

**DRAFT PUBLIC COMMENT SUMMARIES**  
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**STATE OF NEW HAMPSHIRE**  
**Department of Environmental Services**

**DRAFT MEMORANDUM**

**DATE:** November 17, 2008

**TO:** Thomas S. Burack  
Chairman Climate Change Task Force

**FROM:** Deana Aulisio  
Joanne Morin  
Chris Skoglund  
  
Air Resources Division

**SUBJECT:** **Summary of the Public Comments Regarding Four Additional Potential Actions in the Electricity Generation and Usage (EGU) Sector**

**Introduction:**

This memorandum provides a summary of the written public comments that NHDES received from a total of 14 individuals and organizations regarding four new Potential EGU Actions. **THE SUMMARY BELOW, THEREFORE, DOES NOT REPRESENT THE POSITION OR OPINION OF THE MEMBERS OF THE CLIMATE CHANGE POLICY TASK FORCE OR NHDES**, but instead is a document to assist in the Task Force's deliberations and the final determination of the Actions that will be included in the New Hampshire Climate Change Action Plan to be submitted to Governor Lynch in December 2008.

*Background*

Per the request of the Climate Change Policy Task Force, following the 6<sup>th</sup> Task Force meeting, NHDES revised 4 additional Potential EGU Actions and submitted them for written public comment in late October 2008. These Actions include:

1. EGU 2.6 Importation of Canadian Hydro and Wind Generation
2. EGU 2.7 Allow Regulated Utilities to Build Renewable Generation
3. EGU 2.8 Identify and Deploy the Next Generation of Electric Grid Technologies
4. EGU 2.9 Promote Distributed Generation

This comment period, lasting two weeks, provided members of the public an opportunity to submit comment on these new Potential Actions. These Potential Actions, which were developed outside of the technical/ policy working group process, were not available for review and comment during the initial public comment period held in late September 2008. During this first comment period, a total of 5 Public Listening Sessions were held around the state and the Task Force received verbal and written comments on the 100+ Potential Actions that had been developed by the six technical/ policy working groups engaged in the process.

The written comments have been summarized in this memorandum have been organized by Action and by commenter in order to provide a clearer understanding of the range of views surrounding each of the Actions submitted for comment. **THIS DOCUMENT PARAPHRASES OR DIRECTLY QUOTES FROM THE SUBMITTED COMMENTS IN ORDER TO CONVEY, AS ACCURATELY AS POSSIBLE, THE POSITIONS ASSERTED BY CONTRIBUTORS. THE TIMING OF THIS PROCESS HAS NOT ALLOWED FOR FACT CHECKING OF THE INDIVIDUAL COMMENTS.**

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**EGU 2.6 – Importation of Canadian Hydro and Wind Generation**

Cleve Kapala at TransCanada supports addressing climate change issues by increasing the supply and availability of renewable energy resources to customers in New Hampshire. They question, however, whether a reliance on Canadian sources of hydro and wind are a "complimentary policy" as stated in the Action 2.6 Summary or are, instead, harmful to the development of non-carbon generating assets in New Hampshire. As Action 2.6 correctly observes, Canada is developing "vast new hydro and wind generation resources, which are greater than their local needs". In fact, those resources are to some extent already in place and would, presumably under the recently adopted RPS standards, be fully capable of swamping the New Hampshire electricity and renewable energy credit market and depressing prices to the extent that indigenous renewable resources or development projects under consideration would be at a distinct disadvantage. Facilitation of the importation of Canadian hydro and wind would potentially undermine renewable energy goals in New Hampshire. The State should not be taking steps in the name of "Climate Change" to destroy or hinder the economic development opportunities associated with renewable energy resources that are sited within New Hampshire.

The Action Step correctly identifies that building additional high voltage transmission interconnections with Canada would be a facilitating step for imports. They respectfully request that the New Hampshire intrastate issues be addressed and resolved by transmission providers prior to embarking on efforts to create additional interstate and international linkages that don't facilitate economic development issues and other opportunities within New Hampshire.

Omitted from the Action Step discussion is the tie between the existing RPS rules and the proposed importation of Canadian hydro and wind. The existing RPS rules in every state, as they presently stand, allow qualifying renewable imports to count if the energy is "delivered" to NEPOOL. Essentially the only requirement is "delivery". TransCanada would describe that as a "Seller's convenience" delivery standard. In Massachusetts, legislation was recently passed as the Green Communities Act (GCA) to begin to deal with importers and the utility preferences identified in this draft Action Step. TransCanada believes this issue threatens the further development of renewable energy resources in New England. Recently in Maine, the chair of the Joint Committee on Utilities and Energy of the State Senate went on record with the NEPOOL Markets Committee with respect to this issue. It is TransCanada's view that New Hampshire's Climate Change Policy Task Force should also reconsider and refine their approach to imported renewable power and its application to the RPS.

Donald M. Kreis, an associate professor at Vermont Law School considers all four new actions under consideration for the EGU sector to be sound recommendations that the Task Force should incorporate into its report. That being said, the Task Force should refine the recommendation in certain respects. The Task Force should acknowledge that locally produced hydro and wind power is more economically prudent than imported power.

The Task Force should also confront the ratemaking and restructuring implications of a plan to import hydro power more forthrightly than it does in the current draft. Vermont relies on Hydro Quebec for the bulk of its electricity. The resulting lack of hedging has placed Vermont at a significant disadvantage at times when its utilities were locked into long-term contracts at rates significantly higher than those from other sources. At other times, the price is lower for hydro

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power, but Vermont still must worry that contracts will eventually end and they could face a rate “shock”.

Most importantly, Action 2.6 appears to casually adopt a significant retrenchment from the industry restructuring the Legislation embraced 12 years ago with RSA 374-F, specifically with the drafts suggestion of a “primary cost approach” to building a new transmission line to link Hydro Quebec. In effect, this is a return to the integrated, least-cost planning process that applied to vertically-integrated electric utilities prior to the unbundling of retail electric rates and the “theoretical” opening of retail energy supply to competitive procurement. The state should be skeptical of its regulated electricity paradigm.

Dalton Catchpugh from Demand Side Technologies LLC believes New Hampshire is occupant of a fragile planetary ecosystem that is showing severe signs of strain from expanding global population and continuously increasing fossil fuel consumption that is adding to the problem of global warming.

The question of whether or not New Hampshire should perpetuate its dependence on foreign energy commodities has, therefore, no place in this discussion. While it is true that in the boreal reservoirs of Canada, greenhouse gas emissions are typically only 2 to 8% of any kind of conventional fossil-fuel thermal generation, environmentalists are still against them for many reasons: 1) Fish populations can be impacted if fish cannot migrate upstream past impoundment dams to spawning grounds or if they cannot migrate downstream to the ocean, 2) Hydropower plants can cause low dissolved oxygen levels in the water, a problem that is harmful to riparian (riverbank) habitats, 3) Humans, flora, and fauna may lose their natural habitat, 4) Local cultures and historical sites may be impinged upon.

In any case, New Hampshire does not need to import foreign electricity for a premium that New Hampshire citizens will pay for, and especially when the New Hampshire Wind Energy Association (WEA) will have wind turbine capacity of 177 MW by 2012. This is enough to replace PSNH's Schiller station, which is currently burning wood (i.e. exploitation and depletion of a natural resource). During this decade, WEA estimates >1200MW wind capacity; enough to replace Merrimack and Newington fossil fuel fired plants.

Also, the fact that Hydro Quebec is a state owned utility should be addressed seriously, considering that the province of Quebec is a politically unstable Canadian territory. In the last Canadian federal election, a separatist Bloc Quebecois declared victory in the province, which could potentially lead to Quebec's separation from Canada. Also of concern is how the government of Quebec openly sanctions, and always denies, institutionalized discrimination against Anglophones and other minorities living in the province. For New Hampshire to import electricity from Quebec would send a negative message of approval for the perpetuation of abrogated human rights - quite the contrast from our adherence to the tenet that all humans are created equal and have natural and unalienable rights to life, liberty and the pursuit of happiness.

Representative Frederick W. King from Coos District One believes if New Hampshire wind projects are allowed to be developed with the appropriate transmission line up grades the State may not need power from Canada. Better to spend the State's rate payer's funds on home grown power that will greatly enhance our local economies and will also add to our property tax base before using Canada's expanded power generation. This will also create more jobs for people in New Hampshire rather than outsourcing them to Canada.

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Alexander P. Lee from Project Laundry List indicated that methane emissions from submerging plant material under a reservoir are a significant concern with hydroelectric dams. Methane is a more potent greenhouse gas than carbon dioxide, and it should be referred to as such in the Plan. He referenced an article by Dr. Ivan Lima of Brazil's National Institute for Space Research, who personally commented on the topic in a later email correspondence (see below). Not much data exists on the impacts of boreal dams in Northern climates compared to Amazonia. Lee did, however, quote the IPCC, on the uncertainty of measuring CH<sub>4</sub> from of highly variable biospheric sources. The precautionary principle and the high uncertainty alone should militate against "playing with fire" (or water, if you will).

Furthermore, NASA geophysicist Dr. Benjamin Fong Chao has found evidence that the weight of the world's collective reservoirs is speeding up the Earth's rate of spin and is changing the shape of Earth's magnetic field. (Source: "Dams alter Earth's orbit, scientist says" in Ottawa Citizen, March 3/1996, pg. D8 (based on) Malcolm W. Browne's late Feb./early March '96 report in the New York Times.) There is also a growing body of evidence that large dams contribute to increased seismic activity. Three Gorges in China, Katse Dam, Hoover Dam being a few examples cited. While these last couple are among the more controversial assertions in this memo, according to the World Commission on Dams report, where the reservoir is large compared to the generating capacity and no clearing of the forests in the area was undertaken prior to impoundment of the reservoir, greenhouse gas emissions from the reservoir may be higher than those of a conventional oil-fired thermal generation plant. (<http://www.newscientist.com/article.ns?id=dn7046>.)

EGU 2.6 states the environmental benefits in the Action Report. Lee believes the first sentence is broadly applicable to almost any renewable or sustainable energy import. There are "renewable" resources that are not sustainable; renewability does not have anything to do with the inherent or endogenous carbon intensity of an energy source. It would be more accurate to say that importation of hydropower reduces air pollutants associated with many typical non-renewable energy sources. Also, the NIMBY nature of the last sentence of that paragraph is irresponsible, as the costs will now be born by populations out of region but inhabiting the same planet, and it is not at all clear that out of region power with its built-in transport costs, creates a net environmental gain.

EGU 2.6 also states, "This measure provides short term value in the form of wages." Does this mean wages for Cree and Quebecois or American utility personnel installing high-voltage transport systems? This is an overly-politicized sentence that is more reflective of North Country woes and a declining employment rate than sustainable economic policy. It should at least be changed to read, "This measure provides short term value in the form of wages for a number of limited time jobs along the transmission corridor."

Lee questioned how the Task Force arrived at the 6.09 MMTCO<sub>2e</sub> figure for CO<sub>2</sub> savings. What is the mechanism for a member of the public (with or without a Ph.D.) to contest this expert assertion or dissect the model employed to reach it? His other big concerns with Hydro-Quebec's hydro-power are environmental and geo-political, but do not relate to climate change per se and were not expressed in his commentary.

Dr. Ivan Lima of Brazil's National Institute for Space Research indicated that there are many differing aspects regarding dams and climate change. Methane emissions or capture from

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temperate/boreal reservoirs is not a big issue today, but as temperature rises, it might be a matter of concern, because methanogenic bacteria metabolism is dependent on temperature, an optimum being between 30 to 40 Celsius degrees. On the other hand, a recent article in "Science" (<http://www.sciencemag.org/cgi/content/abstract/1154580>) shows that sea level rise has been lower than expected due to water storage in the continents by damming global rivers.

Other researchers say that reservoirs might be storing carbon. "Dam friends" are usually taking this argument to favor damming projects. The following paper examines the linkages between the carbon cycle and sedimentary processes on land. Available data suggest that sedimentation on land can bury vast quantities of organic carbon, roughly  $10^{15}$  g C yr<sup>-1</sup>. (<http://www.agu.org/pubs/crossref/1998/98GB00741.shtml>)

Knowledge on carbon dynamics in freshwater ecosystems has increased precipitously. A research paper will be published soon considering methane capture from tropical (Amazon) dams (Ramos et al.).

Presumably, HydroQuebec has political and economic strength and good arguments to sustain damming policy in North America. However, they (and other companies) must diversify energy resources. Who guarantees water resources will be suitably available for the next 50-100 years in Quebec? IPCC scenarios predict an increase in precipitation in the long term, but surely accompanied by extreme events of rainfall (spring) and evapotranspiration (summer) ([http://adaptation.nrcan.gc.ca/assess/2007/ch5/3\\_e.php](http://adaptation.nrcan.gc.ca/assess/2007/ch5/3_e.php)). This might be also true for tropical countries like Brazil. The key concept is "energy sector diversification to increase resilience" under indeed "barely" known future climate.

Randy Bryan of ConVerdant Vehicles applauded the recommendations for improving long distance transmissions lines to enable greater import of cleaner Canadian hydro and wind resource power. However, importing is not a sufficient answer. The document might do more to advance our own economic energies for local clean generation facilities.

Melissa A. Hoffer speaking for the Conservation Law Foundation hopes the Task Force ensures an open and transparent assessment to evaluate properly the full-range of potential environmental and social impacts associated with this proposed Action, including increased mercury pollution from rotting vegetation due to flooding; carbon dioxide pollution from damming; and displacement of indigenous peoples. CLF agrees that an increase in affordable clean power generation should be strongly encouraged, including appropriately evaluated Canadian wind and hydro power. EGU Action 2.6 appears designed to support such generation only in the event that it does not result in *any* rate increase. CLF urges the Task Force to support such generation so long as it does not involve an *unreasonable* rate increase. CLF also notes the desirability of linking EGU Actions 2.6 and 2.7 to a commitment to reduce New Hampshire's reliance on non-renewable generation. CLF urges the Task Force to consider conditioning implementation of these Actions on reductions in carbon dioxide emissions from existing sources in New Hampshire.

Christopher Sherman from New England Power Generator's Association (NEPGA)\* commented on the old action of *Importation of non-CO<sub>2</sub> emitting power into New Hampshire from outside*

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\* These comments may be changed as NEPGA inadvertently commented on old drafts of 2.6 – 2.7 and overlooked 2.8 – 2.9.

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*the State.* NEPGA recognizes that an effective climate action plan both anticipates and needs external resources to be successfully implemented. The markets for renewable energy have historically been motivated by regional policy efforts. The various state RPS programs have been remarkably consistent in the goal of removing market barriers to the generation and transmission of renewable energy, while at the same time preserving the integrity of the competitive energy markets and the economy in New England.

Developments in transmission infrastructure will indisputably impact the consumer price of electricity, as well as the decisions of private developers to invest in supply side resources. NEPGA has a direct interest in ensuring that the decisions to expand transmission infrastructure are made in a prudent manner that best represents broad stakeholder interests. The New England bulk power system is comprised of more than 8,000 miles of high voltage transmission lines and several hundred generating facilities. NEPGA's members work cohesively to assure the bulk power supply system within the New England control area conforms to proper standards of reliability through their participation in the open-access trading platform that produces the lowest-cost solution to meeting the demands for reliable electricity. NEPGA's members have been actively involved in the development of these market systems and have concerns about such a broad policy that favors transmission solutions without a more detailed policy for least-cost analysis and prudence review. NEPGA believes that, as in all cases, a transparent stakeholder process should be utilized prior to the approval or construction of new transmission facilities.

**EGU 2.7 – Allow Regulated Utilities to Build Renewable Generation**

Bill Gabler from Clean Power Development rejected the proposed action and suggested in be removed from the Task Force recommendations. His reasoning is based on Bill RSA-374-F, passed in 1996, which proposed to restructure the New Hampshire electric utility industry by reducing costs for all consumers of electricity by harnessing the power of competitive markets, while at the same time maintaining safe and reliable electric service with minimum adverse impacts on the environment. Increased customer choice and the development of competitive markets for wholesale and retail electricity services are key elements in a restructured industry that requires unbundling of prices and services and at least functional separation of centralized generation services.

While there is clearly a need for additional renewable generation, it is just as clearly the role of the competitive market to provide it. There are currently 858 MWs of renewable power generation proposed to be built in New Hampshire, all of which is being offered by competitive suppliers risking their own money, not that of the ratepayers of New Hampshire. Just like every other company in the state, PSNH is legally entitled to form an unregulated subsidiary and enter the competitive market to build renewable power plants, using shareholder and free market monies.

EGU 2.7 cites a critical need for at least one 50MW biomass plant, and up to three more 20-25 MW units. His company, Clean Power Development, is currently working on developing an array of plants that would provide that biomass power, including a 50 MW facility in Winchester, a 35 MW plant in Merrimack, a 27 MW plant in Berlin, and a fourth biomass plant in the works.

Cleve Kapala at TransCanada believes an important driving force behind the state policy embodied in RSA 374-F, which put the state on the course toward deregulation of the electric

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generation sector in New Hampshire, is that it is undeniably challenging to accurately forecast future electricity prices and costs associated with large capital projects in a volatile economy. Ratepayers should not be forced to take risks associated with new generation investments. Regulated utilities doing business in New Hampshire are investor-owned. TransCanada Corporation operates both regulated and competitive businesses successfully. TransCanada would have no objection to regulated utilities building generation as long as the associated risks fall to utility investors instead of its ratepayers. Climate change policy should complement not undermine the competitive electricity market and the policy embodied in RSA 374-F by the New Hampshire Legislature.

The reality exists that there are renewable generation development companies that have projects waiting in a queue to build. Those businesses are risky, margins are tight, and access to transmission is frequently poor and costly. TransCanada is proud of its recent redevelopment of Vernon Station on the Connecticut River but acknowledges that what began as a \$30 million project ended up costing well over \$50 million. The risks, challenges and rewards should be shouldered by investors, either utility or competitive, not captive ratepayers going forward.

On the other hand, Action 2.7 properly acknowledges that transmission is a major constraint associated with new renewable generation. This Action states that "customers in New Hampshire and potentially throughout New England would pay for enhanced transmission". While TransCanada readily acknowledges that transmission infrastructure is also capital intensive and risky, it will likely remain regulated and therefore ratepayers (i.e., "customers") are presumably safeguarded by regulatory oversight. The resulting investments in transmission upgrades will have public benefit. New Hampshire should support policies that encourage regionalization of the costs of transmission upgrades that will bring benefits to the region, as well as those that provide mechanisms for renewable generation developers to share the costs of transmission upgrades with ratepayers.

Donald M. Kreis, an associate professor at Vermont Law School disagrees with New Hampshire's restructuring of the electricity sector, which has prohibited electric utility development and ownership of new generation capacity. As the draft action points out, PSNH is the only utility that owns a generation fleet and is actively pursuing to expand, particularly with new renewable generation facilities in the near term. Rival generation companies have impeded PSNH's efforts to gain legislative authority to do so, by alleging that, as a regulated utility and monopoly distribution provider, PSNH would gain unfair advantages over other energy producers. If the state used its authority to subject PSNH to integrated least-cost planning requirements, New Hampshire would have more control over the development of its generation infrastructure, rather than leaving it to the variability of a competitive marketplace, that has not yet stepped up to the task.

Ferrell Seiler from the NH Wind Energy Association (WEA) is interested to know when the proposed actions (EGU 2.6 & 2.7) will happen, who will pay for new generating assets, and who can build these projects faster and cheaper. PSNH wants legislation "that gives regulated utilities authority to construct and/or acquire renewable generating assets," including 50 MW of biomass by 2012, 144 MW of wind power in 17 years, 75 MW of distributed generation, and 12 MW of photovoltaics by 2025. PSNH deems customers of the regulated utility would pay to construct new generation facilities and transmission.

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Neither one of these Action Items suggests the elimination of CO<sub>2</sub> from the mix of New Hampshire generating plants. There was very little discussion to stimulate the development of renewable energy alternatives to Merrimack station. In the five years that it will take for PSNH to spend more than one-half billion dollars of ratepayer money to build the scrubber, 257 MW of wind power could be operational—at no capital cost to the ratepayer. By 2016, an additional 509 MW of clean wind power could be financed and built—again at no capital cost to the ratepayer. Another 500 MW of wind power could be in place by 2025. PSNH should be encouraged to abandon its plans to build the scrubber at Merrimack and be allowed to recover the money it has spent so far in its development.

Electricity generation in New Hampshire should no longer be based on the continuation of coal - fired generation. The CCPTF should encourage the development of “Zero Carbon” electricity generating facilities. By vigorously supporting wind energy and other renewable sources of power, New Hampshire can embrace a “Zero Carbon” future, develop a green, jobs - rich, economy, and continue to meet future energy demand. In his public comment, Seiler included a list of ISO-NE renewable energy projects planned in New Hampshire, as well as NH WEA’s proposed project list.

Dalton Catchpaugh from Demand Side Technologies LLC recognizes that most consumers receive their electricity from the conventional centralized systems of generation and delivery. Unfortunately, these centralized services are plagued with unpredictable shortages followed by temporary surpluses, incredible cost overruns, and highly unstable price structures. Future survival of the electric utilities depends on how well they accept and adapt to current trends and conditions of dwindling oil and natural gas supplies and resource instabilities. There is a need to accelerate technology development and provide support in public/private collaborative efforts to invest in emerging low-impact generation technologies. However, it is a far better investment to incorporate energy-efficient appliances and equipment into homes and commercial structures than it is to build a bigger electrical generator to supply a load made unnecessarily large by inefficiency.

Representative Frederick W. King from Coos District One was in the State Senate when SB 472 became law in 2000. This was in answer to the PSNH bail out. The state policy established then was to have this company be a pole and wire company going forward. In fact, the bill stated that by July 1, 2001, the sale of PSNH fossil generation assets would take place unless the commission found otherwise. RSA 369-B:3a effective April 23, 2003 now states that the PSNH assets were not to be sold before April 30, 2006 but implies that they should still be sold. In fact, recent attempts to allow the company to construct new generation have been denied by the Legislature. It is long past time to allow for competition in the generation of electrical energy. The State should allow for such competition to go forward, and until there has been a fair chance for this to occur, PSNH should maintain their current plants but should not be allowed at this time to construct any new facilities. Representative King also supports EGU Actions 2.8 and 2.9 without comment.

Randy Bryan of ConVerdant Vehicles applauded the document's recommendations for No/Low carbon generation facilities development, and recommendations for enabling their development. He disagrees with including biomass in any such "clean" definition, except where their GHG emissions are significantly and verifiably lower than current average power-plant emissions profiles. New Hampshire is not improving its terrestrial carbon absorption coefficient by harvesting and burning biomass, and we need to reduce our carbon emissions. No and low

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carbon emissions qualifications should be further clarified and used for consideration of new plant proposals.

Melissa A. Hoffer speaking for the Conservation Law Foundation strongly supports this proposed Action. The EGU Working Group has documented the need for increased renewable energy generation and correctly notes the significant resources and experience that Public Service of New Hampshire (PSNH) could provide in the development of such generation. Authorizing PSNH to construct and/or acquire, as well as operate and own, renewable generation assets, however, raises legitimate concerns about the potential for PSNH, as a transmission and distribution owner and operator, to give preference to its own generation over that of other renewable generators. This concern potentially could be addressed by limiting the size or type of renewable generation that a regulated utility can own.

Debby from Real Green Goods hopes that tidal flow electricity generation in the Great Bay is under consideration in New Hampshire.

Christopher Sherman from New England Power Generator's Association (NEPGA)\* commented on the old EGU 2.7 action of *Regulated electric Low and Non CO2 Emitting Supply side Resources*. NEPGA is strongly opposed to utility participation in the energy supply business as such a reversal of policy will have a detrimental effect on electricity consumers, merchant generators of electricity, and competitive electricity providers. From a practical perspective, a competitive wholesale market for power in New England has delivered benefits to customers and the region that would have been impossible under the regulated structure that had been in place for many years. This success has been the product of substantial new investment in efficient generating plants. Within ISO-NE there are market mechanisms that currently exist and that are being developed and implemented to meet the local reliability and sustainability needs of the region through competitive market signals, and NEPGA supports that process as the most appropriate mechanism to obtain desired low and non-CO2 emitting generation capacity in New Hampshire.

Prior to the restructuring of the market, electricity consumers were vulnerable to a persistent market situation where there was only one provider of electricity, as opposed to a vibrant electricity market where participants' survival was based upon superior innovation and efficiencies. The lack of economic competition for electricity led to unavoidable cost overruns and stranded costs by utilities that experienced no competitive market pressures. The provisions in draft EGU Action 2.7 that advance utility owned generation by developing renewable energy resources outside of the private sector will ultimately cost ratepayers more money. Vertically integrated utility companies are entitled to recover their costs plus a return on those investments from ratepayers. Merchant energy companies, on the other hand, have no such guaranteed cost recovery. Rather, they are forced to cover their costs from the markets and must answer to their shareholders when their performance is sub par.

As a result of increased construction costs, utility plant capital costs have risen dramatically in integrated utility markets. On August 22, 2008, the New Hampshire Public Utility Commission opened an investigation following a quarterly earnings report filed by Northeast Utilities with the Securities and Exchange Commission that disclosed that the estimated cost of installing a wet flue

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gas desulphurization system, also referred to as scrubber technology, at Public Service Company of New Hampshire's ("PSNH") Merrimack Station, had increased by approximately 80% over the original estimate. Moreover, on August 25, 2008, PSNH filed a motion seeking to accelerate the permitting schedule "to mitigate the harm that will be caused by delays in the scrubber project." An acceleration of the schedule merely denies other stakeholders the opportunity to propose more cost-effective methodologies for achieving the same results, ultimately adding costs to an already overburdened rate base. These examples are clear signs of larger systemic flaws in the vertically integrated methodologies for procuring energy infrastructure. The consumers of New Hampshire deserve a more straightforward and transparent approach to resource development.

For the foregoing reasons, NEPGA opposes the reentry of electric utilities into the energy supply business, and specifically opposes Action 2.7. Notwithstanding the foregoing, NEPGA is supportive of New Hampshire's objective to increase the amount of renewable generation to achieve its environmental and sustainability goals. NEPGA supports these initiatives, provided that such initiatives are not advanced at the expense of electric consumers or the competitive wholesale electricity market. NEPGA maintains fuel neutrality in its membership and policy initiatives, as their members represent a highly diverse portfolio of generation. They feel uniquely qualified to assist in the development of market policies that promote new renewable and sustainable generation infrastructure in New Hampshire.

**EGU 2.8 -Identify and Deploy the Next Generation of Electric Grid Technologies**

Cleve Kapala at TransCanada supports Smart Grid technologies. Optimizing energy efficiency and conservation of natural resources are goals that should be readily shared by all participants in electric markets.

Donald M. Kreis, an associate professor at Vermont Law School finds the addition of a state-of-the-art "smart" electric grid as an important public policy objective for New Hampshire. However, the relevant technologies are still in their early stages and a key challenge is in avoiding the wrong path. Action 2.8 lacks a coherent vision. Dr. Kreis suggests that an initiative can be implemented in four discrete phases: 1) smart load, 2) smart monitoring, 3) smart dispatch, and 4) a fully digitalized grid along the lines of "Intelligrid" initiated by the Electric Power Research Institute. Smart load is already a possibility, the others may be in the next 20 years. The PUC should be charged with pursuing the appropriate initiatives over this time period.

Dalton Catchpugh from Demand Side Technologies LLC understands that our current grid infrastructure is straining under outdated technology and increasing demand for high-quality power. The United States may need to invest close to \$500 billion in infrastructure to keep the current grid functioning to meet projected growth during the next 20 years. Utilities, governments and end-users worldwide recognize the need for implementation of Smart Grid technologies. With the application of intelligent energy technology, the Smart Grid will optimize the use of generation resources and the delivery of power. When the system gets close to capacity, the Smart Grid can start a pre-planned program to shed load from non-critical appliances and equipment throughout the grid. One issue is that utilities will need to recognize that residential customers don't like power companies controlling their homes.

The development of automated Energy Management and Control Systems (EMCS) and Intelligent Electronic Devices (IEDs) with sensing and measuring technologies, are the missing

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essential elements in residential and small commercial micro-grid environments for energy accounting, budgeting and faster demand side management (DSM) response. Building owners should install EMCS - IEDs because with the eventuality of building efficiency certification requirements, EMCS – IEDs installed as a permanent part of a building's infrastructure will become the norm. Municipal, state and federal financial incentives should be made available to building owners who install EMCS - IEDs to enhance energy efficiency on their premises. Demand Side Technologies LLC is currently developing EMCS - IEDs to enhance energy efficiency in homes and businesses.

DST LLC has pioneered an EMCS system called Priority Power Distribution (PPD) with Communicating Duplex Receptacles (CDR) that comply with the National Electrical Manufacturers Association (NEMA) Standards. A PPD system promotes energy efficiency in buildings by providing businesses and homeowners with a tool that locates unnecessary energy losses and identifies energy inefficient appliances that increase utility bills. Thus, measures to save energy, money and the environment can be implemented. PPD – CDR systems are a sustainable EMCS technology that has reached the demonstration phases of the innovation chain. The development of a bench scale prototype and full-scale demonstration must be completed to prove system capability and market relevance. DST LLC has performed an energy and economic analysis on the benefits of using their PPD system in the residential sector. Details can be found in Catchpaugh's public comment available from NHDES.

DST's hopes State government support for the development of sustainable technologies, like their PPD system, will help turn knowledge and innovation into strategic opportunities, industrial development, market entry, and international commercial exploitation that will improve the technology base, create jobs and prosperity in New Hampshire.

Randy Bryan of ConVerdant Vehicles applauded the recommendations for "smart grid" preparations, as applied to commercial, industrial and residential net metering, real time pricing, and renewable energy generation policies. However, there is no specific recommendation for in-state infrastructure improvement to handle electric energy demand growth that will arise from increasingly electric transportation needs. Charging at home at night is a simple start, but fast charging technologies are also in development and will be deployed along major highways first, then increasingly into the cities and towns.

### **EGU 2.9 -Promote Distributed Generation**

Cleve Kapala at TransCanada generally supports Action 2.9 but notes that although SB 451 authorizes utility investment in distributed generation, opportunities for customers to invest in distributed generation already exist in the marketplace without the necessity of guaranteed ratepayer/utility funding.

Donald M. Kreis, an associate professor at Vermont Law School would like to see the Task Force adopt this recommendation. There are no sound policy reasons to provide taxpayer-funded or ratepayer-funded incentives to distributed generation facilities. As currently drafted, Action 2.9 refers somewhat to incentives, but should be revised to rule out the possibility of incentives to utilities for allowed return on equity derived through conventional ratemaking. These incentives are unnecessary, as New Hampshire already obligates utilities to deploy their capital on an efficient, least-cost basis and transgress longstanding, constitutionally-defined cost-of-service ratemaking principles. If utilities are unwilling to place their corporate resources behind the

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development of customer-sited distributed generation, then in a restructured industry, there is every reason to open this opportunity to the competitive marketplace.

The Task Force should also make a slight revision to its characterization of the parties affected by implementation of the proposed action. Currently, the draft refers to utilities and consumers as the parties paying for implementation but lists only consumers as the parties benefiting. Customer-sited distributed generation represents business opportunities and will benefit investors of the utilities and other businesses that pursue these opportunities.

Dalton Catchpugh from Demand Side Technologies LLC points out that there are now several flexible, multi-option renewable energy technologies that can aid the transition away from a rigid, highly centralized infrastructure. These technologies provide an environmentally benign, safe and sustainable solution to the problem of electrical generation; their only drawback is the high initial cost of investment and installation.

Net metering is a low-cost, easily administered method of encouraging demand side investment in renewable energy technologies. Some utilities are opposed to net metering because they believe it may have a negative financial impact on them. However, a number of studies have shown that net metering can benefit utilities. These benefits include reductions in meter hardware and interconnection costs, as well as in meter reading and billing costs.

Grid-connected renewable energy technology systems can also help utilities avoid the cost of additional power generation, increase the reliability and quality of electricity in the grid, and produce power at times of peak usage, when utility generation costs are higher and they often need the extra power.

Revenues from exported electricity should be invested to accelerate the agricultural and transportation transition to a renewable energy infrastructure. Governments should use tax incentives to free the extra dollars needed to invest in renewable energy technology systems for our homes and businesses.

E.H. Roy from Nexgen Energy Systems had two comments regarding a photovoltaic (PV) strategy:

- 1) Consider changing the existing incentive program to provide larger incentives to folks who purchase PV systems that incorporate equipment components manufactured in New Hampshire - this will encourage such industries to move to New Hampshire.
- 2) Consider production-based incentives (x amount for each kilowatt hour produced by the system) rather than lump sum incentives or in concert with lump-sum incentives. This approach encourages PV system owners to ensure that their systems are working properly at all times.

### **General Comments**

Cleve Kapala at TransCanada also noted that the membership of the Governor's Climate Change Policy Task Force has not included all stakeholders. There has been no representation from the competitive and unregulated generation sector, whose members own clean, renewable generating assets in New Hampshire, provide local jobs, pay taxes to municipalities and the State, and do it

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all without receiving guaranteed cost recovery from ratepayers. Accordingly, they were pleased for the opportunity to comment on these Actions.

Ronald Lajoie from Residents Environmental Action Committee for Health (REACH) applauds the current effort to explore and promote the importation of Canadian "clean" power such as hydro and wind, the development of certain renewable generation projects, the deployment of next generation electric grid technologies, and the promotion of distributed generation. However, REACH strongly urges the Taskforce not to allow any language in the group's report which could be interpreted as endorsing the incineration or processing of the wood component of construction and demolition debris (as defined in RSA 149-M:4, IV-a), or any mixture or derivation, as part of the Taskforce's recommendations regarding alternative energy sources. In the process of encouraging alternative, cleaner and more efficient energy sources, we must never inadvertently take steps backward with regard to the current hard-fought protections afforded our environment and the health of our communities.

Representative Frederick W. King from Coos District One is a member of the Senate Bill 383 committee that was created to develop a plan for the expansion of transmission capacity in the North Country. He feels as though there is some overlap between the SB - 383 committee and the Task Force.

Randy Bryan of ConVerdant Vehicles feels the report should address the most important aspect of this monumental energy change, and that is how to engage our local industry and consumers to engage in and speed this energy transformation. Policy consideration should be given to how to incentivize consumers and businesses toward "green" solutions. Energy transformation may be the next internet-like phenomenon to sweep the globe, only much larger in scope. Our country's current economic malaise can partly be attributed to our stagnating economy output vs. our ever rising desire [spending habits] for a better standard of living. We must put economic growth as a top priority, and make this growth "green", especially in our energy policies.