

**Comments on the
Draft 2002 New York State Energy Plan**

Presented by:

Ruben S. Brown

On behalf of:

The Joint Supporters, including:

The E Cubed Company, LLC;

Distributed Power Coalition of America;

KeySpan Technology, Inc.; RealEnergy, Inc.;

Capstone Turbines, Integrated Energy Concepts Engineering P.C.

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Good day. I am Ruben Brown, President of The E Cubed Company, LLC, and I would like to express my appreciation for the opportunity to present these comments on the Draft 2002 New York State Energy Plan on behalf of the Joint Supporters, which includes: The E Cubed Company, LLC; the Distributed Power Coalition of America; KeySpan Technology, Inc.; RealEnergy, Inc.; Capstone Turbines; and Integrated Energy Concepts Engineering P.C.

Placing State Energy Policy in Historic Context

Please permit me to place my current remarks in historic perspective, based on my personal experience with these issues. Since 1973, as a stakeholder in a variety of roles, I have had the privilege of interacting with many exceptional State of New York policymakers and public officials as they address important issues affecting State energy and environmental policy. The present draft State Energy Plan is the one of the most well developed that I have ever reviewed.

State energy policy has evolved to address a wide range of issues. The oil shortages induced by Mideast oil exporting nations in 1973 and 1979 and by the Persian

Gulf War in 1990 helped stimulate the State's drive to greater efficiency in the mobilization and use of energy resources, including generation resources, demand resources and the wires and pipes resources in between. The blackouts of 1965, 1977, 1994, and 2000 underscored the need to enhance regional and internal reliability of the interconnected electricity system.

The State no longer has to address so many responsibilities on its own. New institutions and markets have emerged or are evolving. Many more stakeholders now exist, including many institutions in Government and many in the marketplace. For example, new gas pipelines and distribution facilities have brought and are bringing new supplies to New York helping to provide relief from some of the constraints identified in the State Energy Planning process. The fact that your input study on gas supplies is not yet complete should not prevent concerned stakeholders, such as distributed generators, from having the opportunity to comment on those study results as they might be employed in the State Energy Plan.

The State Energy Planning Board is at the apex of an administrative process that has worked to restructure markets, introduce competition and introduce a number of other changes. The policy process takes a wide range of factors into account and considers them in their parts and as a whole. The State has then struck out in directions that mobilized many institutions and markets, for example in my historical perspective, indigenous resource development with renewables, such as hydropower, which may seem old hat today, but more than 400 Megawatts of indigenous, renewable hydropower were developed in the wake of policy initiatives launched in the 1970s.¹

¹ For twenty years New York State's energy plans and other policy reviews relied upon the basic site-specific inventory of hydroelectric potential that had been prepared in 1978 by the Center for Regional

The terrorist attacks of 2001 refresh our collective awareness of the need to develop and secure indigenous resources and this is appropriately reflected in the draft 2002 State Energy Plan. However, energy security extends to on-site generation. While an attack on a major power plant or substation would certainly be a catastrophic event in itself, its effect on the grid would be de minimis if the load were spread over several dozen distributed resources. On September 12 and 13, National Public Radio reported that one of the few buildings in Lower Manhattan with power to provide housing and clean-up facilities for relief workers had on-site generation. Older buildings with smokestacks in place, as well as new buildings renovated since September 11, might be good candidates for distributed generation, those pre-1930 buildings where coal-fired power plants were removed in the 1960s. As we know from the data infrastructure rebuilds in lower Manhattan in recent years, old buildings can get rebuilt in the right circumstances.

I also echo President George W. Bush's renewed calls in the past few days for energy independence for North America. In his national energy policy proposals, he placed strong emphasis on combined heat and power as an indigenous resource to enhance security.

The draft 2002 State Energy Plan definitely should be viewed as much as a call to short-term action as a long-term guide. It needs to go further than it does in setting objectives and in measuring progress toward these goals. I will enumerate some proposals today for your consideration, especially with respect to Demand Response

Technology of the Polytechnic University in Brooklyn, of which I was Director. It is good to see in the Draft 2002 Plan that more up-to-date resource assessments have become available.

Resources (DRR), including distributed generation (DG) and combined heat and power applications (CHP).

However, before addressing those specifics I would like to turn briefly to a series of general principles.

Principle Number One:

Competition Works; Yet Transformation of Markets Takes Many Forms

Since the 1970s, the power generation business in New York has been transformed by competition repeatedly:

1. By interconnection of anybody to the grid that wanted it;
2. By independent cogeneration plants which grew big rapidly into independent power plants;
3. Generation facilities divested from vertically integrated utilities; and
4. A new wave of modern generating facilities and repowerings (at both large and small facilities, including on-site generation and combined heat and power facilities.).

I have participated in public policy decisions as a stakeholder in all aspects of these changing competitive markets. We made some good decisions; we made some bad decisions; but among the best were those that fostered competition and choice at all levels of the energy business. However, we have been more successful introducing competition to the supply side of the business than the demand side. Although we have made a number of solid steps that are reflected in this Plan's Resource Assessment Categories, more effort is needed by the State and the draft 2002 Energy Plan appropriately

recognizes the State's continuing interest in promoting market transformation in Demand Resources.

Principle Number Two:
**Competition Works; Yet Effective Diffusion of Modern Technology
And Business Practices Requires Expedited Ability to Site and
Interconnect New Energy Facilities of all Kinds.**

Competition works best when it couples improved production from existing technology with the diffusion of technological improvements, such as those that have contributed so much to New York's efficiency gains in the last thirty years. Of overriding importance to competition, in my view, is the expedited ability to site and interconnect new energy facilities. The definition of energy facilities should include: fuel facilities (transport and storage); generation (large, small, combined heat and power, renewables); transmission; distribution; and on-site facilities (such as on-site generation, meters, energy management systems, communications and energy usage systems). Building codes also need further reform and implementation. You still have much to do with improving siting in the context of the State Energy Planning Board as well as in the context of your overlapping roles as the Energy Siting Board for larger facilities.

In addition, experience suggests that current natural gas distribution infrastructure, in many areas, is inadequate to support the installation of natural gas-fired technologies. It is unlikely that wide-scale substitution of natural gas for oil-fired generators will take place without investment in the distribution system.

Principle Number Three:
Competition Works; Yet Regulated Electric Utilities Must Allow Competitive Distribution Alternatives To Be Offered by the Market

The addition of new electric distribution infrastructure is an essential policy and a practical objective, but policymakers should consider competitive alternatives. The Draft Plan reports a timid regulatory order calling for a few utility distribution upgrades per utility being bid out for alternatives over two to three years (if the utility chooses to take an alternatives over their own investment). This should be dramatically expanded in the Final Plan to include numerous distribution and transmission upgrades during the coming period, i.e. tripled to 75 or more across the State. LIPA should adhere to a similar standard. It is not now covered in the PSC determined guidelines.

Principle Number Four:
Standards of Comparison for Evaluating Distribution and Transmission System Upgrades Should Not Discriminate Against The Alternatives In The Design And Evaluation Of The Comparison

A most important point is that the standards of comparison for evaluating competing alternatives between regulated entity investments and competitive investments should not discriminate against the alternatives in the design and evaluation of the comparison.² The regulated entity's proxy competitors to actual competitors should require similar standards of feasibility, including specific sites, access, etc.

² The lack of adequate comparison to in-state generation and demand resource alternatives was a significant factor in the review by this Planning Board in 1991 of import contracts from Canada, helping lead to their ultimate cancellation in favor of alternatives in-state.

Principle Number Five:
Administratively Determined Approaches to Competition
Are working in New York, But Should Not Become A Barrier

The draft energy plan appears to seek affirmation that administratively determined approaches to competition were effective for New York State, compared to legislative approaches as employed by other states. I wholeheartedly agree. There is still much work to be done, however.

Principle Number Six
Discriminatory Fees Can Render Otherwise Economic Projects Uneconomic; Don't
Let it Happen

In order to create the proper incentives for the development of DG, Standby rates should not be designed in a way that artificially increases rates. For example, in California, the Public Utilities Code (Section 353) specifically removes any provisions in otherwise applicable tariffs to distributed energy resources that activate other tariffs, rates or rules if a customer uses distributed energy resources, e.g. Competitive Transition Charges or Exit Fees.

Standby rates should reflect the cost of service. The collection of so-called strandable costs in some areas of the state in standby rates is sufficient to render an otherwise economic project uneconomic.

From a public policy perspective (including fuel diversity, T&D avoidance and reliability), short of outright prohibition as in California we believe it is appropriate to waive such cost charges on small generators up to a specified level of capacity by rate schedule. An alternative would be to waive this for a certain percentage of load growth in the forecast period, ten percent. This is a common regulatory approach to achieve good public policy with appropriate caps on participation.

One option, would be a waiver that should be targeted at small generators and apply up to the first 1000 kW of standby requirements at a site. Utility companies should be afforded reasonable opportunities to recover any shortfalls through appropriate mechanisms.

Distributed Generation and Demand Response Resources (DRR)

We are pleased that the Draft Energy Plan recognizes the importance of distributed generation to protect the environment, reduce dependence on imported oil and lower energy costs. In particular, we strongly support efforts to ensure that distributed generation is incorporated into the rebuilding efforts in New York City. Furthermore, we strongly encourage the establishment of market mechanisms that fairly compensate DRR and DG for their value to the electric grid. We seek streamlined and clear procedures for permitting and operating DRR/DG resources. Our comments today focus on actions that can be taken in the short-term that will bolster those efforts.

To assess resource potential more fully, we are looking forward to the potential resource projections for Combined Heat and Power being prepared by Energy Nexus and NYSERDA that hopefully will be competed for inclusion in the Final State Energy Plan. The preliminary numbers suggest more than 9,000 MW of additional CHP potential to help meet load growth during the forecast period if barriers to deployment, such as unfairly applied ratcheting monthly demand charges, distorted standby rates and inadequate interconnection standardization, can be overcome through solid supportive State leadership.

The draft plan appropriately recognizes the role New York State has played as a national leader in the deployment of distributed generation and combined heat and power technologies. New York has, in place, some statewide interconnection standards, some guidelines for standby charges, and has initiated a process to develop environmental standards for small units. In consultation with the State Supply/Demand Task Force, NYSERDA, and the Departmental Environmental Conservation, the New York Independent System Operator (NYISO) has also instituted one of the most successful demand response resource programs in the country. NYSERDA also funds a program aimed at promoting the development of distributed generation and the demonstration of combined heat and power systems. These initial steps have placed New York in the forefront of policy changes, compared to the great majority of states.³

Competition and Energy

Unfortunately, that leadership position is being quickly eroded by the sheer weight of inertia. In critical areas, New York has not moved forward to expand or implement its own policies in ways that would make them meaningful in the marketplace. The purpose of our comments today is to articulate an agenda that achieves this goal in a timely fashion, and allow New York to regain its leadership position in this area.

First, we must recognize that guaranteeing consumer choice should remain the first principle of competitive markets. Rapidly emerging DG/CHP technologies and applications are providing unique opportunities to strengthen competitive electricity

³ Some of these results were discussed by The E Cubed Company, LLC at FERC's Technical Conference on Standard Market Design on February 5, 2002 and by others at the Winter Meeting of the National Association of Regulatory Utility Commissioners in Washington, DC, February 11-13, 2002 and at the FERC/DOE Demand Response Conference in Washington, DC, February 14, 2002.

markets in New York State and the Northeast. The issue report on “Promoting Energy Competition” should acknowledge the importance of distributed generation in this regard.

We are concerned that the Draft Plan’s preoccupation with increased use of natural gas for large-scale generation is pre-empting appropriate attention from natural gas-fired distributed generation and CHP in favor of other clean distributed generation technologies. In fact, one of the best measures available to extend the natural gas supply is to shift generation into CHP with its efficiencies in the 70% to 80% range, as compared to grid connected central station units with efficiencies in the range of 30% for older units up to 50% for new combined-cycle plants. We anticipate that increased use of competitive natural gas pipelines and natural gas distribution infrastructures should be able to make natural gas available for DG/CHP engine and turbine technologies that meet emissions requirements. Therefore these technologies should not be disadvantaged in forecasts and in the identification and removal of disincentives to deployment.

Renewable Energy

We support a balanced approach to meeting New York’s energy needs. To that end, we support the attention the Draft gives to renewable energy. However, it is important to acknowledge the broad range of technologies available to convert renewable fuels into valuable energy so as to ensure that the opportunity offered by renewable resources is fully utilized. Renewable technologies include microturbines and reciprocating engines in addition to fuel cells. We encourage the Energy Planning Board to embrace all technologies that are capable of utilizing renewable fuels. Perhaps the

Governor's Executive Order on Renewables defines technologies too narrowly and should be revisited.

Energy in the Digital Age

Opportunities for improved reliability and power quality are central to economic development in the digital economy of the 21st century. New forms of generation, storage, communication and management of energy are becoming increasingly important to the State's economic competitiveness and development. The issue report on "Energy and Economic Development" should acknowledge the growing importance of reliability, power quality, and demand management in the digital economy and the essential role that DG will play in that future.

Rebuilding New York

An obvious example of the importance of DG in the marketplace is in the rebuilding of New York in the wake of the terrorist attacks. One of the best ways to achieve this is to allow funding flexibility through the System Benefit Charge (SBC) and other devices in order to address emerging priorities. This funding would provide an important contribution to NYC redevelopment efforts by allowing and assisting developers to include state-of-the-art technologies in new or replacement facilities, or in rehab work in existing buildings damaged by terrorists. We have sponsored a "Transformation Initiative" proposal that would mobilize one or more projects with job creation potential in Lower Manhattan, possibly in conjunction with job creation potential elsewhere in the state. We are happy to explore this further with State Officials.

The Environment

We also need to adopt sensible environmental rules that will encourage the marketplace to adopt cleaner technologies. But we need to be careful that our environmental rules are not so inflexible in regard to new or improved technologies that we end up throwing the baby out with the bathwater. Simplistic solutions that result in labeling technologies as either “good” or “bad” with no distinction of the wide variations of environmental impacts will result in bad public policy. DG emissions levels should be accurately compared to alternatives. In this regard, New York has the opportunity to seize the moment to become a true leader in national policy.

Recommended Action Agenda

We would recommend the following action agenda; consistent with the principles I have just discussed, to achieve the goal of national leadership. These items primarily address barriers to the more widespread adoption of distributed generation and Combined Heat and Power in order to realize a significant portion of that 9,000 MW of incremental potential identified by Energy Nexus and NYSERDA.

1. Standby Rates

New York became a national leader two years ago when it instituted a generic proceeding to provide guidelines for standby rates, which continues to remain one of the most formidable hurdles for the adoption of distributed generation. Although the Commission approved a generic decision in October 2000, at this point, considerable

work needs to be done to implement reasonable rates for smaller generation in the real world. There are many steps between approving theoretical principles, including the daily as-used demand charge (based upon what is local and what is not local) and actually constructing something that works to facilitate the deployment of distributed generation and CHP technology. The filing of the first proposed tariff by Niagara Mohawk demonstrates that the construction of tariffs as currently principled and as constructed will have an undue financial impact particularly on the small distributed generation industry. While the small distribution industry needs timely implementation of comparable rate schedules, it does not need measures that provide minimal financial benefit, if any. We share the concern expressed by PSC Chairman Helmer (October 24, 2001 Session) when approving the generic order that the specific tariffs not place undue burden on the small distributed generation industry. The job is not done by a long shot.

2. Avoiding Fixed Charges

Tucked away within each of the electric utility bill's customers receive is one of the greatest barriers to the widespread adoption of demand response programs— fixed charges, such as increased customer charges and demand charges that ratchet. These charges are assessed against customer and against the greatest single amount of electricity used over the course of a billing period, accounting for a large percentage of every commercial consumer's electricity bill (one-third to one-half of the bill, in some cases). This is particularly important, because approximately two-thirds to three quarters of the theoretical potential for expansion of Combined Heat and Power Resources in New York and New England is situated at commercial customer facilities.

Strikingly, this huge proportion of a commercial electric bill is determined by a single snapshot in time taken against the backdrop of an entire month. In effect, a whole month's worth of energy savings can be wiped out by a single event—a tripped inverter, a natural gas supply interruption, or even the crashing of a computer running the energy efficiency software integrated into a building's EMS system.

Furthermore, fixed charges obfuscate the true cost of power, as commercial customers do not know what they are really paying for electricity until the very last day of the month, even with real-time meters. If demand response programs are going to play an effective role in the competitive market for power, market signals to customers cannot be muddied by antiquated billing practices; they must know the true cost of power.

3. Interconnection

Interconnection is another area in which New York's position as a market leader has been overshadowed by inertia. New York was the first state to enact standardized interconnection for DG, debunking the myth that standards were not possible and helping to spur action in other states. Unfortunately, those rules only applied to units under 300 kVa installed on radial lines, thus almost all of New York City is unaffected. At that time, the PSC acknowledged the need for interconnection standards for larger sizes, nothing further has been implemented. Standards also need to be established for systems operating on networks.

In the meantime, states like California and Texas have adopted interconnection standards for units up to 10 MW. Additionally, the FERC is now conducting a proceeding to establish interconnection standards that will impact smaller generation. To date, New

York has not moved forward to expand its interconnection standards to larger sizes, which is a very real barrier to the deployment of distributed generation, both in redevelopment of New York City and elsewhere in the state. We would urge the PSC to move quickly to adopt standards for larger sized units and in network situations.

In October 2001, when the Commission acted on the Proceeding to Examine Costs, Benefits and Rates Regarding Distributed Generation, it was noted by Senior Staff in response to a Commissioner's question that if a national standards body did not act with dispatch to address larger devices connected to radial systems, then Staff would recommend that "perhaps" we take a look to doing something on a State level. Staff was also asked to examine what the Commission can do if disputes arise. The IEEE has not yet acted with finality for a variety of reasons. It is time for the Commission to consider revisiting interconnection standards for distributed generation.

4. Utility DG Pilots in the Context of Distribution Upgrades

The PSC has also issued guidelines that encourage utilities to analyze the option of distributed generation in lieu of traditional distribution upgrades. We encourage the PSC to ensure that utilities implement this policy change in a timely fashion. Allowing marketplace participants to advance their own proposals for distribution enhancements, including the use of distributed generation, will increase efficiency in the overall system and holds the potential of saving ratepayers millions of dollars in costs that they bear in their overall electric rates. As noted earlier, we recommend a dramatic expansion of the opportunities to bid on distribution upgrades, i.e. at least tripling.

5. Emissions Standards

The New York Department of Environmental Conservation (DEC) has instituted a rulemaking process with limited stakeholder inputs to establish emission standards for smaller units. We were invited to participate in only one session so far in a process that has gone on for at least five months.

As we indicated at that time, we support a streamlined permitting process for small distributed generation units. As noted earlier, we believe that DG emissions should be accurately compared to alternatives. There should be “point of use” accounting for total emissions at the site. Comparison should be to the marginal emission rates of remote central plants. There should be recognition of T&D system losses to the site during peak periods. These are higher than average T&D system losses. Proper consideration of DG efficiencies, e.g. CHP efficiencies should occur. In short, we support regulations that recognize all the environmental and efficiency benefits that are provided by the generating system.

The Ozone Transportation Commission, a regional body that encompasses the entire Northeast and Eastern Seaboard, is also considering emission standards that would streamline approval for the cleanest units.

There are a number of proposed rules or model rules being discussed right now in New York State, OTC and elsewhere. However, they do not effectively address the concerns that we raise above and should not be accepted by the State of New York without extensive public review by all stakeholders.

However, creating stringent requirements for all other technologies, but renewables with no differentiation between them will result in bad public policy and

unintended consequences in the marketplace. Many new or improved technologies are dramatically cleaner than the old diesel standby power units that were installed 30 years ago in the basements of office buildings and institutional facilities across our country. The failure to recognize these differences in our environmental policy will not send the correct signals to market participants. In some cases, it may actually have a negative environmental impact.

Our public policy should encourage market participants to move toward cleaner technologies by providing incentives for market players to replace old, dirty units with newer, cleaner-burning units. We suggest that the State Energy Plan consider a funding/incentive strategy for deployment of newer, cleaner burning units, e.g. a swap out of all older generators under 10 Megawatts in the Lower Manhattan zone or within 20 miles of Ground Zero in New York City.

We also recommend a tiered approach to environmental rules, which acknowledge several levels of emissions. At one end of this spectrum, of course, would be the ultra-clean renewable, fuel cell and CHP sources. The other end of the spectrum, which would be most heavily regulated, would consist of the old diesel standby units, or the gasoline-powered emergency home generator units, which produce the most emissions. In between these two extremes, however, we should recognize and regulate appropriately those technologies that have proven to be far superior to the older emergency units, but fall short of the “ultra-clean” designation. Natural gas-fired turbines, natural gas-fired internal combustion units, or bi-fueled units, for example, should not be subject to the same restrictions as a gasoline-fired home unit.

6. NYISO/ISO-NE

One of the most important applications of on-site generation to emerge in the electricity marketplace is its use by consumers to participate in demand response markets under a variety of conditions. NYISO has provided leadership by developing pilot programs that encourage demand response, which has demonstrated over the last summer season its enormous potential to reduce peak energy prices, provide needed capacity and increased reliability for the grid as a whole.

The importance of developing markets for demand response resources has been highlighted by recent discussions to merge NYISO with ISO-NE, and an anticipated rulemaking from the Federal Energy Regulatory Commission, which is expected to encourage standardized market rules for Regional Transmission Organizations.

We recommend that market rules for Demand Response Resources (DRR) be incorporated at the outset in any wholesale institutions, and that these markets be expanded to allow DRR, including Distributed Generation, to compete with traditional generators, in a variety of markets, including the energy, ancillary services and capacity markets, among others. The E Cubed Company LLC provided recommendations to FERC in the opening session of its Technical Conference on Standardizing Market Rules for RTOs on February 5, 2002, a copy of which is attached to our submitted comments.

Because of the strong role that New York officials have played in the development of demand response programs within the ISO that serves this state, New York is in a unique position to provide leadership to the rest of the country. We have made the following suggestions as criteria for the emergence of these new markets:

- Demand Response Resources need certainty and encouragement to attract investment.

- DRR markets should be designed to encourage entry, eliminate barriers and be included at the outset of RTO development.
- DRR should be allowed to participate in energy, ancillary service and capacity markets in competition with generators.
- Market mechanisms must recognize the many different kinds of value that DRR provides, including energy value, replacement reserve value, reliability and dispatch value, locational and planning value, capacity and congestion relief value, and its advantage as an alternative to transmission expansion, decreased system losses, decreased and more dispersed emissions, and by reducing the potential for market power and market mitigation as a result of enhanced competition. Customer baseline methodologies should be developed that recognize peak reduction on a daily basis from distributed generation.
- Finally, payment for DRR should, at a minimum, include the market clearing price, curtailment initialization costs, and compensation for other market value attributable to DRR.

Conclusion

In conclusion, we urge you to move forward quickly with an action agenda that will ensure New York's position as a national leader in the deployment of DG and CHP technologies and applications.

Very Truly Yours,

A handwritten signature in black ink that reads "Ruben S. Brown". The signature is written in a cursive style with a large, stylized "S" in the middle.

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⁴Mr. Brown's experience includes work as a small power plant developer, representative for power plant developers/buyers/operators (large and small), energy service companies (ESCOs), negotiator of retail and wholesale market restructuring in generic and utility-specific regulatory proceedings, in the formation of the New York Independent System Operator, including serving on the Selection Committee for the Independent Board of Directions, in the negotiations to form a Northeast Regional Transmission Organization and in the development of Standard Market Designs by the Federal Energy Regulatory Commission, including the standardization of Interconnection for generation facilities. He also serves on the SBC Advisory Committee overseeing \$1 billion in funded programs, and served on the advisory committee to the 2000-2001 "Report on the Reliability of New York's Electric Transmission and Distribution System," provided to the Legislature as mandated by Chapter 636 of the Laws of 1999.