PREFACE

INTRODUCTION

The United States (U.S.), by and large, has access to abundant supplies of energy. These energy resources enable our country to be the world's largest producer of goods and services and the leader in the world economy. Events in recent years, however, have served to remind Americans just how critical energy is to our society and way of life. After having access to plentiful and inexpensive energy supplies through much of the 1980s and 1990s, the nation has experienced intermittent price increases for natural gas and petroleum products, particularly over the past several years. In the winters of 1996-1997 and 2000-2001, natural gas prices spiked, as increasing demand for this fuel threatened to outstrip available supply, and starting in 1999, heating oil and gasoline prices also increased. During this same period, after a natural gas pipeline explosion in New Mexico, and power outages in the West and Midwest, concerns began to grow over the safety and reliability of the nation's energy systems infrastructure. In 2000, events in the State of California focused the country's attention on the adequacy and reliability of electricity markets, when its plan to restructure the electricity industry was undermined by supply shortages and extreme price volatility. Most recently, following the terrorist attacks of September 11, 2001, energy markets throughout the world are being tested for their resiliency as prices, particularly petroleum, become more volatile and uncertain, threatening global economic recovery.

The New York State Energy Planning Board (Planning Board) recognizes the inextricable link between the availability and price of energy and economic activity and well being. The U.S.'s position in the world economy and the standard of living of its residents is dependent, to some extent, on having ready access to reasonably priced sources of energy. The primary sources of energy are, to a large degree, imported from abroad, have significant and long-term effects on the environment, and ultimately face depletion. Until new and sustainable sources of energy are developed, the U.S. and New York will continue to experience the economic and social challenges of fossil fuel dependency.

A global challenge – such as ensuring adequate and reasonably priced energy in the face of climate change – requires a global solution. There is, nonetheless, a vital role for the states in addressing future energy needs. Although there is considerable

uncertainty in the energy markets and technology developments, states can position themselves for the future. States can adopt policies to: diversify energy supplies, sources, and uses; improve the efficiency of energy use with attendant economic benefit; stimulate the production of indigenous and renewable-based energy resources; foster development and use of new technology, products and services; enhance mobility; and minimize harm to the environment from energy use.

The *State Energy Plan and Final Environmental Impact Statement* (Energy Plan) recommends and supports policies designed to keep New York State at the forefront among states in providing its citizens with fairly priced, clean, and efficient energy resources. The Energy Plan positions New York to take advantage of technological developments among the most advanced uses of energy, and to participate in emerging markets for valuing and trading environmental attributes associated with energy use. In addition, implementation of the Energy Plan will stimulate job growth associated with the development of new technologies for the efficient production and use of a variety of energy sources and the expanded use of indigenous and renewable-based sources of power.

The Energy Plan is a blueprint to inform energy decision making and help ensure that customers have the ability to choose the energy products and services that best suit their needs, a secure and well-maintained energy infrastructure is provided, the State's transportation system becomes more energy-efficient, and adequate energy supplies that are critical to the State's stability are available.

State Energy Plan Overview

Providing a secure and well-maintained energy infrastructure, while ensuring adequate energy supplies, is critical to the State's economy. The State's economic resurgence and expanding employment since 1998 resulted in larger than anticipated increases in energy demand, particularly for electricity. In turn, this has hastened the State's need for new energy supplies and enhanced delivery capability. Further, in light of the recent terrorist attacks in New York and Washington, D.C., and continuing threats of attack, the State is working closely with the Federal government to protect the State's entire energy and transportation infrastructure against future terrorist attacks or acts of war.

In response to the tragic events of September 11, 2001, Governor Pataki created the Office of Public Security to coordinate and bolster anti-terrorist efforts throughout New York State. The Office, which reports directly to the Governor, is responsible for:

- Reviewing existing State policies, protocols and strategies designed to detect, respond to, and recover from terrorist acts or threats, identifying potential shortfalls, and implementing appropriate revisions and enhancements;

- Coordinating State resources for the collection and analysis of information regarding terrorist threats, and facilitating information sharing among local, State, and Federal law enforcement officials; and

- Assessing the preparedness of State and local health systems to respond to terrorists attacks.

The Office of Public Security is specifically charged with developing a comprehensive statewide anti-terrorism strategy, including an assessment of the vulnerability of critical systems infrastructures to terrorist attacks. Energy Planning Board agencies, specifically the State Departments of Transportation (DOT), Public Service (DPS), and the New York State Energy Research and Development Authority (NYSERDA), are working closely with the Office of Public Security and appropriate federal agencies to address security at important energy resources and public assets, including nuclear power plants and other electric generating facilities, electricity transmission and distribution systems, telecommunication systems, public roadways, railways, bridges and tunnels, natural gas and petroleum pipelines, and water systems. The Energy Planning Board agencies have committed their full support to the Office as it develops strategies and plans to protect these facilities from attack, and if attacks occur, ensure rapid restoration of critical infrastructures.

As energy demand increases, the effects of energy production and use on natural resources require that the State consider the implications of energy decisions on the State's environment and the public's health and safety. The Energy Plan balances the need for new energy supplies and investments in critical energy infrastructures with the need to protect the State's environment and public health. It also takes into consideration the significant changes that are transforming New York's energy markets. Finally, the Energy Plan provides strategic direction and policy guidance to foster further collaboration on the State's energy, environmental, transportation, and economic development activities.

The Energy Plan's balanced approach considers the role of new energy supplies, enhanced energy distribution infrastructure, and improved energy productivity, to meet energy needs. This balanced approach incorporates environmentally-sound strategies for developing new sources of energy, improving energy efficiency and energy demand management, and greater energy diversity. This balance requires access to the financial

resources necessary to develop new energy supplies and a commitment to environmental protection by energy decision makers. A benefit of greater energy diversity, as discussed elsewhere in the Energy Plan, is greater energy security in the form of reduced risk of energy supply disruption and price volatility. Moreover, a balanced portfolio of energy resources provides greater economic development opportunities within the State, particularly in the development of indigenous energy resources, including renewable energy resources, and greater energy service reliability.

Energy Planning Process

The Planning Board initiated the 2002 Energy Planning Proceeding at its March 12, 2001 meeting. A Notice of Commencement, published in the April 18, 2001 *New York State Register*, opened the 60-day public comment period that closed on June 18, 2001. Many parties and individuals continued to correspond with the Planning Board agencies' staffs throughout development of the Draft and Final State Energy Plan. During the initial comment period leading to development of the Draft Energy Plan, the Planning Board received 47 sets of written comments from interested parties regarding the issues raised by the Planning Board for inclusion in the Energy Plan. Parties that submitted comments are listed in Table A-1 at the end of Section 1. Throughout development of Draft Energy Plan, the staffs of the Planning Board agencies met with 50 interest groups, also listed in Table A-1. The increased outreach effort of agencies' staffs and the level of public comment by interested parties was unprecedented throughout development of the Draft Energy Plan.

Continuing precedent, the Planning Board scheduled a Technical Briefing on the content and analyses contained in the Draft Energy Plan, and nine Public Hearings held throughout the State to solicit public comment on the Draft Energy Plan.[1] In addition, the Planning Board opened a 60-day public comment period to solicit input and comments on the Draft Energy Plan that closed March 15, 2002. In total, 171 sets of oral comment were presented to the Planning Board at its nine public hearings and 740 sets of written comments were received. During this period, the Planning Board agencies' staffs continued to meet with interested parties throughout the State to ensure that anyone interested in participating in the planning process had the opportunity to do so. Parties and individuals that delivered comments at the public hearings and submitted written comments on the Draft Energy Plan are listed in Table A-2 at the end of Section 1. As

[1] The Planning Board is required by statute to hold three public comment hearings in three geographic locations in the State upon release of the Draft Energy Plan. The Planning Board held five public comment hearings in development of the 1998 Energy Plan.

with development of the Draft Energy Plan, the level of public participation in development of the Final State Energy Plan was unprecedented. As required by the State Environmental Quality Review Act (SEQRA), the Planning Board agencies' staff have responded to all of the comments and suggestions offered by parties and individuals on the Draft Energy Plan and modified the Plan as necessary, and, or appropriate, to reflect these comments and suggestions. The *Response to Comments* is provided under separate cover and accompanies release of the *State Energy Plan and Final Environmental Impact Statement*.

NEW YORK'S ENERGY MARKETS

New York's energy markets have changed dramatically over the past few years. These changes, especially in the utility sector, have focused the State's attention on ensuring that the transition to competition and customer choice unfolds in an orderly manner. While energy supplies and prices are determined to a great extent by world and national markets, the State continues monitoring markets and adopting polices to support the development of competitive energy markets and to maintain necessary consumer protections. The benefits of greater competition, in the form of increased diversity in energy and resource supplies, greater supply and resource availability, greater technological innovation, and prices that are lower than might otherwise be anticipated under regulation, are expected to be realized once this transition is completed. The State continues to monitor the reliability and safety of its energy infrastructure during the transition to competition to ensure that the quality of energy services is maintained.

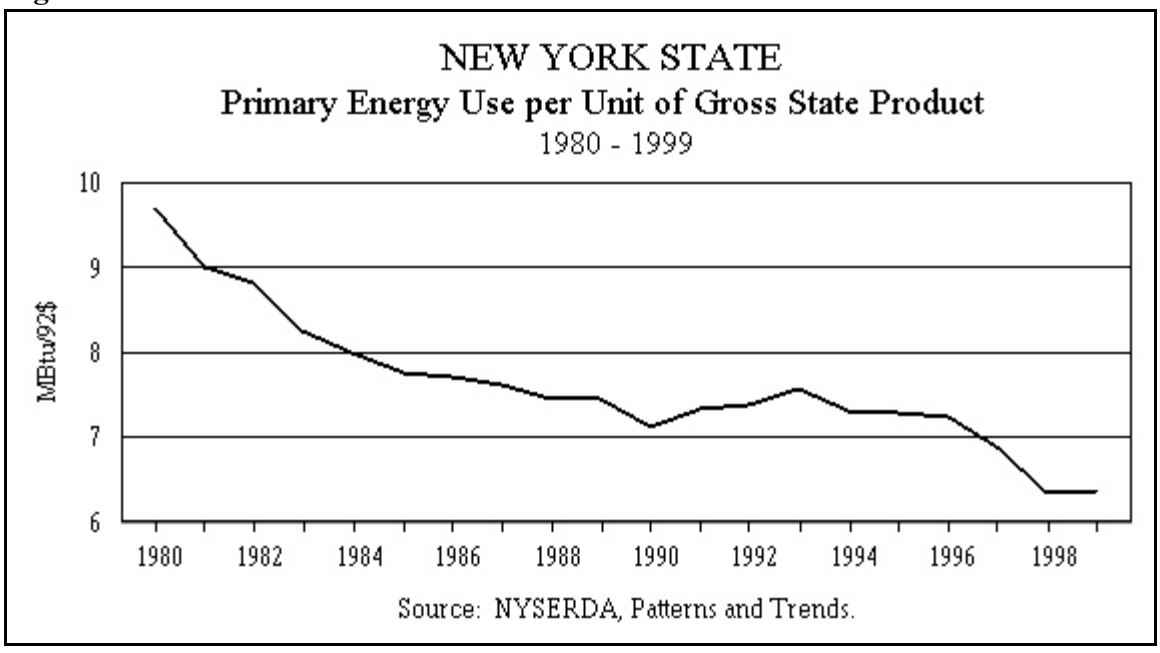
New York State Energy Overview

New York is the most energy-efficient state in the continental United States on a per-capita basis, accounting for less than 5% of the nation's primary energy use[2], while

[2] Primary use is defined as the total of all energy used directly, including natural gas, petroleum, coal, and biomass. Electricity is a secondary form of energy that is created from the use of primary energy sources.

being home to 7% of the nation's population.[3] New York State has the third lowest energy intensity among states, behind only Connecticut and Hawaii, despite being the fourth largest energy user of all states (behind Texas, California and Ohio).[4] New York used 7,388 Btus of energy per dollar of GSP in 2000, an amount that is 44% below the national average.[5] Figure 1 depicts the 20-year trend in New York's primary energy use per dollar of GSP.[6] The significant decline in energy intensity (or energy productivity) in the State, shown in Figure 1, is due to a general shift from a manufacturing economy to a service-based economy, as well as energy efficiency improvements resulting from a number of activities, including more stringent energy building codes and appliance standards, government- and utility-sponsored energy efficiency programs, and naturally occurring price-induced energy efficiency practices. Primary energy use as compared to

Figure 1



[3] Department of Energy, Energy Information Administration, *State Energy Data Report, 1999.*

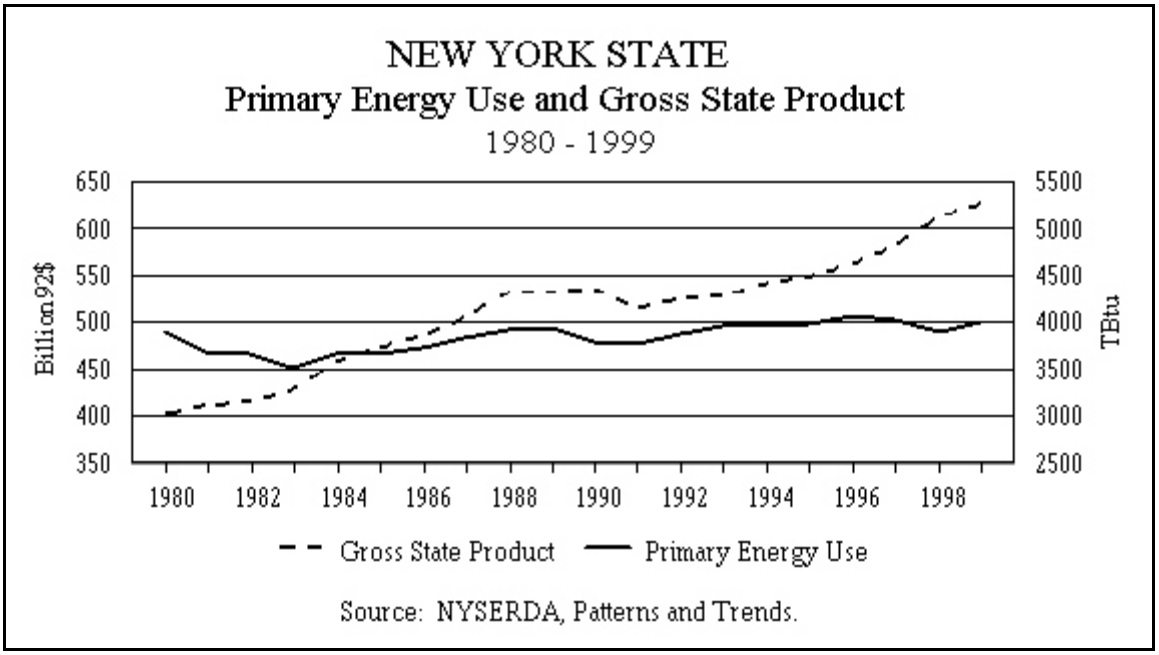
[4] Energy intensity is defined as the amount of British thermal units (Btus) of energy used to produce one dollar of Gross State Product (GSP). Lower energy intensity (or higher energy productivity) generally reflects greater energy efficiency.

[5] Department of Energy, Energy Information Administration, *State Energy Data Report, 1999* and U.S. Bureau of Economic Analysis, *Survey of Current Business, June 2000.*

[6] Primary energy is energy used by the four major sectors (transportation, industrial, commercial, and residential) and includes all fuels used to generate electricity.

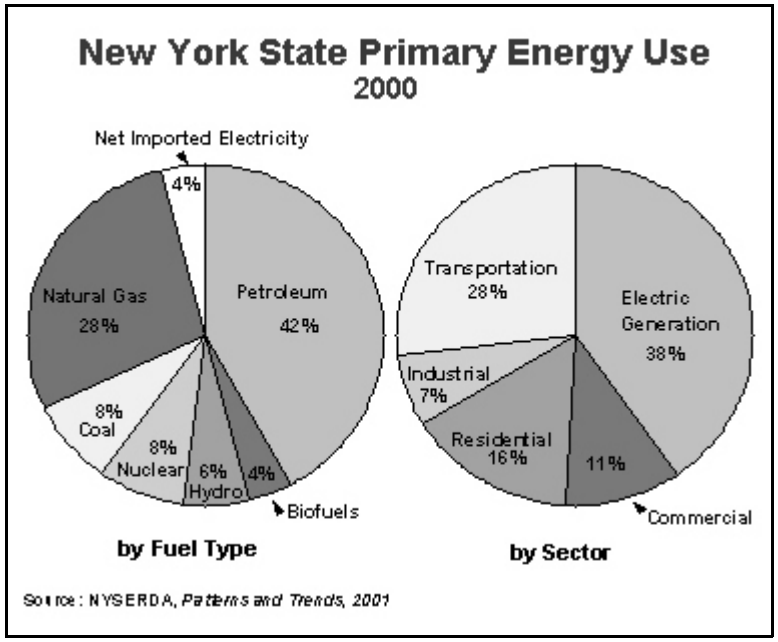
GSP over the same 20-year period is shown in Figure 2. This figure shows that GSP has risen despite relative stability in primary energy use.

Figure 2



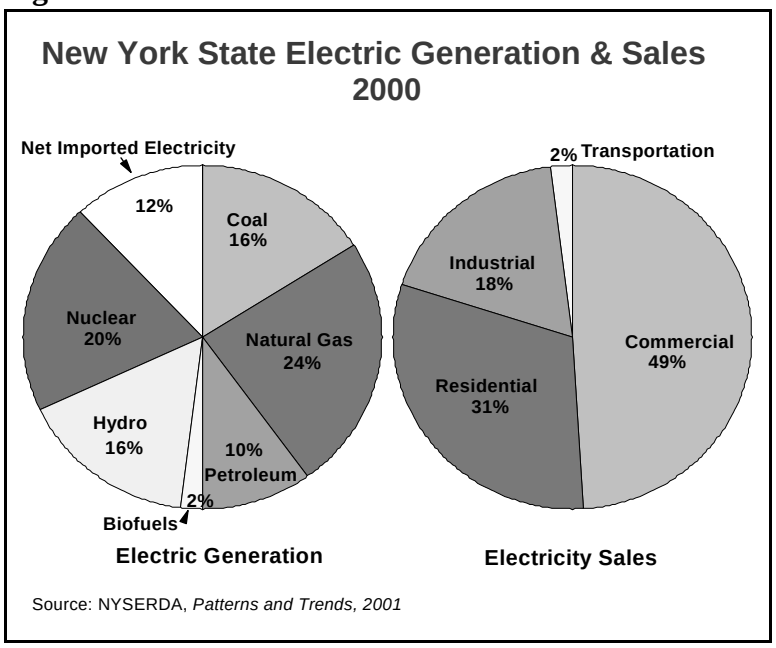
As shown in Figure 3, most of the State's energy is derived from fossil fuels (petroleum products, 42%; natural gas, 28%; and coal, 8%). Renewable energy resources supply 10% of the State's primary energy (hydroelectricity, 6%; and biofuels 4%). Nuclear fuel used to generate electricity accounted for 8%, while net imported electricity represents the remaining 4%. Only 11% of primary energy use is met by resources produced within the State. The largest in-State energy resource is hydroelectric power,

Figure 3



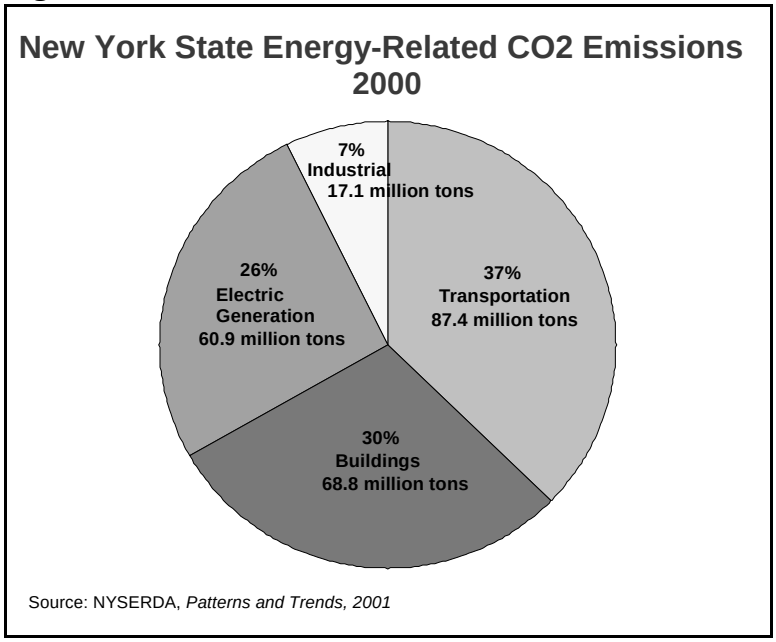
municipal waste. The State has very limited natural gas and crude oil production. While the State reduced its reliance on petroleum products as a share of total primary energy use over the past twenty-five years, New York's reliance on foreign oil as a proportion of total petroleum has increased to 85%.

Figure 4



In 2000, New York State emissions of carbon from energy use were estimated at 234 million tons, down 2% from the 1990 level, while total primary energy use rose by 8% since 1990. As shown in Figure 4, the transportation sector accounted for the largest share of carbon emissions (87.4 million tons), followed by buildings (68.8 million tons), and electric generation (60.9 million tons). The transportation sector's use of energy is dominated by petroleum. Motor gasoline accounts for about two-thirds of the petroleum consumed in the sector. Distillate fuel oil and jet fuel are other important petroleum products used in transportation.

Figure 5



Energy used in electricity generation represents the single largest contributor to primary energy use (38%), followed by energy used in transportation (28%), residential sector (16%), commercial sector (11%), and industrial sector (7%). As shown in Figure 5, the use of natural gas generated 24% of New York's

electricity, a larger percentage than any other fuel, followed by nuclear, coal, and hydropower.

Table 1: New York Energy Prices

Selected Energy Prices, 2000		
Fuel Type:	**New York State:**	**National Average:**
Electricity (¢/kWh)		
Residential	14.1	8.2
Commercial	12.5	7.2
Industrial	4.9	4.5
Natural gas ($/Mcf)		
Residential	9.86	7.76
Commercial	7.77	6.59
Industrial	6.13	4.48
Home-heating oil (¢/gal.)	152.6	131.0
Motor gasoline (¢/gal.)	158.8	156.3

Source: NYSERDA, *Patterns and Trends, 2001*

New York consumers pay more, on a per-unit basis, than the national average for most forms of energy, particularly electricity, as shown in Table 1. In 2000, New York residential electricity and natural gas prices were 72% and 27% higher, respectively, than the national average. New York's average home heating oil price was 16% higher than the national average, while its average motor gasoline price, for all grades was 2% higher than the national average. In 2000, New Yorkers spent $38.4 billion for energy, ranking third behind California and Texas in terms of total state energy expenditures, although New York ranks among the lowest on an energy expenditure per capita basis. Buildings account for the largest share of New York's total annual energy expenditure. Expenditures for lighting, heating, and cooling buildings was $23.4 billion, representing 61% of the State's $38.4 billion energy bill, followed by transportation at $12.6 billion (33%), and industries at $2.4 billion (6%), respectively. Expenditures on petroleum products (42%) represent the largest share of New York's annual energy expenditure followed closely by electricity (41%). In 2000, $16.4 billion was spent on petroleum products and $15.7 billion spent on electricity. The State spent $6.2 billion (16%) on natural gas in 2000.

Recent Accomplishments

During the past several years, the State's electric and gas customers have received the benefits of significant reductions in their electric and gas delivery rates. Since 1996, the New York State Public Service Commission (PSC) has issued orders that have resulted in cumulative customer rate reductions of about $3.3 billion through 2001, with at least $1.6 billion of additional savings expected to be available each year over the next several years. The Long Island Power Authority (LIPA) has similarly provided rate reductions for its customers in the amount of about $2 billion through 2001. In addition, further customer savings will result from the recent PSC Order determining electric

revenue requirements for the Niagara Mohawk Power Corporation ($152 million per year), and the New York State Electric and Gas Corporation ($205 million per year).

While changes are occurring in all energy markets, the State's electricity system has undergone profound changes. Utility companies have nearly completed the process of divesting their generation assets, including nuclear plants, transforming themselves from vertically integrated utilities to distributors of electricity and natural gas. Generation is largely independently-owned and managed in New York, with generators selling electricity, either directly to wholesale customers through bilateral contracts or to the wholesale market operated by the New York Independent System Operator (NYISO). This, in turn, has created opportunities for independently-owned energy providers, marketers, and brokers to serve New York's electricity customers. As a result of State regulatory initiatives, more than 80% of the electricity generating capacity formerly owned by regulated investor-owned utilities has been sold to independent power producers. Such independently-owned generating capacity now participates in the State's new competitive wholesale electricity market, operated since 1999 by the NYISO.

Currently, virtually all electricity and natural gas customers in New York are able to choose their electricity and natural gas commodity supplier or remain with their distribution utility as they wish. In addition, the PSC is requiring that metering (for 50 kilowatt or greater demand customers), billing, and associated administrative customer service functions be opened to competition.

Ensuring the delivery of adequate supplies of electricity remains an important challenge for New York. Recent State efforts have simplified the certification and review process for siting new power plants. Article X of New York State Public Service Law (PSL) authorizes the State Board on Electricity Generation and the Environment (Siting Board) to issue a Certificate of Environmental Compatibility and Public Need prior to construction and operation of an electric generating facility with a capacity of 80 megawatts (MW) or more. Article X was amended in 2001 (Chapter 222 Of the Laws of 2001) to require Siting Board action within six months for applications that replace or repower existing generating facilities and result in decreased water use and decreased emissions of certain air pollutants. The Article X amendments, in effect, expedite the certification process for applications that replace or repower facilities with new facilities that meet certain air and water standards.

In a competitive market, participants will determine when and where new electricity generation or demand reductions are most needed and economically viable. Plans for new electricity generation that promote or contribute to the development of a

competitive market will be consistent with the long-range plans for expansion of the State's electricity system, as envisioned in the State Energy Plan.

Many new independently-owned power plants have been proposed to serve the New York market. As of May 1, 2002, seven new power plants, totaling approximately 4,990 megawatts (MW) of additional capacity (representing a net addition of 4,426 MW), have been approved through New York's Article X siting process.[7] Developers of an additional 11 plants, totaling 6,883 MW, have filed applications and another six proposed plants, representing 4,325 MW, have been announced. As the metropolitan New York region faced a limited ability to import power and a rising demand that threatened to outpace local generation capacity in 2001, the New York Power Authority (NYPA) purchased and installed 11 new 44-MW natural gas-fired generating plants in New York City and Long Island, greatly adding to the reliability of the regional electric system, particularly during the peak summer demand periods.

In addition to opening the electricity and natural gas markets to greater competition, the PSC has enacted a public benefits program through which System Benefits Charge[8] (SBC) funds are used to promote energy efficiency, assist low-income customers, encourage research and development (R&D), and protect the environment. The PSC recognized the responsibility to ensure that electricity service be provided safely, cleanly, and efficiently, and that continuing such public benefits programs beyond what competitive markets might provide was necessary. This program, predominately administered by the NYSERDA, is funded through June 2006 at $150 million a year.[9] From 1998 through 2006, New York's public benefits funding is $984 million. With interest earnings, this amount will exceed $1 billion. In addition to this funding, the NYPA and the LIPA together will spend another $130 million annually on energy efficiency and related public benefits programs. In May 1999, LIPA's Board of Trustees approved a five-year, $170 million Clean Energy Initiative. This effort includes energy efficiency programs and research and development efforts aimed at customers, equipment manufactures, and the energy marketplace. Similarly, NYPA developed the Energy

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[7] One of the seven projects approved was subsequently canceled, yielding a potential net addition of 3,626 MW.

[8] The SBC is a non-bypassable charge on the transmission and distribution of electricity in New York State that is collected by the State's electricity load serving entities (distribution utilities).

[9] NYSERDA administers approximately $140 million annually with the remainder of funding being administered by utilities to serve selected low-income customer needs. These programs are described more fully in the Preserving Energy-Related Public Benefits Programs issue report, the Energy Efficiency, and Renewable Energy assessment reports in the State Energy Plan.

Services program in 1990 as a service to NYPA's government customers in New York City and Westchester County. Since its inception, Energy Services has expanded to serve State-operated facilities, public schools, community colleges, and county and municipal governments across the State.

Collectively, over the eight-year period of 1998 through 2006, the State will spend more than $2.0 billion on public benefits energy programs. Moreover, these programs are designed to forge partnerships with New York businesses requiring that cofunding be provided, as appropriate, for energy efficiency and improvements and research and development projects. Overall, these programs result in more than $2 of private investment for every $1 of public funding provided. In many instances, this amount is more than $3 for every $1 of public funding.

Improving energy efficiency remains a central focus of New York's energy policy. Effective energy efficiency programs reduce energy use and energy costs, and improve the environment through reduced pollutant emissions that result from energy use. Through its public benefits program, the State has begun assisting development of an energy services infrastructure that will help shift the impetus for providing energy efficiency to the private sector. The economic development potential of investments in energy efficiency, in terms of lower energy bills and jobs created or retained in the State, is on the order of 20 jobs per $1.0 million in energy savings. The long-term effects of facilitating market development, new technology manufacturing and use, and expanded choice in consumer services, are expected to help grow the State's economy in an environmentally-sound manner consistent with State and federal laws and regulations. Upon issuing Executive Order 111, Governor Pataki put State government in a leadership role for promoting energy efficiency and the wise use of natural resources to protect and enhance the State's environment and economy. Under the Executive Order, all State agencies, departments, and authorities must seek to reduce their buildings' energy use by 35% relative to 1990 levels and seek to purchase 20% of their electricity from renewable energy sources by 2010.[10]

During the transition period to competition, the State's SBC-funded public benefits programs are providing a wide range of services to residents and businesses. These programs provide energy efficiency and related services to small customers and low-income households, support development of markets for manufacturing, stocking and sales of energy efficient products, and support R&D activities in renewable energy

[10] Guidelines for implementing the Executive Order were issued in December 2001, in the NYSERDA report entitled, *Executive Order No. 111 "Green and Clean" Buildings and Vehicles Guidelines.*

development, new product development and applications, and environmental protection. At the direction of the PSC, the State's public benefits program was expanded to include load management and emergency generation resources procurement to help meet the State's peak electricity needs until new generation resources become available. The combined effect of State government activities directed at improving energy efficiency and load management enhances the State's ability to meet peak electricity demand. The State's rapid efficiency deployment initiatives, collectively referred to as the Coordinated Electricity Demand Reduction Initiative, enhances the State's ability to respond to peak electricity demand periods with demand reduction measures such as increased efficiency, market-based responses, conservation, and public awareness campaigns. Contingency plans are in place for State agencies to respond quickly if the need arises.

In support of the State's load management initiatives, in 2001, the NYISO implemented a day-ahead economic demand response program. This program enables demand reductions and new electricity supplies to compete on equal footing to meet the State's peak load needs. The NYISO also implemented an Emergency Demand Response Program that requires participating customers to reduce demand when requested by the NYISO. These efforts facilitate competition among alternatives (*e.g.*, energy efficiency, load management and electricity generation) and are expected to promote greater customer choice and diversity in energy resources. During the summer of 2001, as a result of these coordinated NYISO programs involving energy service company and utility customers, the State's peak demand was reduced by nearly 500 MW. In addition, through public appeal, State government initiatives, voltage reductions, and other utility and NYISO programs, peak load was reduced by another 1,165 MW, bringing the total statewide reduction to approximately 1,665 MW. The availability of these demand management resources, including energy efficiency, enabled New York to assist neighboring states in maintaining electricity service and stabilized wholesale electricity prices at the time of system peak.

While load reduction and energy efficiency programs are important components of New York's strategy, California has demonstrated the risk in relying solely on these initiatives to meet future energy needs. As our economy continues to grow and businesses and residents become more reliant on technology, so too does the State's demand for electricity grow. To keep pace with this growth, the State must increase its capacity to generate electricity by siting new, cleaner, state-of-the-art power plants, repowering existing plants, and increasing other alternative sources of electricity generation.

As electricity and natural gas markets become more competitive, petroleum and other energy commodity markets become increasingly interdependent. Natural gas and petroleum markets are already very competitive in the heating fuels and industrial processes market. With greater competition in the electric industry, more electricity generating plants are being proposed that have dual-fuel capability, to burn natural gas or petroleum, depending on prevailing market economics. The volatile nature of these markets requires that energy decisions be made quickly and that an adequate energy supply infrastructure be in place to respond to nearly instantaneous changes in the demand for particular fuels.[11] In addition to the large number of new power plants proposed to serve the New York market, the Federal Energy Regulatory Commission (FERC) recently approved five natural gas pipeline projects to serve the Northeast, and another 13 projects have been proposed.

To address the environmental impacts of stationary sources of pollution, the State is currently developing and implementing strategies to reduce stationary source emissions. These include: (1) working with industry to promulgate emission standards for distributed generation; (2) implementing the Governor's Acid Deposition Reduction Program[12]; (3) providing expedited permitting procedures to encourage siting of electricity generating facilities that minimize aquatic and air quality impacts; (4) working with the Federal government to develop national strategies to reduce multi-pollutant emissions from electricity generating facilities; and (5) using Systems Benefit Charge-funding to promote the development of clean energy generation technologies.

The State continues to be heavily dependent on petroleum products for sectors other than electricity generation. These include motor gasoline, home heating oil, diesel fuel, propane, and residual oil. New York is the fourth largest petroleum fuel market in the U.S., exceeded only by Texas, California, and Florida, and the largest market for

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[11] The State is studying the interdependencies of its energy markets and assessing the need for energy system improvements to facilitate a workably competitive market for energy and energy services as described later in this State Energy Plan. The study is jointly funded by NYSERDA and the NYISO.

[12] The Acid Deposition Reduction Program announced by Governor Pataki in October 1999, calls for two measures to reduce emissions that cause acid deposition. First, the Department of Environmental Conservation (DEC) must act to limit emissions of sulfur dioxide (SO_2) from electricity generating units generating 25 MW or more to a level that is 50% of the quantity of emissions (in tons) that would otherwise be allocated under the federal acid rain program established in Title IV of the federal Clean Air Act. Second, DEC must act to limit emissions of nitrogen oxides (NO_x) from electricity generating units during the non-ozone season (October 1-April 30) to a level that corresponds to the emissions level allowed during the ozone season (May 1-September 30).

home heating oil in the U.S. A diverse distribution network has developed over the years to transport petroleum products into and throughout the State, including several pipelines connecting New York to Gulf and East Coast states and a vast port and barge waterway system. As demand for energy increases and investment in new supplies and distribution infrastructures becomes increasingly responsive to market forces, energy producers, suppliers, and users also must have the ability to respond to market forces.

The State is continuing its efforts to maintain and improve the existing transportation network to provide mobility to its residents and businesses and enhance the efficiency of the transportation system. Actions to enhance efficiency include greater emphasis on public transportation, technological innovations, alternative-fuel vehicle deployment, and pollutant emission reductions. To lessen the State's reliance on a single transportation fuel, the State now leads the nation in the use of alternative-fueled vehicles and is continually incorporating new clean-fueled vehicle technologies. Since 1995, the State has increased the number of alternative-fueled vehicles in the State fleet from less than one dozen to more than 1,400.

The transportation sector is continuing to invest in infrastructure enhancements throughout the State to improve mobility, promote economic development, and improve the environment. These projects include the purchase of new buses that use a clean-burning diesel technology and will reduce hydrocarbon and particulate emissions. In addition, beginning with model year 2004, the California Low Emission Vehicle (LEV II) standards will be required of all light- and medium-duty vehicles in New York State. The LEV II program: extends passenger car emission standards to sport utility vehicles and pick-up trucks; expands and tightens average fleet emission standards; and presents a super-ultra-low-emission vehicle category for light duty vehicles. In addition, LEV II requires that 10% of vehicles sold be advanced technology vehicles, which includes electric vehicles, hybrid vehicles, and vehicles powered by fuel cells.

These programs are expected to reduce the amount of air pollution from motor vehicles, especially in metropolitan areas, by continuing to drive the development of new technology to produce cleaner and more durable cars and trucks. DOT, through its Environmental Initiative, has integrated environmental considerations into its statewide transportation planning and project development. The State is developing and implementing innovative strategies to reduce environmental impacts from mobile sources of pollution by: (1) working with automobile and truck manufacturers to develop new technologies to reduce emissions from such vehicles, and to promote the introduction of such technologies into the marketplace; and (2) promoting the introduction of clean fuels, including renewable-based fuels, low-sulfur diesel, and other alternative fuels by

purchasing vehicles that use such fuels for use in the State fleet and developing incentives to encourage their use in the private sector.

To improve the energy efficiency of the transportation system, as part of an ongoing program, DOT has replaced 44,000 conventional incandescent signal lamps with energy-efficient light emitting diodes (LEDs). This accounts for approximately 35% of the traffic signals under DOT's control and represents an energy savings of 20 gigawatts. Through the HELP program (Highway Emergency Local Patrol), which provides assistance to motorists, non-recurring congestion delays have been reduced (about 32% on an annual basis in the Lower Hudson Valley alone). The HELP program made over 62,000 stops statewide in the year 2000 and has now been expanded to the Buffalo area. Also, the State's strong support for public transportation, including increased levels of operating assistance to transit agencies, has allowed them to stabilize fares. In many years, transit fares have remained unchanged since 1995.

New York State has established the first business park in the country that is specifically devoted to promoting the development of clean energy technologies. Over the next five years, the new Saratoga Technology and Energy Park (STEP), located in Malta, NY, will help attract between 1,000 and 1,500 jobs to the Capital Region as emerging, environmentally-friendly energy companies take advantage of the park's resources. The business park will provide companies with technology development and prototyping support through the University at Albany, funding to support technology development and commercialization through NYSERDA, and tax incentives and other economic development incentives through Saratoga Economic Development Corporation. The project advances the local development of cleaner energy technologies that address energy supply and reliability issues, as well as environmental impacts.

National statistics indicate that the energy technology sector grew by 134% in 2000 and the market for clean energy technologies is projected to grow from $7 billion per year to about $82 billion per year by 2010. New York State, already home to more than 20 leading energy technology companies, is well suited to take advantage of this rapid growth. The STEP demonstrates how the State can use its resources to partner with local communities and create opportunities for new jobs and new businesses. The partnership among State government, the Saratoga Economic Development Corporation, and the University at Albany can attract new businesses and jobs to New York State to address the growing need and demand for clean-energy and energy-efficient technologies.

The State's commitment to reducing energy costs and developing energy markets by lowering taxes, streamlining and eliminating unnecessary regulations, and providing energy customers with greater choices among energy service providers is an important impetus behind the polices and strategies in the State Energy Plan. Equally important, however, is the State's commitment to: improving energy diversity and energy efficiency; increasing energy supplies; fostering a sustainable market for indigenous and renewable energy; encouraging new, cleaner energy technologies; and improving transportation system efficiencies. These commitments will lead to increased economic development in an environmentally sustainable manner.

The 2000-2001 State Budget eliminated the Gross Receipts Tax (GRT) paid by manufacturers and industrial energy customers, began a gradual elimination of the GRT for all other business customers over five years, and provided a major reduction in GRT for residential energy customers over a five-year period. When fully implemented in 2005, annual tax savings from GRT modifications are expected to reach $330 million. The State also is eliminating the sales tax on the delivery of energy, providing $150 million in tax savings to the State's natural gas and electricity customers. The first phase of this tax cut began in September 2000, and the entire reduction will be fully implemented by September 2004. When combined with the GRT reductions, State taxpayers will save approximately $580 million a year, further lowering their energy costs.

NEW YORK'S ENERGY POLICY

The policies and strategies included in the State Energy Plan place New York on a path toward greater energy self-sufficiency and customer choice. The policy and strategy recommendations support a flexible and market-based approach to growing the State's economy, improving the environment, and enhancing the transportation system. The recommendations will drive technological innovation and facilitate competition in energy markets that will result in the delivery of new and efficient energy products and services at competitive prices. In addition, they are designed to provide for continued energy system security and reliability.

Energy Policy Objectives

The State Energy Plan provides broad statewide energy policy direction rather than prescribing specific government agency actions. As markets continue to develop

and new energy resources and services become available, new policies may be warranted. The broad public policy objectives are:

1. Supporting the continued safe, secure, and reliable operation of the State's energy and transportation systems infrastructures;

2. Stimulating sustainable economic growth, technological innovation, and job growth in the State's energy and transportation sectors through competitive market development and government support;

3. Increasing energy diversity in all sectors of the State's economy through greater use of energy efficiency technologies, and alternative energy resources, including renewable-based energy;

4. Promoting and achieving a cleaner and healthier environment; and

5. Ensuring fairness, equity, and consumer protections in an increasingly competitive market economy.

To meet these public policy objectives, State government policies must be balanced and based on long-term strategies that encourage and support development of new cleaner technologies, more efficient energy-consuming practices, and improved transportation, energy production, and delivery systems. New Yorkers want affordable energy from reliable, clean, and efficient sources. The energy policies and long-range planning strategies presented in the Energy Plan are designed to ensure that New York's energy needs are met by encouraging competition while ensuring fairness and equity, ensuring mobility, ensuring system reliability, and improving the State's environment.