



Vermont General Assembly at Work on Climate Change

While the debate over energy and electricity is not new, renewed interest in these issues has moved it up on the list of priorities for the 2007 legislative session.

For the past year or so, there have been numerous seminars, workshops, panel discussions, and conferences on energy and electricity. But when the 2007 legislative session kicked off in early January, with outside temperatures higher than normal for that time of the year, interest peaked. In fact, not until mid-February did Vermonters see anything close to a normal snow fall, creating the right “climate” for elected and appointed officials to jump on the global warming soap box.

Sen. Peter Shumlin (D-Windham), the newly elected President *pro tempore* of the Senate, utilized his t-shirt and sneaker hunting experience this fall to make the point that more needs to be done to reduce greenhouse gas emissions in Vermont.

Governor Jim Douglas touted environmental leadership in his “Vermont Way” agenda for affordability.

The House debate has been led by Reps. Robert Dostis (D-Waterbury), Joyce Errecart (R-Shelburne), and Tony Klein (D-East Montpelier), through work on H.225. This legislation highlights the amount of electricity being used and encourages the development of renewable energy sources. Committee Chairman Robert Dostis brought bi-partisan legislation to the floor for full consideration.

The Senate debate on energy has been led by Senator Ginny Lyons (D-Chittenden) and the Senate Natural Resources and Energy Committee. The Senate is taking a different approach than the House with their bill, S.94. Rather than nudging electricity users into conservation and efficiency measures, they prefer a less subtle approach through taxation and regulatory policies.

Numerous and assorted electricity and energy topics were discussed in the new

Legislature. They include utility scale biomass; power generation through distributed and co-generation, wind and hydro, farm-based methane; energy planning at the community and municipal level; affordability through subsidization; demand side management; efficiency and conservation; and the possibility of creating a “green” brand.

Some issues were slated for action this session, with others set for the second half of the biennium, starting in January 2008.

Funding for the programs addressed in these legislative proposals will come from the “clean energy fund” financed by payments from Entergy Vermont Yankee in the amount of \$625,000 per quarter, as well as through a proposed new heating fuels tax.

Meanwhile, the Department of Public Service continues to carry out their formal outreach process – Public Engagement. Even though the RFP process and legislative approval forced early delays, the program is expected to be well underway this spring. •

VERMONT ENERGY PARTNERSHIP ISSUE BRIEFS

Energy costs in Vermont and across New England are among the highest in the country, with demand increasing and the supply of affordable and clean power waning. The Vermont Energy Partnership was formed to advocate collaboratively for sensible solutions that ensure Vermont has reliable, affordable, and clean energy drawn from diverse sources and competitively priced, now and in the future.

In keeping with this mission, the Partnership has published four issue briefs to date to help inform our members and Vermonters in general about the latest topics that are affecting our energy costs, distribution and reliability. They include:

- *Vermont's Electronic Transmission System: What You Need to Know* – provides information on upgrade

projects designed to facilitate the distribution of electricity to consumers throughout Vermont and all of New England.

- *Wind Power in Vermont: A Primer* — outlines the pros and cons of expanding the use of wind energy in Vermont, the current wind farm projects being developed in-state, and how they may affect energy costs and the aesthetics of the state's ridgelines. Wind farm projects addressed include the Sheffield Wind Power Project among others.
- *New Tax Credits Help Energy Conscious Homeowners* — an overview of the energy improvement tax credits available to homeowners until December 2007 for conservation efforts and improvements made to their homes. Some credits that are

offered include \$300 for installing an energy-efficient central air conditioning system and 10 percent of the cost of installing skylights.

- *Vermont's Energy Future: The Hydro-Québec Factor* — outlines and discusses Hydro-Québec's role in Vermont's energy portfolio as an electricity producer. Hydro-Québec provides about one-third of the state's energy, as well as supplying power to Québec, Canada. Contracts that have been in place since the 1980's with Hydro-Québec are scheduled to expire in 2015, and the growing population and energy demands in Québec may threaten contract renewals for Vermont.

To access the Vermont Energy Partnership issue briefs, visit our website: www.vtep.org/Resources. •

Greener Mountain Power— Allowing Customers to Buy Green

Since 2006 Green Mountain Power (GMP) has offered its customers an opportunity to designate a percentage of the electricity they used each month to be purchased from renewable energy sources.

The program, known as Greener Mountain Power, allows residential and small commercial customers to buy 25%, 50% or even 100% of their energy from renewable energy sources. Green Mountain Power then purchases energy from renewable sources available on the New England power grid equal to the portion customers designate.

As new Vermont projects such as wind, biomass, and biogas become available, those will be given priority by Green Mountain Power.

Chris Dutton, President and Chief Executive Officer of GMP explained why the utility created the program:

“Our customers have expressed interest in being able to choose renewable resources and I’m pleased that we will now be able to offer them that choice.



Green Mountain Power’s overall power mix is already low in fossil fuels, but under our new program, customers can choose 100 percent renewable resources.”

Customers pay a premium for the renewable resources of just over four cents per kilowatt-hour. For residential customers using 750 kilowatt-hours a month, signing up for 25 percent of their energy use under Greener Mountain Power would add \$7.88 to their \$97.55 monthly bill, for a total of \$105.43.

Through Greener Mountain Power, customers will be financially supporting the purchase of power from renewable energy sources connected to the New England electricity grid, but that power will not necessarily flow to their homes.

Due to the laws of physics, electrons flow to the nearest need and cannot be directed to a specific location.

In response to the new program in 2006, David O’Brien, Commissioner of the Vermont Department of Public Service, said, “We are very pleased that Green Mountain Power is implementing a “green” rate. This is an ideal way to offer consumers a choice of what energy sources they wish to support.”

Green Mountain Power is the recent recipient of Governor Jim Douglas’ Award for Environmental Excellence, in part for its work in environmental reporting. The Greener Mountain Power program was introduced in its recent Corporate Responsibility Report which describes the environmental, social and financial dimensions of its operations. GMP’s first report resulted in the 2006 title of “Large Company Leader of the Year” by Vermont Businesses for Social Responsibility.

For more information or to sign up, visit www.greenmountainpower.biz or call 1-888-TEL-GMPC (1-888-835-4672). •



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Leading the Way to a Cleaner Environment, a More Secure World

By Brian Dubie, Lt. Governor of Vermont



Someone once told me that the Chinese word for crisis can be translated as “danger and opportunity.”

So what is climate change? Is it a crisis, a danger, or an opportunity?

The study of history is all about how people respond to crisis and challenge. Today, the challenge is climate change.

And we can respond to the challenge in a positive, hopeful way. We can meet the challenge successfully if we engage climate change as an opportunity – an opportunity to focus our educational institutions, our engines of research and innovation – to grow clean, 21st century jobs in our state.

Vermonters are fortunate. As individuals, we all take responsibility for conserving our natural resources. But we can do more.

And our leaders are united. Governor Jim Douglas has demonstrated leadership with his “Vermont Way Forward” – a four-part strategy of environmental leadership, job creation, technological advancement and innovative education – a strategy that will allow Vermont the opportunity to complete an economic transformation that no state has achieved, but all will envy.

Leaders in our legislature are also promoting new ways for our state to confront the climate change challenge.

Vermont’s education leaders, like University of Vermont (UVM)

President Dan Fogel and others around our state, have made science, math and engineering studies a priority; to grow a new generation of young Vermonters with the skills and knowledge to invent solutions to environmental challenges here in Vermont, and all over the world.

In fact, researchers, innovators and investors around the globe have been concentrating on new energy solutions and cleaning up and preventing pollution for quite some time.

And today an abundance of answers are close to fruition – with new fuels like hydrogen and ethanol, new advances in familiar energy sources like wind and solar, new products for energy-efficient heating, cooling, lighting and living, and strong new ultra-light materials that will save energy in planes, cars, trucks, trains and other vehicles.

It’s also exciting to discover that Vermont’s university researchers and innovative companies are at the forefront of delivering environmental solutions for our entire planet.

Professor Walter Varhue and his research team at UVM’s College of Engineering, Mathematics and Science (CEMS) are developing a way to produce clean hydrogen fuel.

Last March, I led a delegation for our state to the largest environmental trade fair in the world, called GLOBE 2006, in Vancouver, BC.

At the GLOBE conference, I drove a car powered by a hydrogen fuel

cell. It drove and performed like a normal car – yet it produced no pollution, and it emitted no greenhouse gases. You could literally breathe fumes from the exhaust pipe.

The car’s one big drawback was that its fuel cell engine cost more than \$700,000 to produce! A Vermonter named Bob Selzer and his team at JMAR Technologies in South Burlington are working on technologies to help reduce those costs, and usher in a new era in personal transportation fueled by hydrogen.

During my four years as Lt. Governor, I have promoted an idea we call the Green Valley Initiative. It is a unifying vision that reinforces what makes Vermont a special place. It is a vision to help focus our colleges and universities, a vision to help to motivate a young person by sharing a dream about growing jobs in Vermont by helping to clean up our world.

Our goal is to assist Vermont innovators and companies who develop cutting-edge, real world answers to the world’s environmental challenges. Vermont companies like GroSolar, Geotech Environmental Equipment, NRG Systems, Northern Power, Clean Earth Technologies, Earth Turbines, Concepts NREC and many, many more are world leaders in these fields. We have worked to help promote Vermont’s Green Valley brand in our nation and internationally.

Efficiency Vermont has convinced the world that saving energy is cheaper than buying it, by pioneering the concept of an



PRESIDENT'S REPORT

By Brad Ferland

The Vermont Energy Partnership is working to make sure that Vermont remains a great place to live and to work. This is how our mission statement opens, and it reminds me that everything here is so interconnected.

Our small geographic and population size gives us networking ability and opportunity for success that larger more populated states can't possibly hope to achieve. We have abundant resources, intellect and resolve. And there are those who say Vermont is "unique." We'll take that; unique is good.

Just how unique is Vermont regarding electricity supply and environmental stewardship? I recently had the opportunity to spend two days with Dr. Patrick Moore, a co-founder of Greenpeace, after the Vermont Energy Partnership invited him to our state to testify before the House and Senate Natural Resource Committees. Dr. Moore's objective views about our state's energy and environmental achievements, as well as our energy needs in the future, was informative and thought-provoking.

Listening to Dr. Moore enlightened and reassured me. He reminded us that Vermont has the lowest carbon-dioxide emissions in the country, and how we

lead the nation in minimizing state CO2 emissions. He praised Vermonters for this effort and the foresight of our leaders decades ago.

Dr. Moore has a global perspective on environmental issues and drew on that to share his views on the use of nuclear and hydro power in Vermont. Our incredible ranking as the cleanest state in the country is no coincidence as two-thirds of our energy supply comes from nuclear and hydro, both non CO2 emitting energy sources.

Having clean and low cost electricity supply is directly connected to our Vermont way of life.

In this issue of "Clean Energy News" we have an article written by Frank Cioffi, President of the Greater Burlington Industrial Development Corp., and founding member of the Partnership, about the contributions of IBM in Vermont. Among many other things, IBM is the economic engine of Northern Vermont, providing approximately 6,000 Vermonters with quality jobs.

The knowledge and skill set of these Vermonters working at IBM is an incredible asset to our local

communities, to our state as well as to the global economy. When 6,000 employees integrate in six different Vermont counties or more, they bring an educational value into their local communities that benefit us all.

IBM takes its global wisdom and brings it home. A manufacturing facility like that owned and maintained by IBM teaches Vermonters about energy efficiency and strategic energy planning as they recognize the significant savings a company can receive by investing and incorporating energy efficient technology into their daily operations. They serve as a model to their neighbors about how energy efficiency can provide real benefits.

Yes, Vermont is the leader in clean energy supply, but we must strive to stay that way. We must work to continue to be a desirable and affordable place for companies like IBM to do business.

If we do not work to ensure that we have reliable and affordable electricity, Vermont may lose some of the very valued gains we have made in the last 40 years. Our unique heritage is one of which we can and should be proud. •



Yes! I want to join the Vermont Energy Partnership

I support your efforts to educate communities regarding the necessity for safe, reliable energy and advocacy to ensure that Vermont has an ample and reliable electricity supply and economic prosperity for years to come.* Enclosed is my tax-deductible contribution of:

Associate Member: \$50 Other \$ _____

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* Conditions of membership apply. For more details send inquiries to info@vtep.org. Vermont Energy Partnership is a 501(c)(6) IRS Tax-Exempt Organization that advocates for reliable, affordable, and clean energy solutions, as well as conservation measures, for all of Vermont.

A More Secure World > Continued from cover

efficiency utility in Vermont. And by showing Vermont's employers how to save on energy, Efficiency Vermont has helped those companies to stay competitive in the global marketplace.

Vermont has looked for ways to encourage young Vermonters to choose Vermont as the place to build their careers and their families. I think that retaining young Vermonters in our state will take more than a financial incentive.

It will take a dream; it will take a challenge - like the dream of creating a hydrogen economy, or the challenge to produce cellulosic ethanol from our abundant forest products.

It will be the dream of educating and inspiring the next generation of young Vermonters. It will be the challenge to discover new technologies that will clean up contaminated air, soil and water for a better, more livable world. These are exciting challenges all Vermonters can share.

Brian Dubie is Vermont's Lieutenant Governor. E-mail his office at martha.hanson@state.vt.us, or visit www.lt.gov.state.vt.us. •

Internationally Renowned Environmentalist & Ecologist Visits Vermont

The Partnership welcomed the new year with the announcement that Dr. Patrick Moore, a co-founder of the international environmental organization Greenpeace, would serve as an adviser on environmental and energy issues.

In late January, Dr. Moore, a renowned ecologist and environmentalist known for his work in preventing commercial whaling, atmospheric nuclear weapons testing, raising awareness about climate change, and promoting forest conservation, traveled to the state and met with Vermonters and policy makers to discuss global warming and Vermont's energy future.

Below are excerpts from Dr. Moore's testimony to the House and Senate Natural Resources and Energy Committees.

"It's easy to appreciate the physical beauty of Vermont's environment – but what also needs to be appreciated is the quality of that environment. Vermont has the lowest carbon-dioxide emissions in the country. When you talk of climate change and how to minimize the release of CO2 into the atmosphere, Vermont leads the nation. Vermonters have always taken a progressive view on matters relating to their environment and must continue to do so.

You are to be congratulated. In the growing concern about global warming and the increasing costs and geopolitical uncertainties of fossil fuels, many states, and countries for that matter, are trying to achieve the energy model that Vermont currently has. Two non carbon-emitting sources of power, hydro-electricity from Hydro-Quebec and nuclear energy from Vermont Yankee, provide a majority of the state's electricity combined.

Vermont faces major challenges in maintaining this clean and dependable electricity portfolio. Vermont Yankee's license extends only until 2012, so its ability to continue providing a third of the state's power is under review. Similarly, Vermont's contracts with Hydro-Québec begin to expire in 2016, so another third of Vermont's power is on the table in the next decade.

While two-thirds of the state's future power is now uncertain, the demand for electricity is rising at about one percent per year. Furthermore, there have been no new major sources of power built in Vermont in more than two decades. Without a clean and dependable electricity supply, the state faces an uncertain economic future, with the accompanying job losses and migration out of Vermont of young people that economic insecurity can cause.

And while Vermont has been a leader in promoting energy efficiency programs, and while efficiency steps can and should continue to be taken, efficiency alone will not solve the state's electricity challenges.

To address the serious challenges of maintaining a clean and dependable power supply, Vermont needs to keep both Vermont Yankee and Hydro-Québec as non-CO2-emitting power sources, and add new, renewable and proven technologies to the power mix, including wind, biomass and geothermal.

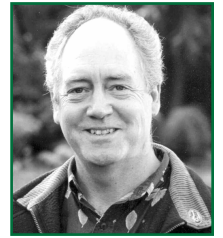
But let's be clear: if we're serious about the pressing need to maintain our low CO2 emissions and indeed to reduce them further, then renewables, while an important piece of the puzzle, simply will not be able to accomplish it alone.

Baseload sources of electricity are required for the grid and the only viable choices are hydroelectric, coal and nuclear. Wind and solar power cannot provide baseload power due to their intermittent and unreliable nature. Natural gas, a fossil fuel and therefore an emitter of CO2, is too expensive already and its price and supply are too volatile to risk building big baseload plants.

Given that hydroelectric resources are largely built to capacity, nuclear is by elimination the only viable large-scale, cost-effective energy source that can reduce CO2 emissions while continuing to satisfy a growing demand for power—cleanly AND safely.

In order to meet Vermont's energy needs going forward, and to continue to do so in an environmentally responsible manner, we must mobilize all the clean energy sources available. The time for

common sense, for scientifically sound decisions on energy and support for nuclear power generation is here and now.



Dr. Patrick Moore,
co-founder of Greenpeace

Vermont must maintain this crucial ultra-low CO2 component of its energy supply for the benefit of all Vermonters. If not, then future replacement power is sure to come from out of state carbon-emitting sources on the spot market, at a greater economic and environmental cost.

Vermonters should continue to lead the way for the rest of the nation on finding balance between much needed electric power generation and the environment, as past generations have so successfully done."

The partnership would like to thank Dr. Moore for his senate testimony and contributions towards our mission of keeping Vermont a great place to live and work. •



Published by the Vermont Energy Partnership

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Montpelier, Vermont 05602

Telephone: 802-223-0575
Website: www.vtep.org
Contact: info@vtep.org
Circulation: 1,500

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The Vermont Energy Partnership is a non-profit 501(c)(6) organization.



IBM Vermont: Celebrating 50 years of enriching, and innovating Vermont's economy

By: Frank Cioffi, President, The Greater Burlington Industrial Corporation

Over the past five decades, the most significant contributor to the expansion, diversification, and enrichment of our state's economy has been IBM Vermont. No company has made a more prolific contribution towards enhancing the lives of generations of Vermont families and expanding our state's capacity to innovate and grow. IBM opened Vermont to the world and opened the world to Vermont.

IBM is Vermont's largest for-profit employer, providing quality jobs to approximately 6,000 Vermonters. We estimate that over 19,000 Vermont families are supported directly and indirectly by IBM. The company's \$350 million annual payroll and economic activity annually injects approximately \$1 billion dollars into our state's economy making IBM Vermont's most vital economic engine.

Nearly 1 in 4 of Vermont's manufacturing jobs are at IBM.

Nearly 1 in 4 of Vermont's manufacturing jobs are at IBM. Whenever Vermont is recognized for its technological innovation, that distinction is likely to be attributable to IBM's generation of knowledge and skills among its Vermont workers.

IBM Vermont is a world leader in supplying complex electronic components to a wide range of global companies. Vermont's high per capita

state rankings for the creativity index, patent innovations, exports, and state rankings of workforce with higher education degrees are all substantially attributable to the contributions of IBM. Inventors at IBM are credited with 10% of the company's total U.S. patents issued each year, and IBM has led the world in patents issued for more than a decade.

Since coming to Vermont IBM and its employees have set an unparalleled standard of excellence by their significant contribution towards enhancing our communities. The relationship between IBM, its employees and the Vermont community is grounded in IBM's long-standing commitment to civic, social, and environmental responsibility. IBM employees and retirees volunteer thousands of hours of personal time and contribute over \$1 million dollars to more than 100 health and human services agencies in annual charitable contributions.

IBM has made over \$575,000 in corporate and technology grants, in addition to \$100,000 in community grants based directly on the volunteer efforts of IBM employees and retirees.

These volunteer efforts provide support to more than 225 nonprofits and schools statewide. IBM gives over \$500,000 in matching grants annually for employee and retiree contributions to cultural, educational, environmental, and health care organizations within Vermont.

IBM hosts an annual summer technology camp for middle school girls to encourage their study of math and science, and hundreds of IBM employees volunteer in our schools in career development and student mentoring programs.

IBM Vermont is an environmental technology leader that deploys the most advanced energy efficiency practices. In 2005, the Environmental Protection Magazine named IBM Vermont "Facility of the Year". Investments in energy conservation at the facility lead to a 6%



Middle school girls at IBM's EXploring Interests in Technology and Engineering (EX.I.T.E.) Camp

average annual reduction in consumption, an astounding figure that is equivalent of supplying power to 2,000 homes.

Other companies and customers have lauded the quality and contributions of IBM Vermont. Cisco Corporation recognized IBM Vermont's excellence by naming IBM Vermont its 2006 Supplier of the Year. In addition, IBM Vermont has also earned "Trusted Foundry" recognition by the U. S Department of Defense.

Since its establishment, IBM's impact on our state has been truly unrivaled. However, its touch in the world has been just as remarkable. Microchips made in Essex, Vermont are used by leading global electronics and computer companies. When accessing the Internet from Canberra to Copenhagen, your connection will likely traverse through multiple semiconductors made at IBM Vermont.

Fifty years after they came to Vermont, the innovation and creativity of the company and its employees remain as rugged, strong, and vibrant as our Green Mountains.

We thank IBM and its employees for fifty years of contributions to enriching our communities, our state, and our economy and we wish IBM a healthy and successful future in Vermont, for fifty years to come. •