New Hampshire Energy Efficiency And Sustainable Energy Board

NHEC Perspectives on Energy Efficiency and Sustainable Energy

October 17, 2008

Ray Gosney
Executive Vice President

NHEC Perspectives on Energy

- Presentation Objectives
  - Show the scope of our energy efficiency and retail renewables initiatives
  - Illustrate our involvement in new technology development
  - Describe our wholesale energy and renewable resources and procurement approach

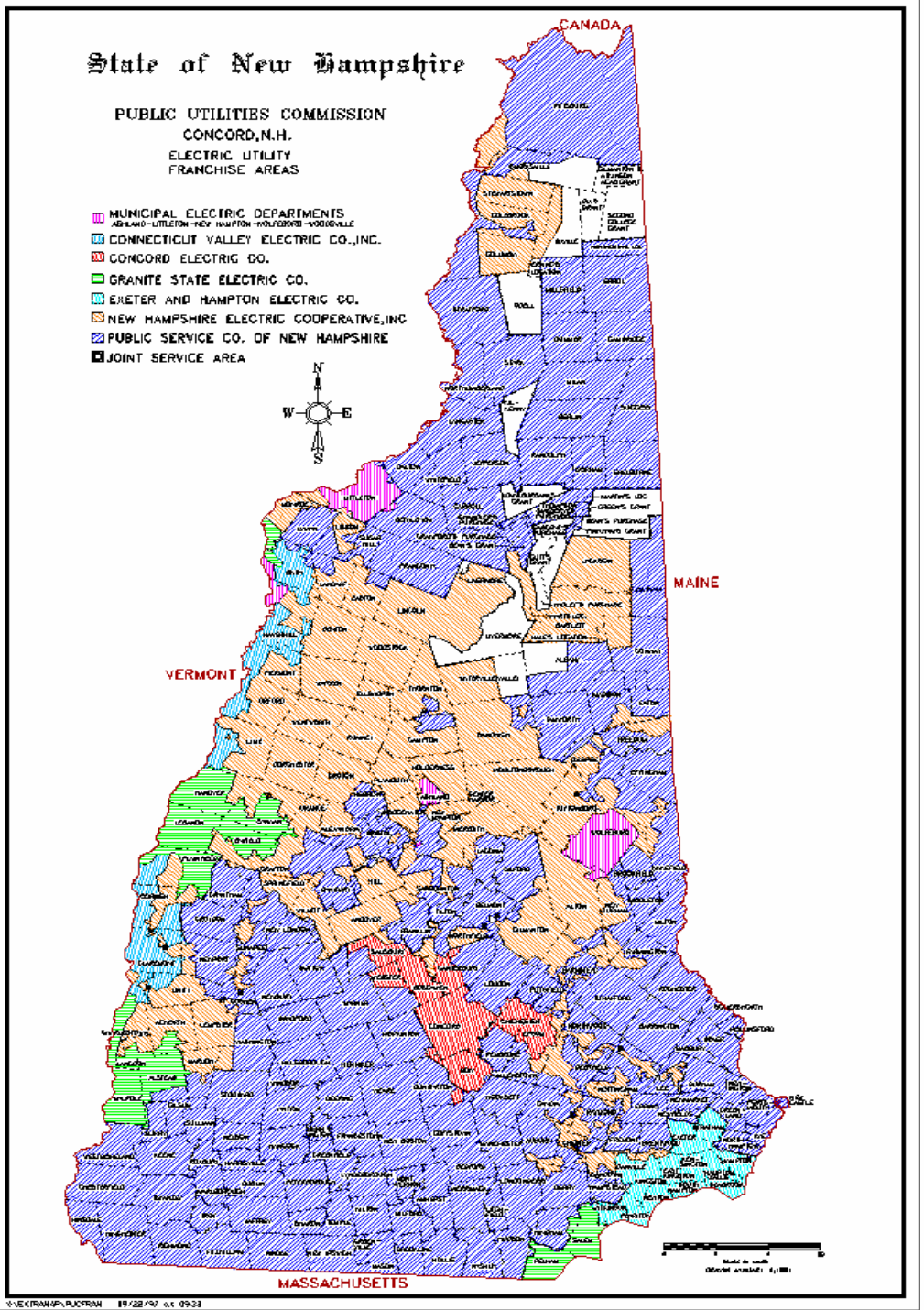
your New Hampshire Electric Co-op
A Touchstone Energy® Cooperative

Organizational Demographics

- 2nd largest electric utility in NH
  Among top 30 co-ops nationally
- Member-owned, non-profit
- Services – 80,000+ homes & businesses
- Offices - 10 districts & Plymouth HQ
- Employees – 225
- 2007 Revenue – $140 million
- 2007 Assets – $220 million
- Wholesale Coincident Peak ~ 170 MW
  Energy Requirements ~ 800,000 MWh

Co-op Service Territory

(approximately 1/3 of NH)



Purpose

Build and execute essential societal energy infrastructure for the benefit of our members.

Vision

Innovating and delivering powerful energy solutions to support our members' and customers' ability to succeed and thrive.

Mission

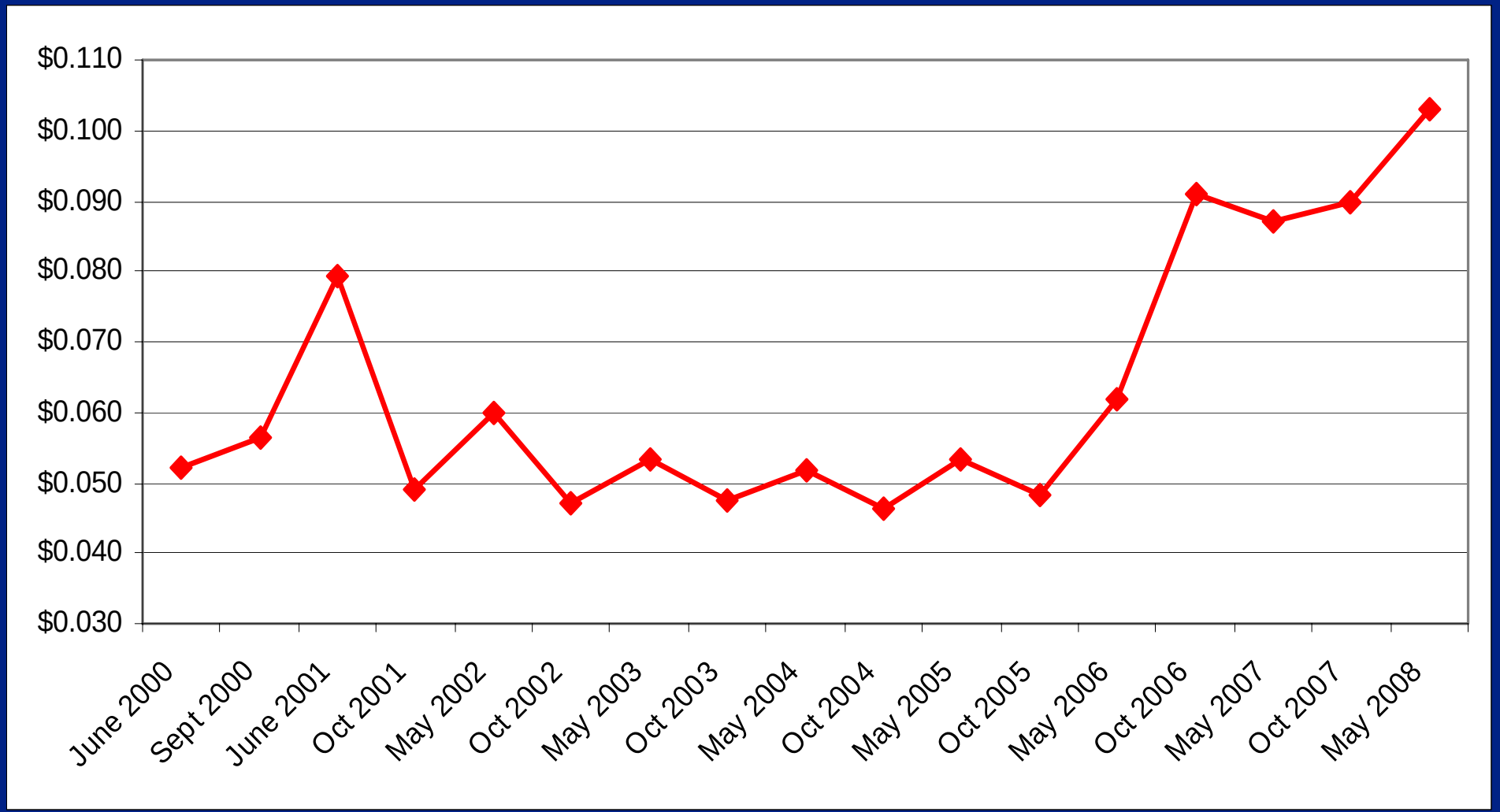
Producing breakthroughs in energy delivery and usage, while:

- Innovating new lines of products and services;
- Expanding the cooperative marketplace; and
- Increasing our value to our members, customers and communities.

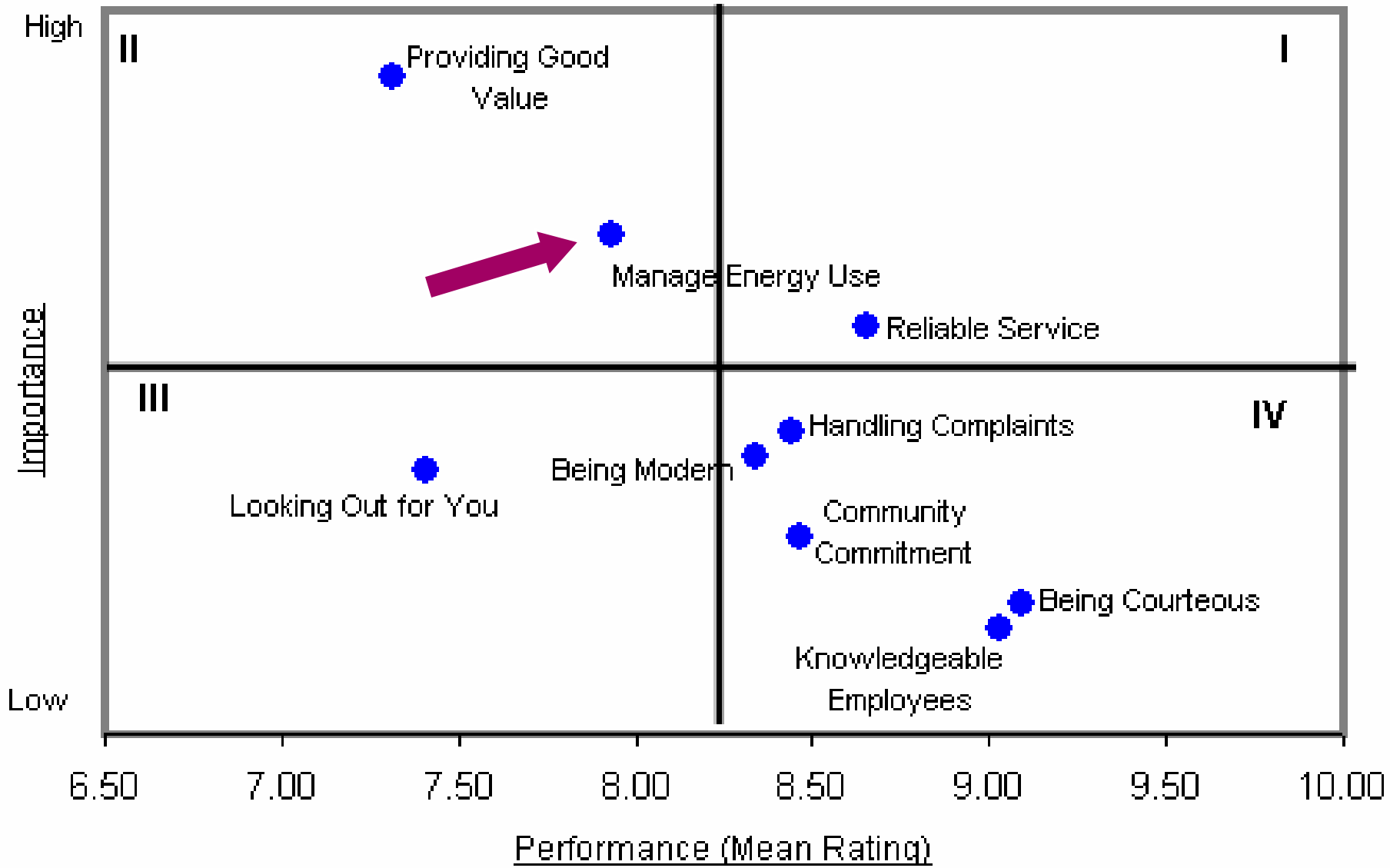
Values

Because the literal definition of cooperative is to work together, living our values as a cooperative is essential. We begin with ***respect*** for each other, our environment, and our communities. We commit to work together with ***integrity*** to ***create*** change and ***innovation*** for the betterment of the Cooperative and us as individuals. We will act ***courageously and decisively*** to create breakthrough change. The change we create will have a positive impact on our ***communities*** and result in the ***thriving (sustainability)*** of NHEC for the members' benefit.

NHEC “Co-op Power” Price History



NHEC 1st Qtr 2008 Member Survey – Derived Importance of Service Activities vs. Reported Performance of Service Activities



Energy Efficiency Programs
Value to our Members

The portfolio of statewide programs coupled with those programs specific to the Co-op:

- Provide a comprehensive response to our members' requests for help in managing their energy costs,
- Create local jobs such as performing energy audits and installing efficiency measures,
- Retain $$$ for members to invest back into their homes, businesses and/or communities,
- Can improve the T&D system reliability during peak loads, and
- Support the Co-op's stewardship of the environment to sustain the "NH Quality of Life."

NHEC's Energy Efficiency Programs
June 2002 – December 2007 Impacts

- Saved approximately **294 million lifetime kWh**

- Served **31,401 members** –
more than 33% of our membership

- Saved members more than **$45 million** –
the amount they would have paid for energy no longer needed. These savings are more than eight times the cost of NHEC's programs

- Reduced emissions by **185,492 metric tons** –
like taking 40,154 cars off the road for a year

smartSTART at NHEC

- Designed to offer members (principally commercial and industrial) a smart way to save
- Designed to overcome certain barriers to consumer investment in energy efficiency measures
- Barriers can include:
  - Lack of resources
  - Competing demand for resources
  - High initial cost
  - Lack of information about available technologies
  - Uncertainty about continued occupancy at location
  - Split incentive (builder/developer or landlord)

How smartSTART Works

- NHEC pays entire upfront cost for installing approved energy efficient technologies
- Members are billed a monthly payment as part of their monthly electric bill(s)
- Payment is set to be less than the member's savings
- Member gets lower utility costs from increased energy efficiency and uses a portion of savings to pay the monthly payment

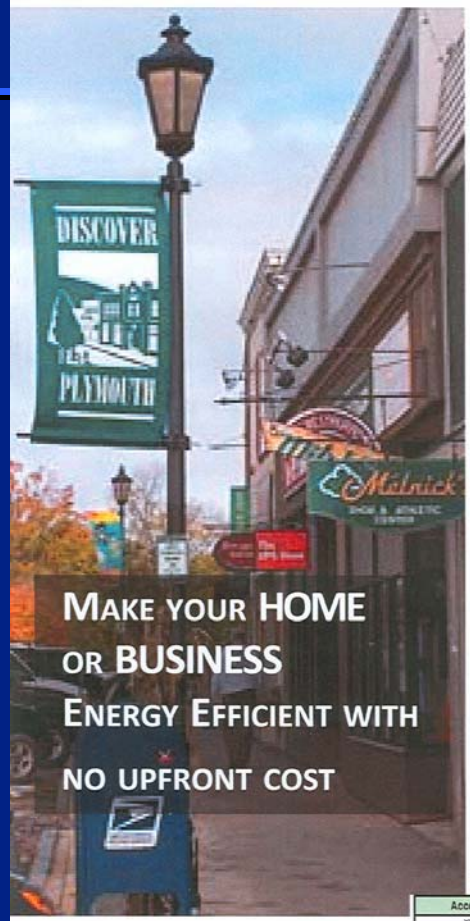
How smartSTART Works

- Can be used for
  - Weatherization – including air sealing, insulation and recommendations through a whole building energy analysis
  - Lighting and lighting controls recommended through a business energy analysis
  - Other verifiable energy saving measures (with approval)

Highlights

- Usage to date – 23 open loans with a balance of over $196,000
- Currently, 2 loans are over $50,000 with the largest being $85,000
- Members can have multiple loans provided their credit with Co-op remains good
- Limit of $100,000 per member at any given time
- Loan runs with the meter
- Total NHEC exposure limited to $1 million at any given time

smartSTART at NHEC



Savings Through Affordable Retrofit Technologies

Your New Hampshire Electric Cooperative (NHEC) is pleased to offer our members a new and affordable way to make energy efficiency improvements.

The program is called smartSTART and it puts a whole range of energy efficient technologies within your reach.

The smartSTART advantage is simple – pay nothing out-of-pocket to have energy efficient technologies installed at your business. The cost of the improvements is repaid over time, using the savings generated by the products themselves!

Let's say you've installed energy efficient technologies worth $1,000 and those products save you $100 per month. You pay for the product in easy monthly payments on your electric bill equal to three-quarters of the savings, or approximately $75 per month, until the initial investment is recovered.

You still realize an overall savings, and because the payment appears as a line item on your regular monthly electric bill, there's no need for separate checks.

Here's how your bill will look if you participate in the smartSTART program:

Account Number	Cycle	Service Location	Billing Date	Next Scheduled Read Date
XXXXXX	13		04/21/2005	05/19/2005

Meter Information

Rate	Meter #	Reading Dates Prev	Reading Dates Pres	Meter Readings Prev	Meter Readings Pres	Multiplier	Kwh Used	Demand	Comment
LB3		03/17/05	04/19/05	2728	3107	80	30320	77.680	

CURRENT ELECTRIC CHARGES			AMOUNT
MEMBER SERVICE CHARGE			240.00
DELIVERY CHARGE	30320	KWH x .01900	576.08
DEMAND CHARGE	37.680	DEM x 6.000	226.08
STRANDED COST CHARGE	30320	KWH x .01795	544.24
SYSTEM BENEFIT CHARGE	30320	KWH x .00300	90.96
NH CONSUMPTION & BET TAXES	30320	KWH x .00082	24.86
REGIONAL ACCESS CHARGE	30320	KWH x .00561	170.10
CO-OP POWER	30320	KWH x .04714	1429.28
TOTAL CURRENT ELECTRIC CHARGES			3301.60

STATEMENT OF ACCOUNT	AMOUNT	
PREVIOUS BALANCE	3316.40	
AMOUNT PAID	3316.40CR	
ADJUSTMENTS	0.00	
BALANCE FORWARD		0.00
OTHER CHARGES		
SMARTSTART PERMANENT	596.72	
CURRENT ELECTRIC CHARGES	3301.60	
TOTAL CURRENT MONTH CHARGES		3898.32
TOTAL BALANCE DUE		3898.32

your New Hampshire Electric Co-op
A Touchstone Energy® Cooperative

call NHEC 1 800 698 2007 for more info

Highlights

- Member must pass an internal credit check
- Account can be disconnected for non-payment
- Interest on loan is 50 points above NHEC's line of credit with its principal banker, Cooperative Finance Corporation
- Maximum term of loan is generally 60 months; can be up to 10 years
- ¾ of savings utilized for monthly payment

smartSTART Frequently Asked Questions

What is smartSTART?

smartSTART is designed to offer commercial and industrial members a smart way in which to save through affordable retrofit technologies. smartSTART allows for a hassle-free way to install approved energy efficient technologies with no upfront costs and no new debt obligation while reducing energy costs and saving money immediately.

Why is NHEC offering smartSTART?

NHEC wants to help its members use their energy as efficiently as possible. Investing in cost-effective energy efficient technologies results in lower energy usage, lower energy cost, and less pollution. Using energy more efficiently extends our energy resources resulting in additional benefits to society. smartSTART provides an exciting new tool for NHEC to help its members and help society.

How do members pay for smartSTART technologies?

NHEC will pay the entire upfront cost for installing approved energy efficient technologies. Members are billed a monthly payment as part of their monthly electric bills. This payment is set to be less than the member's savings. In essence, the member gets lower utility costs from increased energy efficiency and uses a portion of the savings to pay the monthly payment.

If the member pays nothing up front, isn't the member taking on new debt?

No. The monthly payment is a tariff charge assigned to a meter. It is payable by the member as long as the member receives service at that location. There is no debt obligation. There is no lien, securitization or impact on your business' finances – other than lowering your monthly expenses.

Am I charged a fee to participate in smartSTART?

Yes. There is a program charge* (PC) which is included in the member's monthly payment.

smartSTART is really just financing for energy efficient technologies, right?

No. smartSTART is much more than financing. smartSTART products are guaranteed to work for at least as long as the monthly payment is being billed. And, if for any reason, the purchasing member moves from a building where a smartSTART product was installed, NHEC will transfer the monthly payment to the next member at that location.

What is the member's monthly payment obligation?

Like payment for electric service, if a member leaves the location where a smartSTART product is installed, the payment obligation ends. The next member at that location receives the savings and assumes the monthly payment obligation. If a smartSTART product stops working, the member must notify NHEC immediately. If, upon NHEC inspection, the product cannot be cost-effectively repaired, NHEC will stop billing the monthly payment and the member has no further obligation to pay. If the smartSTART product is repaired, NHEC is allowed to extend the term of the monthly payment to recover its cost for repairs not covered by manufacturer and/or installer warranties. Alternatively, members may arrange the repairs at their own cost and benefit from any warranties in effect.

**subject to change*

Who qualifies smartSTART products and how is the payment calculated?

NHEC will pre-qualify smartSTART products and will review any electricity-saving technologies for possible approval. Once approved, a contractor will install smartSTART products (such as lighting upgrades) as long as NHEC funding is available. Three-quarters of the estimated annual savings is sufficient to cover the annual monthly payments (including financing costs), and the payment term is no longer than three-quarters of the product's estimated useful life.

Can NHEC determine the best energy saving technologies for my business?

Yes. NHEC will review an energy audit of your business, or review an approved contractor's proposal. The audit identifies and prioritizes technologies that can reduce your electricity costs. In particular, we will look at upgrading lighting fixtures by retrofitting or replacing with energy efficient technology and adding controls and other measures without reducing light levels.

If a commercial or industrial member wants to install a lighting upgrade through smartSTART, what happens?

After a member contacts NHEC expressing interest, an NHEC representative will talk with the member about the specific technologies to be installed. NHEC will analyze cost effectiveness and determine whether they meet the requirements to be approved as smartSTART products.

An NHEC Representative will prepare a smartSTART Purchase Agreement for any approved products the member wants to purchase. NHEC does not do the installation work. It will require an independent contractor to sign an agreement that will serve as the basis for NHEC payment. NHEC will also arrange an inspection to verify proper installation. The monthly payment will appear on the next monthly electric bill upon completion of work performed.

Can you give me an example of a smartSTART project?

An approved contractor recommended a complete lighting retrofit for a local florist.

Over 200 lighting fixtures and light bulbs were retrofitted with energy efficient lamps and ballasts or compact fluorescent light bulbs at a cost of $4,703. The lighting retrofit was estimated to reduce the member's usage by 48,755 kWh** annually, for an estimated annual savings of $2,300. The utility determined the life expectancy of the lighting measures would exceed ten years. If the member chose to install the lighting retrofit project using smartSTART, the project would look like this:

***Costs and savings will vary per job*

Upfront NHEC Project Investment	$4,703.00
Initial Member Investment	$0
TOTAL Monthly Member smartSTART Payment*	$127.45
TERMS: 3.5 years @ 7.4% APR / Monthly total includes a $15.47 monthly program charge*	
Annual Member smartSTART Payment	$1,529.40
Annual Member Reduction in Lighting Costs	$2,300.00
NET ANNUAL MEMBER SAVINGS	$770.60

call NHEC 1 800 698 2007 for more info

Your New Hampshire Electric Co-op
A Touchstone Energy Cooperative

smartSTART Example

At a florist shop, over 200 lighting fixtures and light bulbs were retrofitted with energy efficient lamps and ballasts or compact fluorescent light bulbs at a cost of $4,703. The lighting retrofit was estimated to reduce the member's usage by 48,755 kWh annually, for an estimated annual savings of $2,300. The life expectancy of the lighting measures would exceed ten years. If the member chose to install the lighting retrofit project using smartSTART, the project would look like this:

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NHEC Specific EE Program Examples

- High Efficiency Heat Pump Program
  - Assists residential members to reduce their energy costs by providing incentives towards the installation of high efficiency heat pump technologies
  - Eligible technologies include high efficiency air source heat pumps and geothermal heat pumps
- Dark Skies – Outdoor Area Lighting Program
  - Provides a variety of efficient high pressure sodium area lighting solutions for residential and commercial members
  - Uses only “full cutoff” technology to reduce glare and sky glow

Multiple Paths to the Same Conclusion

NHEC Strategic Themes

- **Achieve Financial Strength**
- **Provide Superior Service**
- **Act Socially & Environmentally Responsible (*New in 2007*)**
  - Encourage the efficient use of energy
  - Seek renewable energy from sources that are cost-effective and appropriate to NHEC's power resources portfolio
  - Encourage and promote programs that support maintaining the quality of New Hampshire's environment and character
  - Support local and regional economic development efforts
  - Encourage employee participation in community organizations and activities
  - Provide resources to support community service organizations through the NHEC Foundation

NHEC Energy Efficiency and End-User Renewables *Step-ups*

- The Co-op Board resolved in May, 2007 to provide additional (non-SBC) funds for additional end-user efficiency and renewables initiatives ($750,000 budgeted in 2008):

  - Increasing member awareness through a comprehensive education program, "smallSTEPS"
  - Expanding the scope of the Energy Audits Program
  - Implementing installation incentives to support the Solar Hot Water Program
  - Instituting a Small Wind (1kW) Rebate Program
  - Instituting a Solar Photovoltaic Rebate Program
  - Deploying additional load management switches

NHEC Straight Talk Program

The Cooperative Difference

OUR OBJECTIVE is to deliver reliable electricity at the lowest reasonable cost. We are always working for you to keep rates down.

YOUR CO-OP is a not-for-profit organization run by people from our communities. Co-op member-owners have a voice in how we operate; YOU elect our board of directors.

COOPERATIVE PRINCIPLES Members are to be informed about factors that drive costs up and Co-op efforts to manage those costs.

Our Energy, Our Future

The Power to Make a Difference

your NEW HAMPSHIRE Electric Co-op

www.nhec.coop | 800-698-2007

A Touchstone Energy® Cooperative

Straight Talk About the Cost of Electricity

Why is the cost of electricity rising?

HIGHER ENERGY COSTS The price of fossil fuels used to generate electricity (natural gas, coal, oil) and the cost of constructing new generation are increasing dramatically.

RISING DEMAND Worldwide economic growth has increased the demand for energy, further inflating fuel & construction costs.

AGING GRID Portions of the New England bulk transmission grid are outdated, limiting the availability of the most economical power sources. Major bulk transmission upgrades are underway and costs are being passed on to all consumers.

CLIMATE CHANGE Legislative and regulatory initiatives to make our energy supply more sustainable and to reduce greenhouse gas emissions are being undertaken.

What is the Co-op doing about rising costs?

IMPROVING EFFICIENCY We are investing in new technology to improve efficiency & reliability of our electric distribution & management systems, and helping our members boost efficiency in their homes & businesses.

INCREASING & DIVERSIFYING SUPPLY We are working to increase electric supply and reduce price risks by securing power from a sound mix of existing and new energy sources, including renewable energy options that can reduce our vulnerability to increasing fossil fuel costs.

CONTACTING LEGISLATORS We are also asking federal and state representatives to ensure that any enacted legislation (such as climate change legislation) does not disproportionately impact Co-op members.

What can members do about rising costs?

EFFICIENCY Each of us can do our part to be energy efficient. Ask the Co-op for a home energy audit to learn how to use energy wisely. Visit our websites, www.nhec.coop & www.smallSTEPS.coop, for energy-wise tips. And read the "Back Page" of your monthly Co-op newsletter.

smallSTEPS

COMMUNICATION Talk to your friends and family about the reasons for rising electricity cost. Contact your elected representatives; ask them what they are doing to ensure a clean, safe & reliable energy future. Get involved in your Co-op; as a member-owner YOU have a voice in how your Co-op is run.

Communicating:

What is the Co-op doing about rising costs?

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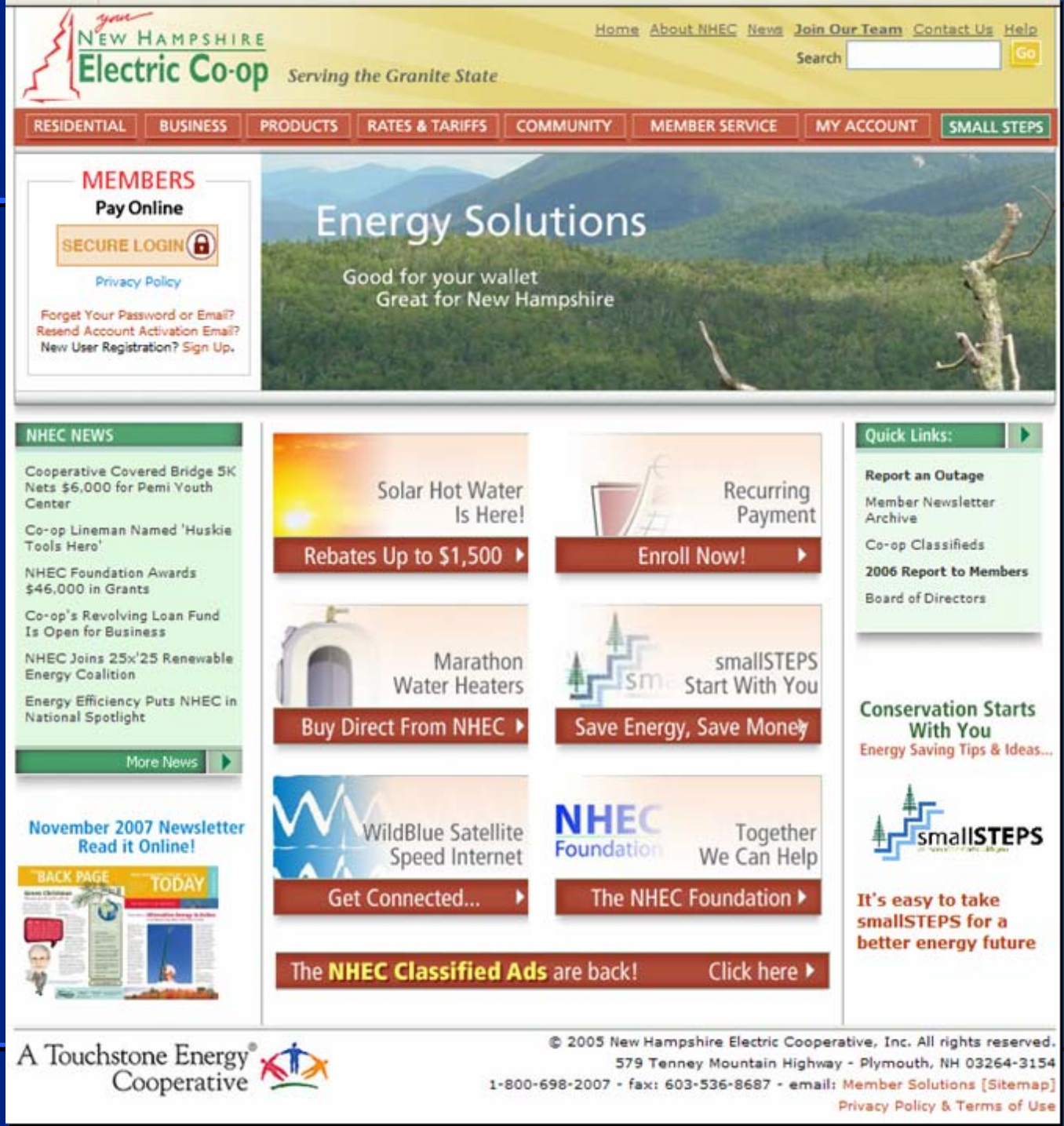
Website

www.nhec.coop



NHEC's Newsletters

The BACK PAGE

New Hampshire Electric Co-op TODAY

NOVEMBER 2007

- Watts Happening
- BOD Election Process
- Signs On Utility Poles
- Green Gifts
- Fred Said

Your Electric Co-op's Newsletter

Green Christmas

This year, give the earth a gift too

The holidays don't have to be all about the "stuff." You can adhere to eco-conscious values and still give great gifts. Check the list below for some gift ideas that they might like better than another scarf or tie. This list is by no means exhaustive. Type "green gifts" into any Internet search engine and browse to your heart's content.

Stocking Stuffers: Compact Fluorescent Light bulbs (CFLs) and tire gauges. CFLs use up to 75% less energy than standard incandescent light bulbs and last up to 10 times longer. A tire gauge helps keep tires properly inflated, which saves gas and helps cut greenhouse gas pollution.

Composter: A number of styles and sizes are available. Throw in things like junk mail, fruit and veggie waste, grass clippings, wood chips etc., keep moist for a summer and you've got soil for the garden that's rich in organic nutrients.

National Parks Pass: The National Parks Service's new Annual Interagency Pass offers access to all public lands across the country that currently charge entrance or standard amenity fees offering visitors a simple and cost-effective way to visit multiple recreation sites. The new Annual pass is available for $80 online at https://store.usgs.gov/pass.

FRED SAID: LEDs (Light Emitting Diodes) make great Christmas tree lights. They use one-tenth the current of incandescent bulbs and last much longer. The best part? They don't have a filament inside that can burn out and take the entire string of bulbs with it!

Who is Fred? He's Fred Anderson, President & CEO of the Co-op and he's big on energy efficiency!

Give a Green Gift that Isn't a Thing:

- a gym membership
- tickets to whale watching trips
- a pair of weekend tickets to a ski area
- a museum pass or membership
- give an experience (a day kayaking)
- a gift certificate for a lesson (tennis, swimming, drums, for example)
- a gift certificate for a dinner for two
- donate something in the name of a friend or relative, in a subject area of interest to them
- a gift certificate to a used book store
- a plant or a tree

www.smallSTEPS.coop

FEATURE ARTICLE: **Alternative Energy In Action**

Co-Op Member Greg Kelley Shows How It's Done

The leaves are just beginning to turn at Greg Kelley's place, but the most beautiful sight is attached to his house – an electric meter spinning backwards.

With the sun warming a roof full of solar panels and a gentle breeze turning a 50-foot tall windmill in his side yard, Kelley's electric consumption for the past 30 days drops from 27 kilowatt-hours (kWh) to 26. This is the payback for a Co-op member who used to consume over 700 kWh per month and more than 1,000 gallons of oil per year.

Kelley's New Durham home is a showplace of alternative energy. The solar photovoltaic system is generating 400 kWh of electricity per month; the Skystream wind turbine adds another 200 kWh per month; a bank of solar collectors provides hot water, part of which is used for radiant floor heat; every light fixture contains Compact Fluorescent Lights (CFLs); every appliance is ENERGY STAR® rated; every window is Andersen® 400 Series Low-E argon filled glass; the house is wrapped in R-30 insulation; the whole house generator is powered by a tractor that runs on bio-diesel…the list goes on and on. Kelley knows not everyone will make the investment he has, but he believes the mindset that underlies it is becoming more common.

"We're in a momentum building stage right now," he says, "this is an exciting growth field. There is an opportunity for America to

Cont. page 2

New Hampshire Electric Co-op

For member service please call 1-800-698-2007 or visit us online at www.nhec.coop

To report an outage please call 1-800-262-6632

New Hampshire Electric Cooperative 579 Tenney Mountain Highway Plymouth, NH 03264

Newspaper Articles & Op-Eds

Take small steps for a better energy future

ENERGY CONSERVATION

By Fred Anderson

It wasn't long ago that energy was something most people took for granted. Gas was plentiful and cheap, renewable energy was something only "tree huggers" talked about and global warming was an exotic theory.

How times have changed.

These days, energy conservation has gone mainstream. Driven in part by high gas prices and increasing concern over the global climate, more and more Americans are starting to understand that energy isn't just part of the quality of life we enjoy, it's the key to it.

As a provider of electricity to more than 160,000 people in the state, New Hampshire Electric Cooperative has the opportunity and, we believe, the obligation to promote energy efficiency, conservation and the development of renewable energy. Part of that effort you may have seen recently on television in a series of commercials called smallSTEPS.

At the heart of the co-op's smallSTEPS campaign is the belief that you don't have to spend a lot of money or radically change your lifestyle to reduce carbon emissions and save energy.

For instance, if every American home replaced just one incandescent light bulb with a compact fluorescent light (CFL), we would save enough energy to light more than 3 million homes for a year, more than $600 million in annual energy costs, and prevent greenhouse gases equivalent to the emissions of more than 800,000 cars. CFLs are good for your wallet too – a $5 light lasts up to 10 times longer than standard bulbs and saves you approximately $30 per year in electric costs.

The smallSTEPS television commercials and our new Web site – smallsteps.coop – are the most visible part of our effort to foster greater social and environmental responsibility. We've launched several other initiatives that back our words with actions, including:

- Rebate offers of up to $1,500 on installation of solar hot water systems
- Rebate offers of up to $3,000 on installation of small wind generators
- Free home energy audits to 50 members
- Distribution of 1,000 free home energy kits
- Conversion of all NHEC facilities to energy-efficient lighting
- Installation of solar hot water at Plymouth headquarters facility
- Began conversion of NHEC fleet to hybrid and ultra low sulfur diesel vehicles

The electricity the co-op buys for use by its members comes from a variety of sources, most of which burn fossil fuels to generate power. Unfortunately, renewable energy in New England is not plentiful or cheap enough at this time to justify a dramatic shift to renewables in our power purchasing.

However, the co-op will be doing its part to transform the regional renewable energy market over the next two decades by steadily increasing the amount of power we purchase from renewable resources. To that end, we have joined the 25 x '25 Coalition, a broad-based, non-partisan alliance whose goal is to derive 25 percent of the nation's power from renewable resources by the year 2025.

In the meantime, we hope you'll take the smallSTEPS message to heart and join the growing number of people who understand that together, we can make a difference.

Fred Anderson is president and chief executive of the New Hampshire Electric Co-op.

Website

www.smallSTEPS.coop

NHEC's Solar Hot Water Rebate Program

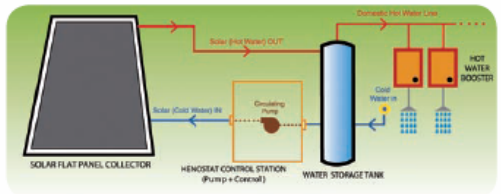
your NEW HAMPSHIRE Electric Co-op
A Touchstone Energy® Cooperative

HOW TO GET STARTED

1. **Go** to the www.smallSTEPS.coop website (or call **800-698-2007** to speak to one of our Member Solutions representatives)
2. **Choose** your Program - **solar hot water**
3. **Start** with the Program Information Sheet
4. **Read** and understand the program Terms & Conditions and Frequently Asked Questions.
5. **Complete** the Application form.
6. **Include** a signed cost estimate, proposal, purchase order, or letter of intent from a qualified installer.
7. **Take** four (4) pictures of home or building at 1 PM during Daylight Savings Time (summer) or 12 PM during Standard Time (winter) where system will be installed.
   - facing the building with south behind you
   - with the building to your back, facing south
   - from the south side of the building, facing east
   - from the south side of the building, facing west

Save 50-80% off your hot water energy cost!

A typical solar hot water system consists of two 4 ft. x 8 ft. solar panels, or 20-30 evacuated tubes, a solar storage tank, a heat exchanger and a domestic hot water tank. Most systems will be closed loop filled with glycol for year-round use. Systems are typically designed to meet no more than 80% of winter hot water needs so as to not overproduce hot water in the summer.



THE FINE PRINT - solar hot water

- Collectors must face south (within 45°).
- Collectors must be tilted 40° to 60° above the horizon.
- Building must be used/occupied 9 months of the year or more.
- Building must have sufficient hot water needs for a qualified installer to deem the project feasible regarding payback, energy savings, etc.
- Solar collectors and system will remain permanently installed for at least 10 years.
- There is a Federal Tax Credit of 30% of the installed cost, $2,000 cap for residental for 2008.
- NHECo-op program provides rebates of 25% of installed cost up to $1,500.
- Systems must be installed in NHEC service territory.

FSC Mixed Sources

NHEC's Small Wind Turbine Rebate Program

your NEW HAMPSHIRE Electric Co-op
A Touchstone Energy® Cooperative

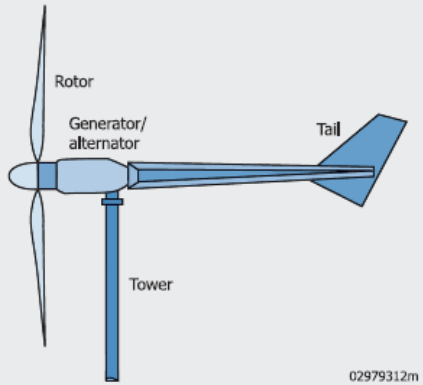
small wind turbine
2008 rebate program

HOW TO GET STARTED

1. **Go** to the www.smallSTEPS.coop website (or call **800-698-2007** to speak to one of our Member Solutions representatives)
2. **Choose** your Program - **small wind turbine**
3. **Start** with the Program Information Sheet
4. **Read** and understand the program Terms & Conditions and Frequently Asked Questions.
5. **Complete** the Application form. Form must Include:
   a. A signed cost estimate, proposal, purchase order, or letter of intent from a qualified installer.
   b. Pictures of home or building showing where wind turbine will be located: Take pictures facing north, south, east, and west.

A typical 2kW system can produce 3000 kWh/yr

Basic Parts of a Small Wind Electric System



THE FINE PRINT - small wind turbine

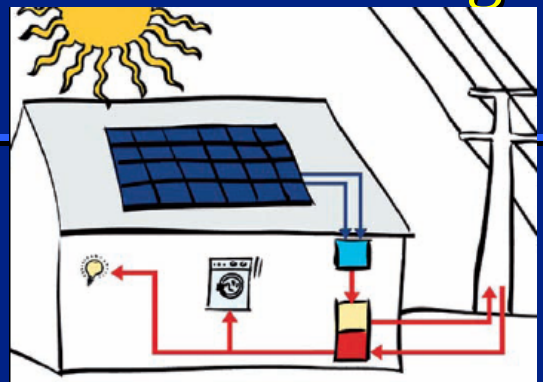
- Systems must be installed in NHEC service territory.
- Sufficient evidence of available wind
- Project must be deemed feasible regarding payback, energy savings, practicality, etc. by a qualified installer.
- Wind Turbine System will remain permanently installed for at least 10 years.
- The NHECo-op program provides rebates of 25% of installed cost up to $5,000.

Mixed Sources
FSC

NHEC's Solar Photovoltaic Rebate Program

your NEW HAMPSHIRE Electric Co-op
A Touchstone Energy® Cooperative

solar photovoltaic
2008 rebate program



A typical 2kW system can produce 2500 kWh/yr

HOW TO GET STARTED

1. **Go** to the www.smallSTEPS.coop website (or call **800-698-2007** to speak to one of our Member Solutions representatives)
2. **Choose** your Program - **solar photovoltaic**
3. **Start** with the Program Information Sheet
4. **Read** and understand the program Terms & Conditions and Frequently Asked Questions.
5. **Complete** the Application form. Include:
   a. A signed cost estimate, proposal, purchase order, or letter of intent from a qualified installer
   b. **Take** four (4) pictures of home or building at 1 PM during Daylight Savings Time (summer) or 12 PM during Eastern Standard Time (winter) where system will be installed.
      - facing the building with south behind you
      - with the building to your back, facing south
      - from the south side of the building, facing east
      - from the south side of the building, facing west

THE FINE PRINT - solar photovoltaic

- Sufficient evidence of available solar exposure
- Solar PV system will remain permanently installed for at least 10 years.
- There is a Federal Tax Credit of 30% of the installed cost, $2,000 cap for residental for 2008.
- The NHECo-op program provides rebates of $3.00 per Watt DC STC (Standard Test Conditions) up to $5,000 per location/project.
- Systems must be installed in NHEC service territory.

FSC Mixed Sources

Other NHEC Social & Environmental Responsibility Programs

- Free Audit Program
  - Targets residential members who use fossil fuels as their primary heat source to improve the energy efficiency of their home. Members receive a free comprehensive energy audit and up to $1,000 incentives towards weatherization measures. 2008 Goal – 75 Qualifying Members
- C&I Fossil Fuel Savings Program
  - Targets commercial members who use fossil fuels. Offers incentives of 50% of the installed cost up to $5,000 towards measures installed. Typical installations include boiler replacements, boiler controls and insulation. 2008 Goal – 10 Members

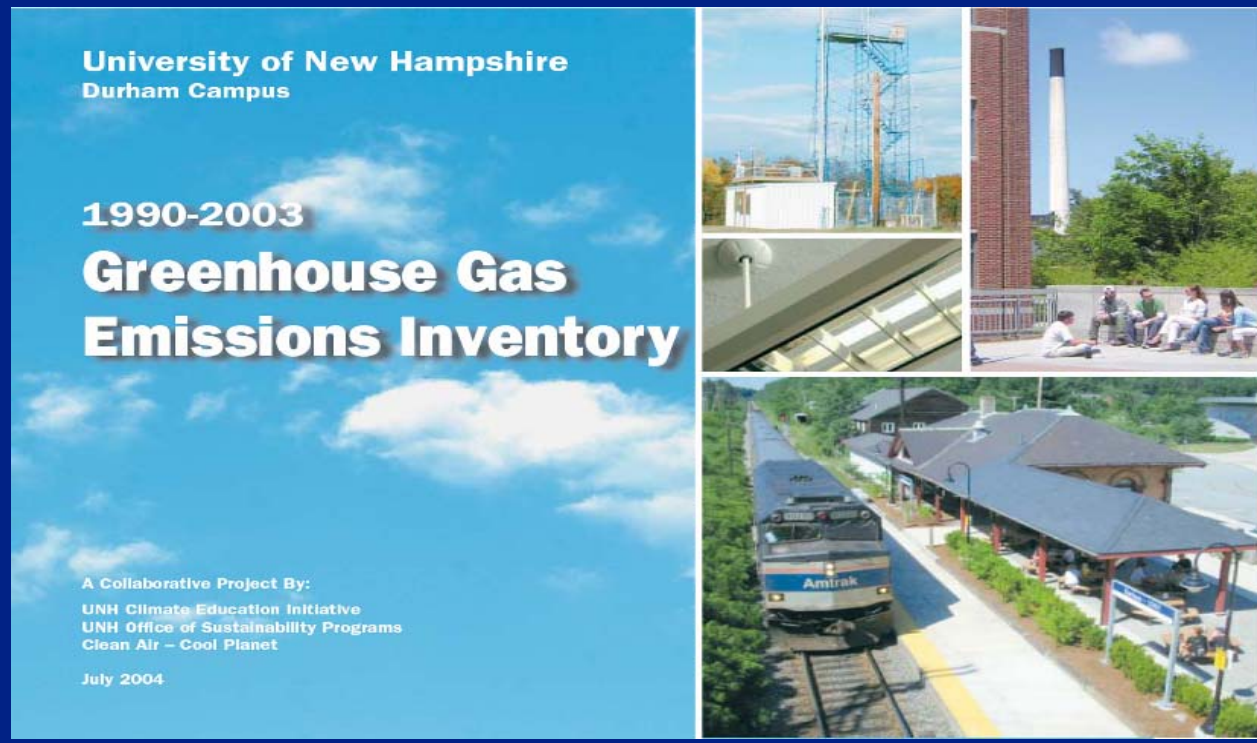
NHEC Operational Carbon Footprint Reduction

- Objective – Improve NHEC's Environmental Stewardship
- Measurement – Establish 2007 baseline carbon footprint (inventory) for NHEC's internal operations
- Target – 2009 NHEC reductions action plan developed by year end 2008

What is “Carbon Footprint”, i.e. a Greenhouse Gas Inventory?

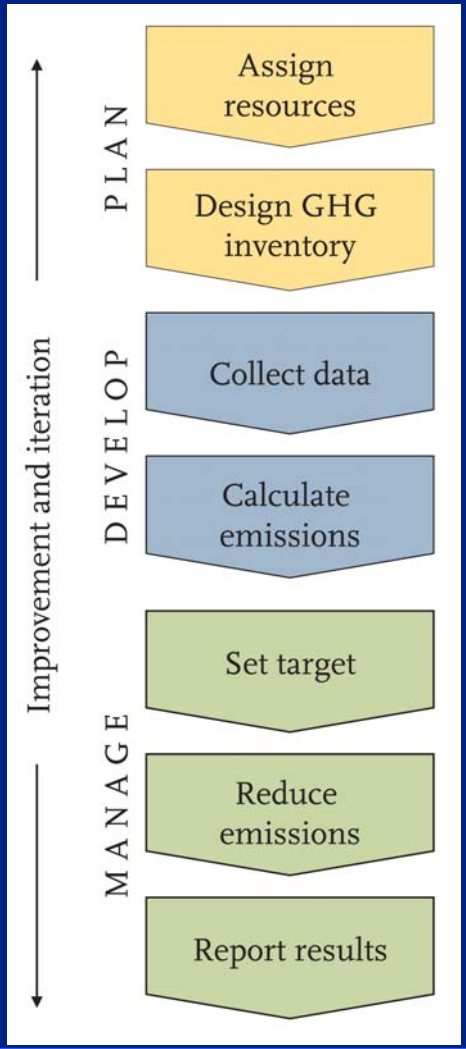
An entity-wide list of GHG emissions sources and activities and their quantities

- A first step
- A management tool



CLEAN AIR COOL PLANET

Carbon Footprint Reduction Stages



- secure management support
- establish a team & prepare budget

- define inventory boundary
- determine sources of emissions
- select base year

- design efficient data management system
- obtain appropriate data, ensure data quality

- apply calculation tools
- guard against calculation errors

- identify emission reduction opportunities
- decide on target type & level

- implement emission reduction activities

- publicly report complete inventory information

CLEAN AIR COOL PLANET

Cooperative Research Network (CRN) New Technology Research & Testing

NHEC Alton District Office
Opened September 2008
229 Suncook Valley Rd
(Route 28)

‘All Climate’ Heat Pump

- Coefficient of Performance (COP) efficiency 2+ at temperatures as low as –30 F°
- SEER rating exceeds 13

CRN Testing of ‘All Climate’ Air Source Heat Pump

- Manufactured by Hallowell in US
- Tested during ’07 & ’08 winters at 10 Co-op sites which included NHEC
- Performed very well in all climates
- Can operate to below -20F° with minimal use of electric resistance heat
- Could reduce average bill by $200 - $400 a year
- Issues with installers and local support were found

CRN Testing of Plug In Hybrid

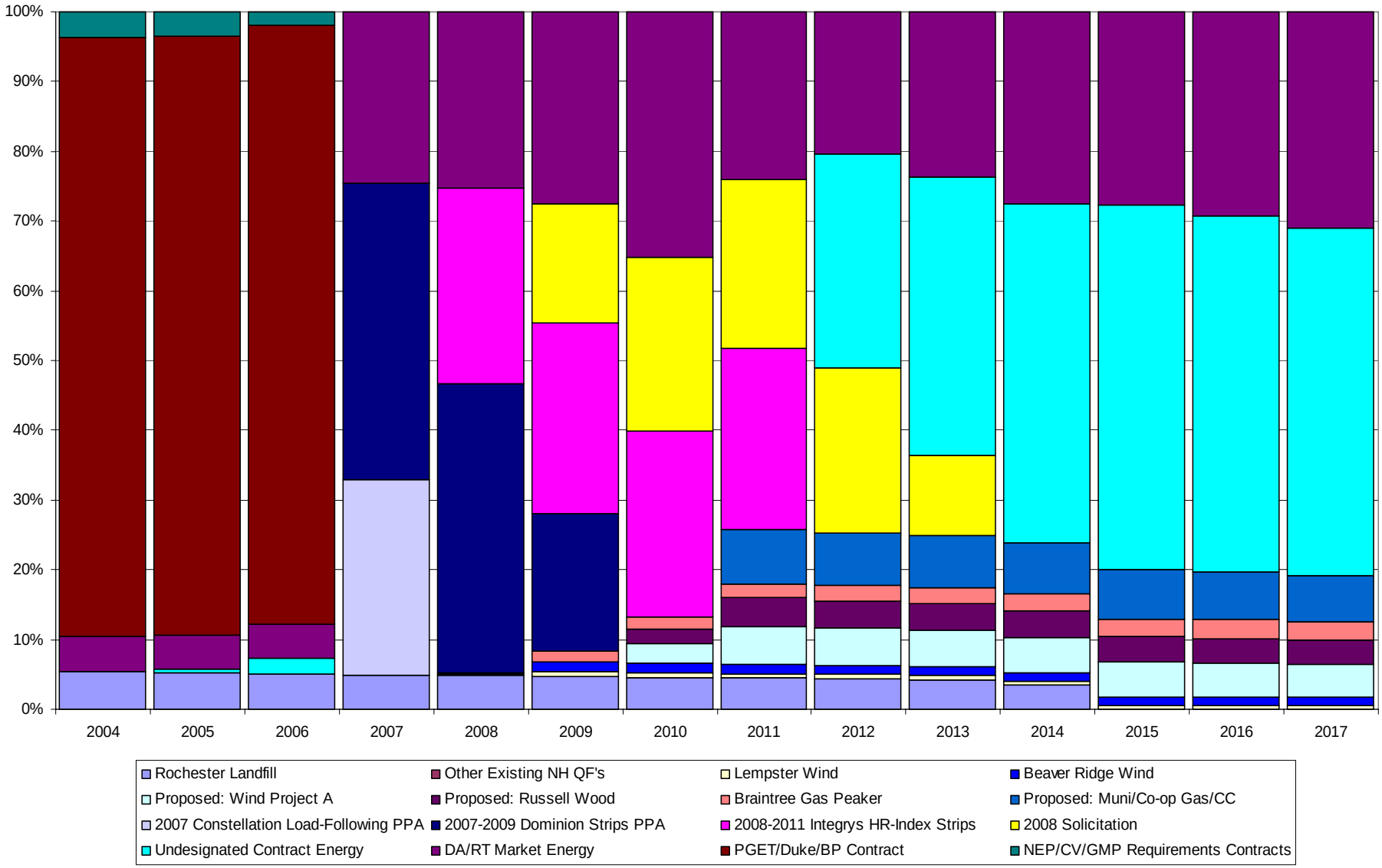
- Four Co-op hybrids converted to plug-ins in ’07 – three more in ’08
- Performance monitored through Idaho National Laboratory
- Co-ops national leaders in real world tests of new vehicle technology

NHEC “Co-op Power” Wholesale Resources

Over the last several years the Co-op Board and staff have a resource procurement approach aimed at managing risk and cost volatility in its “Co-op Power” wholesale portfolio through diversity, flexibility, and optionality

- Bilateral contracts vs. NEPOOL market purchases
- Staggered term lengths
- Multiple suppliers
- Fuel diversity, incorporating renewables (both energy and RECs)
- Load following requirements v. shaped blocks
- Fixed electricity v. heat rate / gas index & options pricing
- Physical v. financial settlement
- System v. generator-specific contracts
- Generation ownership v. purchased power contracts

NHEC's Energy Resource Portfolio (Illustrative)



NHEC Wholesale Renewables *Step-ups (1)*

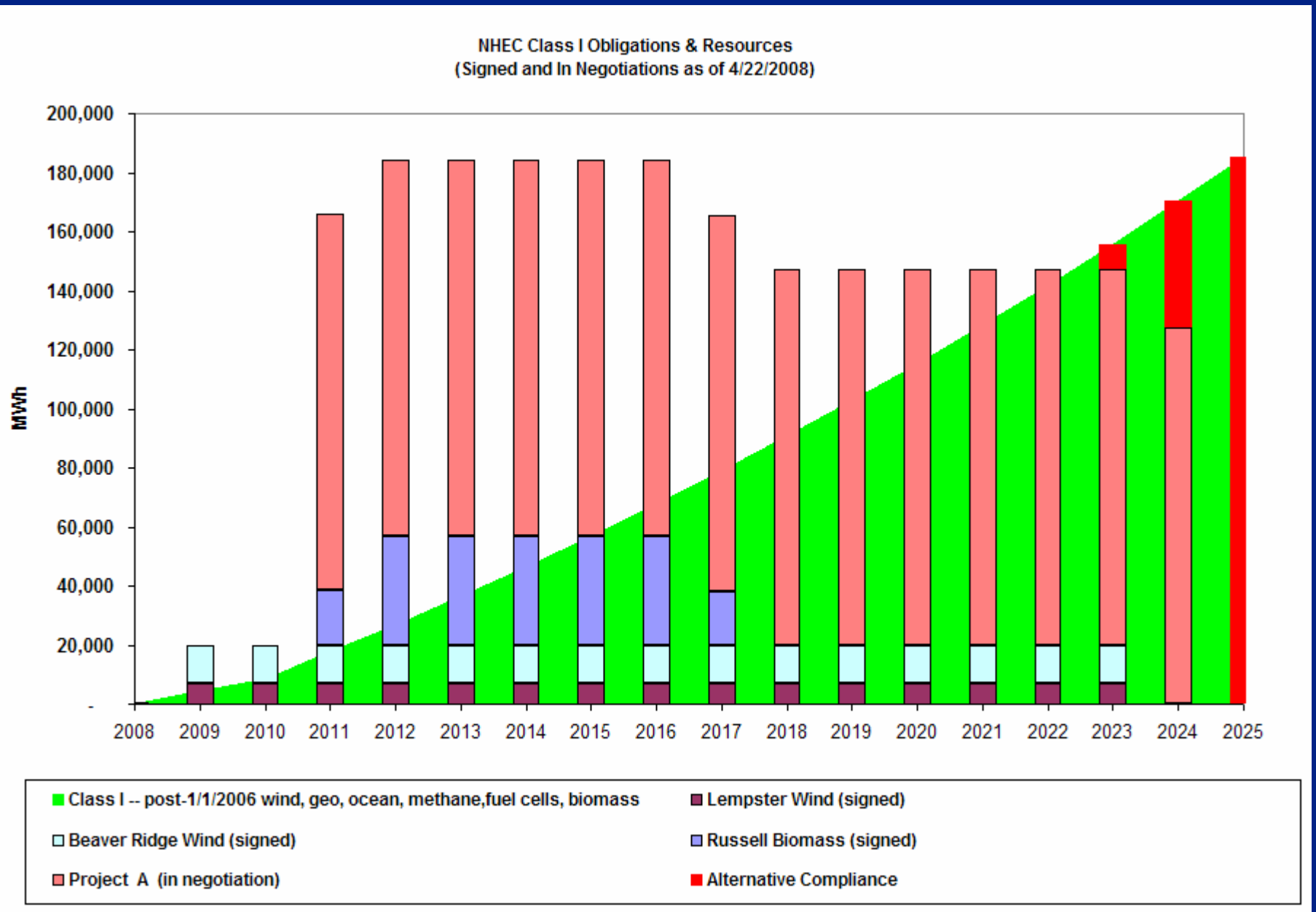
In May, 2007 the Co-op Board resolved to endorse the 25 x ’25 Vision sponsored by the Energy Future Coalition:

“By the year 2025, America’s farms, ranches and forests will provide 25 percent of the total energy consumed in the United States, while continuing to produce safe, abundant and affordable food, feed and fiber.”

www.25x25.org www.energyfuturecoalition.org

NHEC Wholesale Renewables *Step-ups (2)*

- In July, 2007 the Co-op Board resolved to support the development and procurement of renewable resources both in the mix of NHEC's 'Co-op Power' energy service offered to the members, through purchase of RECs without energy, striving to *exceed* the minimum Renewable Portfolio Standard levels mandated by HB 873, by:
  - covering wholesale to retail delivery losses on top of the HB 873 retail sales based obligations; and
  - setting Corporate Scorecard stretch goals even higher than HB 873 plus delivery losses.


NHEC Class I Obligations & Resources
(Signed and In Negotiations as of 4/22/2008)
MWh
200,000
180,000
160,000
140,000
120,000
100,000
80,000
60,000
40,000
20,000
-
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
2024
2025
Class I -- post-1/1/2006 wind, geo, ocean, methane,fuel cells, biomass
Lempster Wind (signed)
Beaver Ridge Wind (signed)
Russell Biomass (signed)
Project A (in negotiation)
Alternative Compliance

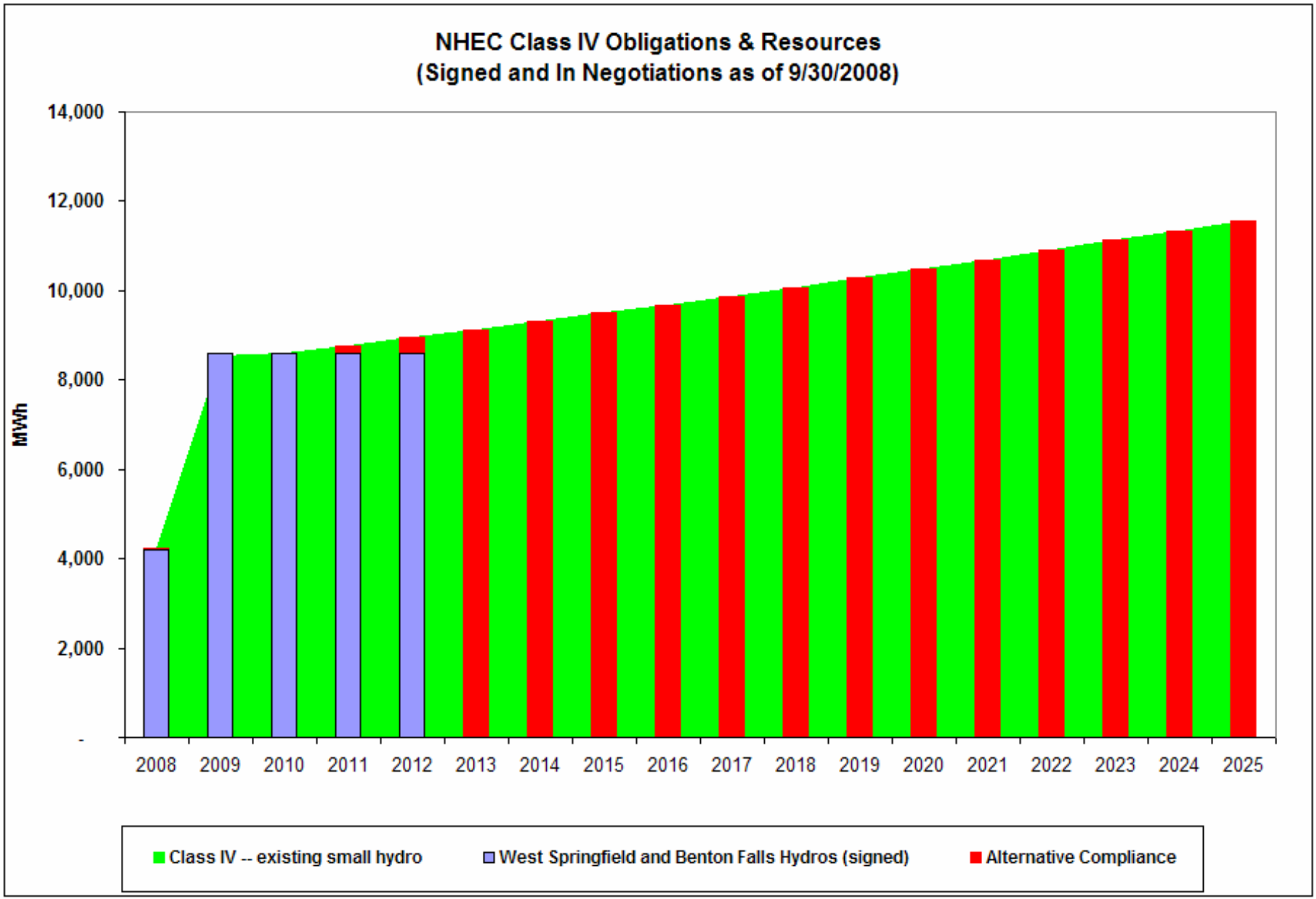
Fall 2008 – Wind Energy Comes to NHEC

Lempster Wind
Lempster, NH

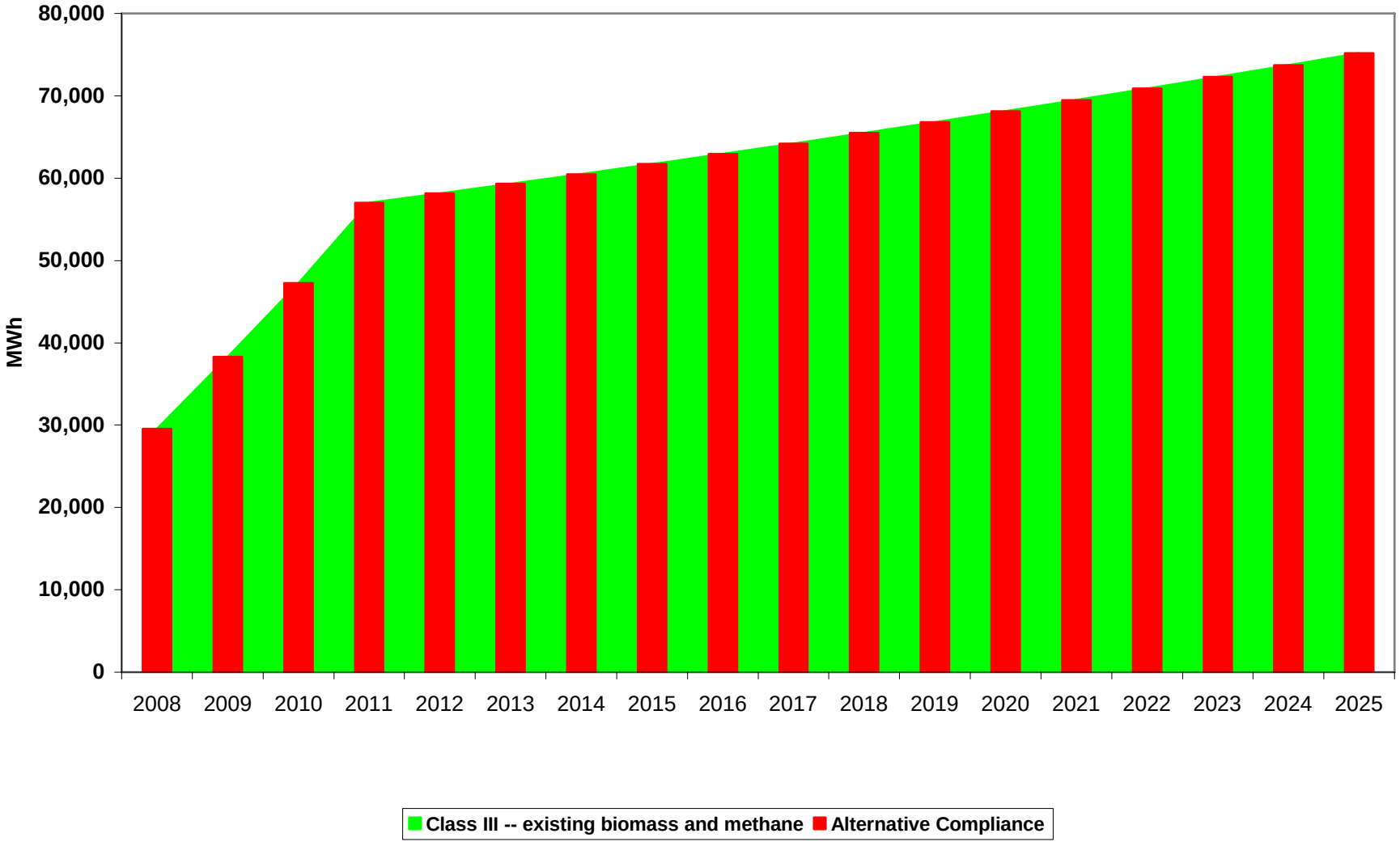
10% of 12, 2 MW Turbines

Beaver Ridge Wind
Freedom, Maine

100% of 3, 1.5MW Turbines


NHEC Class IV Obligations & Resources
(Signed and In Negotiations as of 9/30/2008)
MWh
14,000
12,000
10,000
8,000
6,000
4,000
2,000
-
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
2024
2025
Class IV -- existing small hydro
West Springfield and Benton Falls Hydros (signed)
Alternative Compliance

NHEC Class III Obligations & Resources
(Signed and In Negotiations as of 8/20/2008)



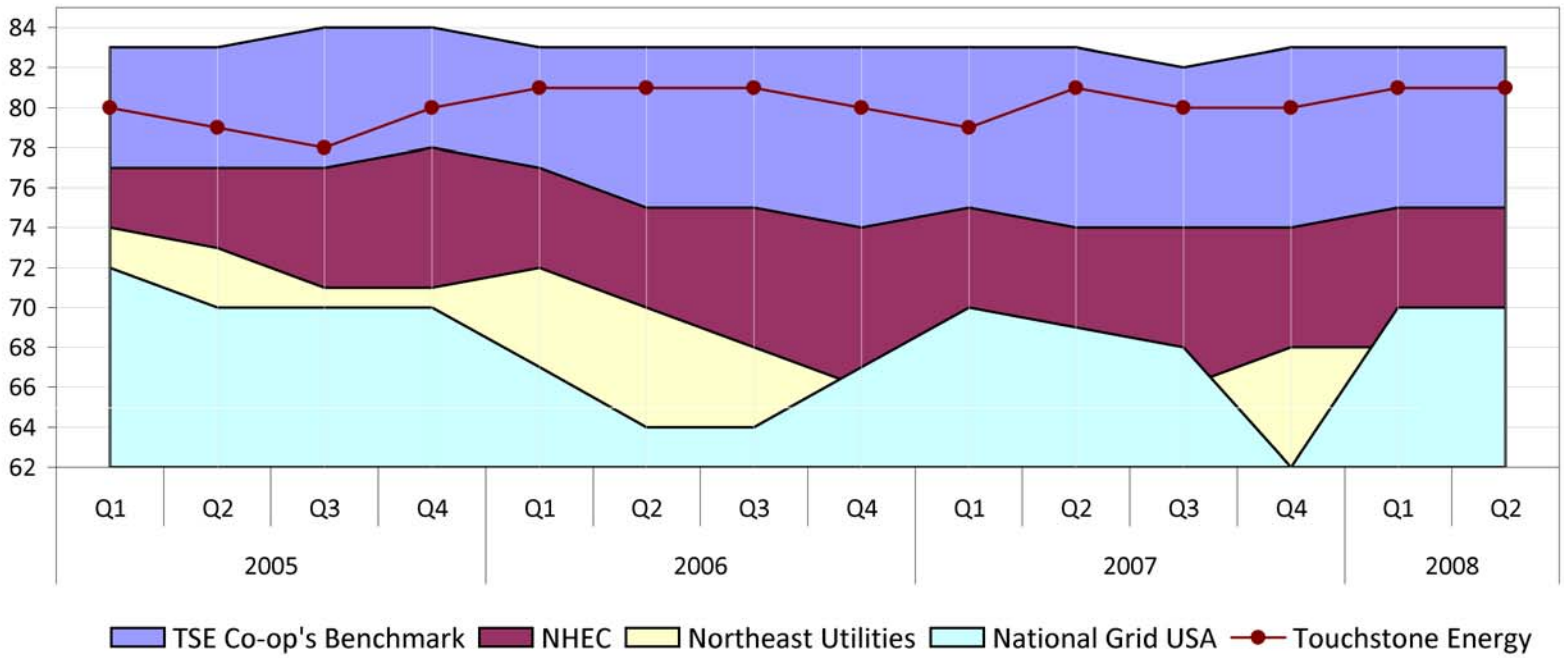
NHEC Class II Obligations & Resources
(Signed and In Negotiations as of 9/30/2008)

NHEC Wholesale Renewables *Step-ups (3)*

- In February, 2008 the Co-op Board resolved to join the National Renewables Cooperative Organization (NRCO) as a founding member
  - NRCO is a not-for-profit cooperative formed to promote and facilitate the development of our nation's vast renewable energy resources for America's electric cooperatives
  - Initial members of NRCO are twenty generation and transmission cooperatives serving multiple distribution cooperatives, and four non-affiliated distribution cooperatives including NHEC

NHEC American Customer Satisfaction Index (ACSI) Score Comparison to Touchstone Energy & Major NH Utilities

	2005				2006				2007				2008	
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
TSE Co-op's Benchmark	83	83	84	84	83	83	83	83	83	83	82	83	83	83
NHEC	**77**	**77**	**77**	**78**	**77**	**75**	**75**	**74**	**75**	**74**	**74**	**74**	**75**	**75**
% to Bmark	93%	93%	92%	93%	93%	90%	90%	89%	90%	89%	90%	89%	90%	90%
Northeast Utilities	74	73	71	71	72	70	68	66	67	67	66	68	68	68
National Grid USA	72	70	70	70	67	64	64	67	70	69	68	62	70	70
KeySpan	72	71	72	72	71	68	68	71	acquired by National Grid					
Industry	73	73	72	73	73	72	72	71	72	72	72	72	73	73
Touchstone Energy	80	79	78	80	81	81	81	80	79	81	80	80	81	81



STATE OF NEW HAMPSHIRE

STATE SENATE

A RESOLUTION

Be it known, that the New Hampshire Senate hereby extends its congratulations to:

New Hampshire Electric Co-op

In Recognition of:

Receiving the 2008 Community Service Award for Energy Efficiency from the National Rural Electric Cooperative Association for energy efficiency efforts at Cranmore Mountain in North Conway

And be it further known that the New Hampshire Senate extends its best wishes for continued success and that this resolution be duly signed by the President of the Senate and duly attested to:

By: Sylvia B. Larsen
President of the Senate

Offered by: Dan Eaton
State Senator

Attest: Tammy L Wright
Clerk of the Senate

Date: June 21, 2008

Wrap-up

- NHEC's board is committed to Social and Environmental Responsibility as a corporate strategy.
- The Co-op is dedicating funds and making a significant effort to implement energy efficiency and renewables initiatives to meet *and exceed* mandates for the benefit of our members and the environment.
- How NHEC has effectively instituted the cooperative version of "decoupling" over the last four years to fund these initiatives is an important topic not covered here.
- Questions?