance before interest rates go up any further, so don't want to delay our solar hot water system. What are the chances the Fund might cover systems

put in between this announcement and the finalization of the application? My input would be that the rules accommodate those who can't wait.

Thanks for all your help!

Beth McGuinn
Canterbury

From: Bateman, Diane [mailto:Diane.Bateman@puc.nh.gov]

Sent: Tuesday, February 09, 2010 10:01 AM

To: adavis@hrclough.com; aduncan@bldenergytech.com; akarg@ruger.com; akrygeris@gsinet.net; alee@laundrylist.org; alice.chamberlin@2c1forest.org; alinder@nhla.org; amanda.merrill@leg.state.nh.us; Noonan, Amanda; Noonan, Amanda; amandaking670@hotmail.com; amy.ignatius@nh.gov; andrea.obrien@unh.edu; andyduncan@comcast.net; aoconnor@nepga.org; ardencala@yahoo.com; armarchildon@lssne.org; arobinson@sealib.org; avolinsky@bernsteinshur.com; bambimillersccd@aol.com; barry.needleman@mclane.com; bburtis@cleanair-coolplanet.org; bclendenning@nfainfo.org; bearnotchdesign@hughes.net; belaitr@psnh.com; belchera@asme.org; ben@garlandmill.com; berniegraves@yahoo.com; Bertandcardi@msn.com; bethsgarden@myfairpoint.net; bfrost@nhhfa.org; bgabler@cleanpowerdevelopment.us; bgrace@seadvantage.com; bhollingworth@nh.gov; billzhome@juno.com; bking@gaw.com; bob.marcotte@honeywell.com; Rohnstock, Bob; bouchmj@nu.com; brandonjg@aol.com; brian@freedomrenewable.com; brianwujcik@aol.com; bruce.bennett@gdsassociates.com; buffiegee@yahoo.com; buflo3637@aol.com; c_siembieda@msn.com; carl@gvengineeringllc.com; Carroll@unitil.com; caslin@bernsteinshur.com; catherine.corkery@sierraclub.org; catie3@gmail.com; ccadieux@123mail.net; ccassarino@liti-global.com; cgsnyder@post.harvard.edu; cgw@rathlaw.com; chad@marcorubber.com; chapmanjk@yahoo.com; chipandjenn@mac.com; chowsea@ymail.com; Martin, Christina; christopher.way@dred.state.nh.us; cknight1@babson.edu; cknight1@babson.edu; ckoehler@cleanair-coolplanet.org; cleanenergydesign@msn.com; clearviewhi@yahoo.com; cleve_kapala@transcanada.com; Below, Clifton; clover@gsinet.net; clucet@aol.com; craig@zilkha.com; CRS40@comcast.net; csherman@nepga.org; csomma@wrsdsau59.org; cwells@forestsociety.org; cynggunn@aol.com; dan@newenglandgeothermal.com; danderson@alterisinc.com; danielle@eralston.net; dannisews@earthlink.net; danr@aplusenergyservices.com; david.green@rochesternh.net; david.lamothe@gza.com; david.wunsch@des.nh.gov; davidaborden@aol.com; davidaborden@aol.com; daystar@conknet.com; dbogen@cleanwater.org; dbresnahan1@comcast.net; dchriston@nhhfa.org; ddennybrown@neep.org; deb@debpignatelli.com; debora.pignatelli@nh.gov; Howland, Debra; decarroll2000@yahoo.com; dfeltes@nhla.org; dhale@keyspanenergy.com; dhs@dhslaw.com; Bateman, Diane; dick.henry@comcast.net; dickbarry@juno.com; dimitri@highestwind.com; dlatourette@bldenergytech.com; dlatourette@comcast.net; dmbiii@ourtowne.com; dnute@bm-cap.org; domenic.k.armano@jci.com; donohome@aol.com; donohuenh@gmail.com; doscher@comcast.net; dpatch@orr-reno.com; ds@nhcf.org; dstruckhoff@gmail.com; dtrumble@anselm.edu; dwhutchfam@aol.com; eberke@mac.com; ecobe4@metrocast.net; ecraxton@yahoo.com; edholt@igc.org; EdieFifield@myfairpoint.net; Hadley, Eileen; eileen.webb@gmail.com; emurphy@sheehan.com; entrep31@aol.com; epler@unitil.com; eric.barreveld@northamerica.enel.it; eric.steltzer@nh.gov; esoederberg@sunriselabs.com; etitus@neep.org; EWasowski@mtcnj.com; ewburtjr@yahoo.com; Ross, F. Anne; farmertracie@hotmail.com; Featherboard38@wmconnect.com; fferraro@wm.com; freischlag@unitil.com; gaia12345@hotmail.com; gamacdm@nu.com; gantz@unitil.com; gardkohl@msn.com; gcoogan@tfmoran.com; gelinge@psnh.com; geo@usasolarstore.com; gesmith@ecsgird.com; gilpin@unitil.com; gmurray@outdoors.org; gnbull@gmail.com; gosneyr@nhec.com; Graham.Morrison@puc.nh.gov; GREENNH@ROADRUNNER.COM; grr@rathlaw.com; gslval@metrocast.net; gwolek@dred.state.nh.us; heronpond1@earthlink.net; hike4000@comcast.net; hobby@dennehygroup.com; hveilleux@sheehan.com; hw@essexhydro.com; ieddd@aol.com; info@begreensolar.com; info@dandavissales.com; info@ecopowerhedge.com; info@greenenergy.nh.com; info@innatvalleyfarms.com; info@shakerwoodsfarm.com;

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Subject: 10-024 Renewable Energy Fund Order of Notice

Dear Friends – As many of you know, the State launched a residential renewable energy rebate program this past July. The program has been a great success, with more than 240 homeowners requesting rebates of up to \$6,000 for solar electric (photovoltaic) and wind turbine systems under 5 kilowatts. The combined generation capacity of these systems is roughly 600 kilowatts.

These rebates are funded by the State's Renewable Energy Fund, which is managed by the PUC. We are now looking to launch additional programs to support the development of thermal and electrical renewable installations in New Hampshire. We have had a great deal of interest in residential solar hot water systems, and we are aiming to establish a new rebate program for such systems by April 22. In addition, we are considering developing one or more commercial scale rebate programs and/or issuing a competitive request for proposals for renewable energy projects.

We are interested in hearing from stakeholders about these developments, and would welcome input on how best to design the programs within the funding constraints of the Renewable Energy Fund. To that end, we have issued the attached Notice of Opportunity to Comment to inform stakeholders of opportunities to provide input to the PUC on the design and funding of any new rebate or grant programs. Please read the Notice for additional information and details on how to participate in this process. There will be a technical session on February 26 and a public comment hearing on March 18, and comments may also be provided in writing.

We value your input, as stakeholders committed to renewable energy, and will benefit from your guidance on these issues.

Thank you for your continued interest in our work.

Regards,

Jack

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How to make the most of a rebate program

Rebate programs are designed to inspire private capital to be spent achieving public benefits. They are not reward people for good behavior, but are inspire people to do things that are in the publics interest. Good rebate programs have several characteristics.

Be efficient with the publics money. By this we mean only one thing; achieve the most public benefit for the least public cost. There are several aspects to this end, many beyond my range of expertise, which others know far better than I. I will address those that I know best.

The best way I know of being efficient with the public's money is to use the private sector where possible. The private sector does a much better job of allocating resourses than does the public sector; it's harder to spend your own money than other people's. How, then do we use the private sector?

1. **Make sure the rebate percentages are as low as possible to shift the demand curve while still influencing decisions.** A rebate percentage that is too small will not influence a decision, and you will simply reward good behavior, because those people who would have done so anyway will do so and it will cost them less. This free rider principal is an inevitable result of a rebate, and makes it an inherently inefficient way to spend public resources, but is mitigated by rebate percentages sufficient to influence decisions that would not otherwise have been made. Rebate percentages that are too large allow the consumer to make bad decisions because they are spending other people's money.
Combined rebate percentages of between 20 and 50% are the extremes. Beyond 50% and the consumer doesn't pay enough attention, below 20% and there is not enough on the table for individuals to be persuaded, and you have just managed to waste a good percentage of the public funds.
2. **Once you have instituted a rebate, use the private sector for all it's worth.** Congratulations, you have just shifted the demand curve, there are no longer enough individuals qualified to install whatever it is that you want to incentivize. If this is the case, expect to see a rise in the price while the demand curve has shifted. This will end up as profit on the books of those businesses that are set up to handle the new demand. This profit will be used to market, and to train technicians, to purchase equipment and to educate the public. By creating

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the demand, you have created the training infrastructure and the incentive to sell the efficiency that you want to incentivize.

3. **Understand that every string you attach to the rebate adds to the cost of the job and is at cross purposes to the goal of maximizing private investment in energy saving technology.** This not to say that adding requirements and regulations when receiving public money is not a good thing, just understand its' limitations and be prepared to make explicit cost benefit analysis. Maine has, in general, done a good job of keeping unnecessary restrictions from rebate programs. The federal government has, to its' credit, also kept regulation down. Some states see rebates as opportunities to add mountains of red tape. Minimum efficiency standards, High bars for licensure and professional accreditation are good examples of where public interest are well served without adding significantly to the cost of installations. Additional inspections, additional insurance requirements, costly pre-approval processes, monitoring and verification procedures are examples of where additional rebate requirements can add unnecessary cost to the consumer. **By keeping total state and federal incentives below 50%, the market will do a good job of enforcing quality without expensive oversight and regulation.**
4. **Understand what sells a job.** What inspires someone to spend private dollars toward energy efficiency? This is a multi-stepped process, but it's always the same.
 - I. **The energy consumer identifies a problem.** This may be expressed as a bill that is too high, or those damd Arabs, or just being tired of the feeling of being over the barrel.
 - II. **The energy consumer researches potential solutions.** They talk to friends, they get on the internet, they call companies. Seldom are we the only people to talk to a client about their energy problem.
 - III. **They will follow up with companies or solutions that sound like they are best able to solve their problem.** Cost plays a factor in the calculus of the decision making process, but it is not, by far, the only factor. What are the ancillary issues involved with the decision? If insulating that wall means they need to replace the wiring in that wall first, and what about that addition that we think we might like to add some day, then insulating that wall might not work out for that client. The client needs to have some confidence in a return on the investment, and they believe they can afford the cost of the

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solution. But the solution has to make sense for the consumers' lifestyle, image, the use of their house, etc.

- IV. The client will make a decision based on the confidence that they have with their contractor to execute the upgrade to their satisfaction.** For any client to pull the trigger on any investment, a handful of questions will need to be answered for that client that inspire the confidence and trust in that contractor. How much will I save? How long will it last? Why this one and not that one? What happens if there is a problem? I read about this thing happening, is it true? In the end, a clients willingness to pull the trigger on a project will depend upon their comfort level with the contractor doing the work.

What does this tell us about the role of the State in the process, and how they can best facilitate the process?

- **The state, through tax policy, can make consumers pay more for their energy, making more of them identify bills as a problem needing their attention.**
- **There is a huge role for the state to provide well information about upgrades to potential clients. This information should include the following**
 - Ranges of potential savings from upgrades
 - What types of buildings tend to be better served by particular upgrades. Solar Thermal needs a south facing roof within 45 degrees of solar south, geothermal systems prefer low temperature distribution, if your burning more than 50,000 BTU/sf/year for heating oil you could really use some weatherization. This information should be as specific as possible and be generated with input from professionals within each industry
 - Ranges of costs for potential savings
 - Definitions of terms
 - Explanation of rebates, terms, and process
 - Educate consumers to the economics of energy efficiency
- **One stop shopping is not the most efficient way to influence the process.** Understanding that decisions are made because people feel comfortable from contractors advice or not means that having an "expert" tell a consumer which of the variety of options is best for them will not carry the day. Someone with two weeks worth of experience in energy analysis does not know enough about what makes a house a good house for a particular application. Only a solar guy, for example, knows that that particular type of corrugated metal is a bear to fasten to, that the pipe run is hideous, and that the boiler is equipped with a

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damper to limit loss, making Solar Hot Water a bad fit for this house. The devil is in the details.

- **A wide range of options, as long as they move the state towards it's goals of decreased oil consumption, is consistent with the fact that every home is different and every decision is complex.** If we have all of our eggs in one basket, those consumers who do not fit in that basket, will not be incentivized to invest their private resources to achieving the state's goals. While weatherization is a noble goal, it is seen less as a viable solution by individuals in homes less than 15 years old. Relatively tight houses do not see adding insulation as a viable alternative, yet those individuals may have capital to invest, and a south facing roof, or they may live down the street from a pellet mill.

Use existing infrastructure where possible. Every industry is different. The easiest rebates to administer are those with the most existing state infrastructure. Is there a recognized, licensed, accreditation that exists in sufficient numbers to carry out the scale of conversion necessary? This is the weak point for weatherization and for Geothermal heating systems. Oil boiler conversions we could do in a week. Pellet systems and solar systems exist somewhere in the middle. Where the infrastructure is lacking, the state has to step in and provide more training, provide more inspections, and provide that infrastructure. This is by far more expensive than using existing infrastructure and qualifications. Not that we should shy away from creating infrastructure, just that we should recognize it's cost in achieving our goals.

Consider the contractor when designing rebate systems. To achieve your goals, you need the private sector to make significant and long term investments in education, equipment and capital expenses. They will only do that under certain circumstances; that rebate periods are defined for a long period of time (two years and you'll only get investments in marketing) and that rebates are designed in such a way as to maintain continuity over time. Administrators need the ability to change rebate dollar amounts to maintain continuity. The worst thing that can happen to an industry is for the rebate to dry up for 4 months. What consumer would not wait that time until the rebate comes back. What happens to the contractor that has grown her capacity over those 4 months? There is no reason that a rebate administrator could not change the dollar amount of a rebate on a monthly basis, based on demand, to ensure continuity. In other words, if the expectation is that a \$2,000 rebate cap is sufficient to last the year, but it turns out that demand is high in the first month, that amount is reduced to

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\$1,900 for the next month, then \$1,700. The amount is on the internet and is changes on a monthly basis.

There are exceptions to this rule. If the goal of a rebate is to spark an industry, continuity may not be required. If the goal is to build long term infrastructure, a long time frame is required.

Mostly, have fun. Know we're doing the work that needs to be done. Think of a graph that depicts human population growth and the use of oil next to a graph of bacteria growth when presented with food. Think of humans as bacteria living on oil, and imagine what happens as that resource runs out. Be bold!

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GRANITE STATE HYDROPOWER ASSOCIATION, INC.

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603-753-4577

February 24, 2010

Debra A. Howland, Executive Director & Secretary
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Re: DE 10-024, Renewable Energy Fund Notice of
Opportunity to Comment on Additional Renewable
Energy Incentive Programs

Dear Ms. Howland:

As the President of Granite State Hydropower Association, Inc. (GSHA) and on behalf of its members which operate and manage around 45 hydroelectric facilities in New Hampshire totaling around 50 megawatts, I would like to offer comments regarding DE 10-024, Renewable Energy Fund Notice of Opportunity to Comment on Additional Renewable Energy Incentive Programs.

GSHA was an active participant in the discussions and negotiations leading up to the passage of the RPS law, as well as an active participant in the RPS rulemaking at the New Hampshire Public Utilities Commission (PUC). GSHA is familiar with the legislative history and the legislative intent of the RPS law and the purpose of the Renewable Energy Initiatives as set forth in Section 2507.03 of the New Hampshire Code of Administrative Rules.

Since the Renewable Energy Fund (REF) was established, the PUC has concentrated solely on distributing funds to support the installation of residential wind and solar facilities over other technologies and sites by giving those technologies exclusive access to the REF while denying others the opportunity to compete for some of the funds in the REF. Without the benefit of a more broadly based competitive RFP process, policymakers, stakeholders, and ratepayers do not have an objective means of determining whether the REF is being used to support the best mix of renewable energy projects in New Hampshire. GSHA believes that the PUC should now immediately expand the use of the REF beyond the residential sector and beyond solar and wind, and permit the commercial sector and other businesses that propose other renewable energy projects to fairly compete through an RFP process for access to funds in the REF.

PRODUCING ELECTRICITY FROM A RENEWABLE RESOURCE.

Section 2507.03(b) states, among other objectives, that the REF should be used in a manner that is cost effective, will increase fuel diversity, will support projects that are realistically proposed and achievable, and most likely, on balance, will advance the purpose of RSA 362-F within the constraints of available funds. GSHA respectively suggests that, however successful the rebate programs may appear to have been to date, the lack of an RFP process has meant that other meritorious projects have not been afforded a fair and equitable opportunity to compete for REF funds.

The REF contains approximately \$4.5 million for the period July 2009 through June 2010. Under the existing rebate program, GSHA believes about \$1.3 million has been granted to homeowners to support installation of solar panels and wind turbines totaling approximately 600 kilowatts of electrical capacity (\$2,166/kw). The average capacity factor for a New England located solar panel is approximately 12% and the range of capacity factors for wind turbines is about 20%-30%.¹ GSHA believes that there are more cost-effective and efficient ways that the REF could be used that would produce more renewable electric energy at a lower cost while offering equal or better job expansion opportunities and a more diverse portfolio of existing and new renewable projects.

Clearly, GSHA has a vested interest in seeking an RFP process. It is likely some GSHA project members would seek REF funds to modify and / or expand existing in-state hydroelectric plants that would result in improved plant efficiency and / or greater output levels. GSHA is also aware through its membership in the New Hampshire Business and Industry Association that there are many other commercial and industrial customers, many of them BIA members, that would seek REF funds for customer-sited renewable facilities or thermal facilities. GSHA believes that all projects at renewable facilities, both existing and new, should be given an equal opportunity to compete for access to REF funds. For additional background and comments on this need for equal opportunity, GSHA has enclosed a copy of its written testimony on House Bill 1270 As Introduced.

GSHA is not seeking preferential treatment for its member projects. Rather, GSHA believes that the RFP process should be open to all interested residential and business projects. At a time when unemployment in New Hampshire is around 7% and much focus is on keeping and creating jobs, GSHA believes it would be sound public policy to ensure that at least some of the remaining \$3.2 million in the REF, as well as a portion of future REF funds, is distributed to different sectors of the state's economy and secures the most efficient use of the funds in terms of the most megawatts, the most electrical energy, the most jobs, and the most environmental benefits.

¹ "Wind Power: Capacity Factor, Intermittency, and what happens when the wind doesn't blow?"
Renewable Energy Research Laboratory, University of Massachusetts at Amherst. 2008-10-16

Thank you for your consideration of our comments.

Sincerely,



Richard A. Norman, President
GRANITE STATE HYDRO ASSOCIATION

Enclosure

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January 21, 2010

Hon. Naida Kaen
Chairwoman, House Science, Technology & Energy Committee
State House
107 North Main Street
Concord, NH 03301

RE: House Bill 1270, An Act Relative to Permitting Existing Hydroelectric Plants to Receive Grants from the Renewable Energy Fund for Installing Upgrades

Dear Chairwoman Kaen and Members of the Committee:

Thank you for the opportunity to testify in support of HB 1270. My name is Heidi Kroll from Gallagher, Callahan & Gartrell, and I am here today representing the Granite State Hydropower Association (GSHA). GSHA is a voluntary, non-profit trade association for the small, independent hydroelectric power industry in New Hampshire. GSHA members own, operate and manage about 45 hydroelectric facilities in New Hampshire totaling around 50 megawatts. As you know, hydroelectricity is an emissions-free, renewable, reliable and local distributed energy resource that provides important economic, recreational, and environmental benefits to the state.

House Bill 1270 is an important piece of legislation needed to clarify the intent of the Renewable Portfolio Standards law (RSA 362-F) and to ensure that all classes of renewable projects located in New Hampshire, existing and new, regardless of ownership, have an equal opportunity to access the Renewable Energy Fund. Indeed, the Purpose Statement in RSA 362-F:1 says that it is "in the public interest to stimulate investment in low emission renewable energy generation technologies in New England and, in particular, New Hampshire, *whether at new or existing facilities.*" (Emphasis added)

GSHA was an active participant in the discussions and negotiations leading up to the passage of the RPS law, as well as an active participant in the RPS rulemaking at the Public Utilities Commission (PUC). In our opinion, the legislative history and the legislative intent of the RPS law, and the intent of the PUC's RPS rules, is to use a Request-For-Proposals process to allocate a portion of the money in the RPS Fund. Applicants would respond to an RFP and compete for grants from the Renewable Energy Fund in much the same way as the RFP and grant process recently worked for the Regional Greenhouse Gas Initiative (RGGI) program.

GSHA is concerned by the Public Utilities Commission's statement that it has "no immediate plans to issue an RFP"¹ despite the intent of the RPS law and the intent of the RPS rules. The Commission has said that it plans to design and "fund additional rebate programs *before* issuing any RFPs to seek proposals" from other types of renewable projects.² (Emphasis added) To date, the Commission has only provided homeowners with access to the Renewable Energy Fund through a Commission-run rebate program.

At a time when unemployment in New Hampshire is 7%, Governor Lynch just today talked about new job initiatives and innovation, and the federal government is focused on keeping and creating jobs through the stimulus package, it would be sound public policy to issue an RFP so that RPS Funds could get out the door in a fair, equitable, and expeditious manner. The RPS Fund contains \$4.5 million for the period July 2009 through June 2010. Under the existing rebate program, since July 2009, about \$1.3 million has been granted to homeowners for solar panels and wind turbines totaling a very modest 0.6 megawatts.³ An RFP would ensure that at least some of the remaining \$3.2 million is distributed to different sectors of the state's economy and secures the biggest bang for the buck, including the most megawatts, the most jobs, and the most environmental benefits.

It is of great concern to GSHA that the Commission has stated that it has "no immediate plans to issue an RFP" because the Commission's RPS Rule very clearly states that "The commission shall periodically issue a request for proposals for initiatives to be supported by the renewable energy fund." (PUC 2507.03) GSHA is troubled for a number of reasons, including but not limited to the following:

- It is important that the RPS law be implemented in a manner consistent with the Legislature's intent. The Legislature is responsible for setting the RPS policies. The Commission is responsible for implementing them. The legislative intent has always been, and continues to be, to use the RPS Funds to maintain, support and promote all classes of renewables.
- The Legislature has never directed the Commission to postpone issuing an RFP in order to give priority, and 100% of the RPS Fund, to new, customer-sited renewable projects only. Indeed, the original concept was to dedicate up to 10% of the Fund to rebate programs, and the PUC's rules set a floor of 20%. Neither percentage indicates an intent to spend 100% of the Fund on rebate programs.
- The fact that the PUC has no plans to issue an RFP is prohibiting the opportunity for other renewable projects, including existing projects owned by small private entities, to receive RPS Funds. Without an RFP, there is no opportunity for any renewable project to access money in the Fund, unless that project is a new project and one that meets the Commission's technological requirements for rebates.
- An RFP is very important because it will help ensure that the RPS Funds are giving the state the biggest bang for the buck and are being used to support a highly cost-effective and diverse portfolio of existing and new renewable energy projects.

¹ For example, see the PUC's Annual Compliance Report to the Legislature dated October 1, 2009.

² Memorandum from Jack Ruderman to the EESE Board Members dated January 5, 2010.

³ Most homeowners reportedly receive the maximum rebate of \$6,000.

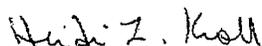
- During the passage of the RPS law and the rulemaking process for the RPS rules, New Hampshire policymakers and stakeholders enthusiastically supported the use of Requests-For-Proposals. The process to be used for selecting winning bidders was carefully designed during the rulemaking process to balance a number of considerations. Those considerations are set forth in the PUC's rules, PUC 2507.03. (See attached).
- Pre-determining winners and losers, without the benefit of a competitive RFP process, calls into question whether the RPS Fund is being used to support the best mix of renewable projects in New Hampshire. The Commission should not pick and choose certain technologies (namely customer-sited wind and solar) over other technologies and sites, and give those technologies exclusive access to the RPS Fund, while denying others the opportunity to compete for some of the Funds.
- The money currently in the RPS Fund came entirely from Class III and Class IV Alternative Compliance Payments – there were no Class I and Class II requirements in 2008 – and was paid by all ratepayers. Nonetheless, only Class I and Class II renewables and only certain customer groups are being given access to the RPS Fund. Until the Commission issues an RFP, there is not even an opportunity for projects that are, or could be, Class III and Class IV projects to access the Funds.

GSHA supports HB 1270 because it will ensure that renewable projects that don't qualify for the Commission's rebate programs nonetheless have an equal opportunity – not a guarantee, but simply an opportunity – to put forth proposals that may be worthy of grants from the Renewable Energy Fund. In the case of GSHA members, they may seek grants to help pay for the cost of installing upstream and downstream fish passages so that their facilities can become Class IV facilities and boost the supply of Class IV RECs, which would lower RPS compliance costs borne by ratepayers. Or they may seek grants to help pay for efficiency upgrades at their facilities so that they can generate more renewable power while using the same amount of water. These are just two examples of the types of proposals that might come before the Commission as a result of an RFP.

GSHA appreciates the fact that the RPS Fund has a limited number of dollars in it relative to the demand that the Fund could serve. However, limited funding does not change the fact that all classes of renewable projects located in New Hampshire, existing and new, regardless of ownership, should have an equal opportunity to access the Renewable Energy Fund. This was the intent of the RPS Law.

In closing, GSHA appreciates your consideration of this testimony and welcomes the opportunity to answer any questions. We respectfully request that you find it in the public interest to pass HB 1270. Thank you very much.

Sincerely,



Heidi L. Kroll

NEW HAMPSHIRE CODE OF ADMINISTRATIVE RULES

Puc 2507.03 Renewable Energy Initiatives.

(a) The commission shall periodically issue a request for proposals for initiatives to be supported by the renewable energy fund. All such initiatives shall be located in New Hampshire.

(b) In determining whether and to what extent it will dedicate money from the renewable energy fund to proposals submitted pursuant to (a) above, the commission shall consider the extent to which:

- (1) The initiative is likely to expand or support the production capacity of renewable energy facilities located in New Hampshire;
- (2) The initiative is likely to be cost-effective;
- (3) The initiative promotes market transformation, innovation, and energy cost savings;
- (4) The initiative will reduce New Hampshire's peak load as well as defer or eliminate local utility distribution plant expenditures;
- (5) The initiative is likely to result in economic development and environmental benefits for New Hampshire;
- (6) The initiative increases fuel diversity in the production of electricity or thermal energy for consumption in New Hampshire; and
- (7) The applicant has the capacity to successfully complete the initiative and the significance of the proposed assistance of the renewable energy fund in the viability of the project.

(c) The commission on its own motion shall dedicate funds for those initiatives that it finds are:

- (1) Substantially consistent with the factors set forth in (b) above;
- (2) Realistically proposed and achievable by the applicant; and
- (3) Most likely, on balance, to advance the purposes of RSA 362-F, within the constraint of available funds.

(d) The commission shall allocate all Class II alternative compliance payments into the renewable energy fund, on an annual basis, to projects and initiatives that support eligible solar technologies.

(e) The commission shall allocate not less than 20 percent of Class I, II, III and IV alternative compliance payments received on an annual basis to customer-sited thermal and renewable energy projects of up to 100 kilowatts in gross nameplate capacity or the equivalent thermal output provided that such customer-sited projects meet the requirements of Puc 2507.04.

(f) The commission on its own motion and after notice and hearing shall establish a rebate program for customer-sited renewable energy projects of up to 100 kilowatts or equivalent thermal output, to be supported by the fund allocated pursuant to (e) above.

Source. #9169, eff 6-3-08

Puc 2507.04 Customer-Sited Projects.

(a) The provisions of this part shall apply to customer-sited generation of up to 100 kW in gross nameplate capacity or equivalent thermal output.