



BOLD STEPS TO THE NEW ECONOMY:

A Jobs Plan for the
People of New York

David A. Paterson
Governor

What the New Economy Means for the People of New York

By Governor David A. Paterson

The economy New York has dominated for the past hundred years is rapidly transforming. We cannot continue to rely on a few juggernauts for economic growth. A New Economy is emerging – based on knowledge, technology, and innovation.

What will this New Economy mean for the people of New York? If we capitalize on our advantages, it will mean lower costs and better jobs.

For every job created in the innovation sector, 3.5 additional jobs are created in the overall economy. Whether you work at a construction site or in a laboratory –you can benefit from the New Economy.

But it won't be easy. Taking our place at the head of the New Economy will require us to break with the status quo and take bold steps forward.

We must start by creating a fertile environment for entrepreneurship and building a new infrastructure for innovation.

We must make New York a more affordable place to do business. We need to cap state spending, control property taxes, and reduce pension costs – and I will continue fighting for these reforms.

We also need to recognize that if our state is to succeed, minority and women-owned businesses must have the opportunity to compete on a level playing field. We need to provide hope and opportunity to all our young people who aspire to own their own businesses.

In addition, we must strengthen our knowledge base. We have already made an historic investment in our schools and supported education reform to make sure that our students can compete for jobs in the New Economy.

And because the Internet is a fundamental part of the innovation infrastructure, we are going to ensure delivery of high-speed broadband Internet service to every corner of our state.

These fundamentals will create the conditions for entrepreneurship, innovation, and job creation to thrive. We must build on this foundation with targeted investments in strategic industries.

One of the primary sectors for innovation in the coming years will be energy. New York can and will become the number-one exporter of clean energy technology in the nation.

We have already set one of the world's most ambitious clean energy goals. Achieving this goal will create an estimated 50,000 new jobs in New York, and we are building the nation's strongest clean energy workforce to fill those jobs.

We have also established a public-private consortium to develop the battery technologies that will power the clean cars of the near future.

Moreover, we will revolutionize the way we create, store and transmit electricity. We are taking steps to lead Smart Grid development and we will work aggressively to transform our infrastructure.

Our current grid wastes energy, increasing pollution from power plants and prices for consumers. We have created a

Smart Grid Innovation Consortium to develop this technology and lower energy costs for New Yorkers.

Taken together, these initiatives represent the boldest clean energy agenda in the United States.

Energy is just one of the areas where we are poised to lead.

Health care is a rapidly expanding field. The state that finds the treatments and cures for cancer, diabetes, and other illnesses will create countless jobs for its residents. We can and will discover them in New York.

We are already home to six National Cancer Institute Centers – the second-most in the nation. In 2007, I led the creation of the Empire State Stem Cell Fund, and we have already invested \$118 million to support this vital research.

Now, we are going to create a life science innovation cluster to develop the health care products of the future.

We can also lead the way in other innovative industries, from new ones like nanotechnology to older ones like agriculture.

In all of these sectors, federal stimulus funding for research and development will soon become available. The more funding that flows to New York's companies and universities, the greater advantage we will have in the New Economy.

That is why I am creating an Innovation Economy Matching Grants program.

We will provide a 10 percent match for stimulus dollars awarded to research facilities in our state through competitive grants. We have allocated \$100 million over several years for this program. And we expect this will leverage \$1 billion dollars in federal research funding.

As we increase our capacity for innovation, we must never lose sight of our ultimate goal: creating jobs and putting New Yorkers back to work. We need to build a stronger commercialization pipeline, so research at our companies and universities can drive job growth in our communities. That's why I have created a task force on industry-higher education partnerships to identify opportunities for driving job creation by bringing innovative ideas to the marketplace.

In the New Economy, innovation, knowledge, and entrepreneurship mean real jobs for real people. But we can only create these jobs if we stay ahead of our competitors.

My economic development strategy is about taking bold steps for the people of New York. Our state has led the world's economy for the past hundred years, and we are poised to lead for the next hundred.

Bold Steps to the New Economy: A Jobs Plan for the People of New York

New York State's Economy: A Year of Turmoil; Leading the National Recovery

The U.S. economy is facing a financial crisis not seen since the Great Depression. The national economy is now projected to contract 2.9 percent for all of 2009, the largest annual decline of the postwar period; real GDP growth for 2010 has been revised down to 1.5 percent.

Jobs have been shed from every major sector of the economy except for health care. Not since the early 1980s has a U.S. recession been both this broad and this severe. During that period, the energy crisis – combined with an aggressive anti-inflationary monetary policy had the same broad impact that the declines in housing, finance and international trade are having today.

While the entire state is feeling the effects of the recent downturn, economic decline has been ravaging some parts of the state for decades. New York's manufacturing sector has steadily diminished since the 1950s, and as manufacturing jobs have disappeared, the population of our upstate cities has steadily eroded. In the 1950s, one out of three workers in New York State was employed in the manufacturing sector. By 1970, it was one out of four. By 2000, less than one out of 10 New Yorkers was employed in manufacturing, and now it is one out of 20. Over the course of the last half-century, upstate cities have lost nearly half of their population: Buffalo in 1950 was the nation's 15th largest city with nearly 600,000 residents; today it is the country's 68th largest city, with fewer than 300,000 residents. The impact of the population loss and the decline of the manufacturing

sector can be seen in the relative size of New York's economy. In 1965, if New York State were considered a nation, it would have been the fifth largest economy on the planet. By 2007, it would have ranked thirteenth largest.

As the epicenter of the global financial crisis, it is likely that the current state downturn could be deeper than those of the recent past. Governor Paterson sounded the alarm early, warning the state of the impending fiscal crisis. His forecasts were accurate. In the New York City financial sector alone, 24,000 jobs were lost between April 2008 and April 2009. Since the recession began, 176,000 New Yorkers have lost their jobs. The three-month increase in the State unemployment rate from November 2008 to February 2009 on a seasonally adjusted basis was the largest, in both absolute and percentage terms, over the history of the series. State private sector employment is now projected to fall 2.5 percent for 2009, followed by a decline of 0.3 percent for 2010. The State Division of Budget projects a decline in State wages for 2009 of 4.2 percent, the largest annual decline in the history of the Quarterly Census of Employment and Wages data. Wage growth for 2010 has been revised down to 2.0 percent.

Wall Street, typically the engine of New York's economy – and the backbone of State and City revenues - has been permanently altered. Leaders in government and private industry are asking: “What is the formula for recovery?” We know in New York that recovery involves every region, every industry, and every resource – our human and our capital resources. Our success will be measured by our commitment to improving our overall business climate, and in our ability to deliver both short-term and long-term gains for the people of New York.

The way forward is not simple. We must acknowledge what we are doing well, and where we need improvements. We

must use every tool at our disposal to navigate the path. Under Governor Paterson's leadership, we have laid the foundation for an innovative, inclusive economic future, from our 45 by 15 clean energy goal, which is projected to create up to 50,000 jobs, to our reforms to the Empire Zone program, to our \$600 million Empire State Stem Cell Fund. And since 2007, our State's economic development strategy has focused on 5 core principles, which we call the "5 I's": Infrastructure, Intellectual Capital, International Efforts, Investment Strategies, and Innovation. Our success in each of these areas has been steady, but through inter-agency collaboration, business reform initiatives and greater input from constituents and stakeholders, we will accomplish even more.

Economic Development: The "Five I's"

Our economic development strategy is proving effective and bearing fruit. While many obstacles to a business-friendly climate remain – we must address the issues of property taxes, regulatory and mandate relief, and the high cost of energy, all of which translate into a higher cost of doing business – progress has been steady and prospects for the future are promising.

Governor Paterson's commitment to Infrastructure has led to recent achievements with programs such as Restore NY, through which \$300 million is being invested across the state. Projects like the Montour House hotel in Montour Falls, which involved the rehabilitation of a vacant, deteriorated building into a mixed-use residential/commercial space, have provided for the revitalization of central business districts in communities across the state. New York has had great success leveraging all available American Recovery and Reinvestment Act resources to invest in infrastructure needs across the state. The broad priorities for the state in this area are:

transportation, water and sewer, information technology, and energy. The Paterson Administration has been working with State leaders and the federal government to coordinate efforts on initiatives such as High Speed Rail, broadband access, and energy opportunities.

In the area of Intellectual Capital, New York has made wise investments over time in its institutions of higher education. New York is home to the largest public university system in the country, the State University of New York, as well as the largest urban public university system, the City University of New York. New York hosts seven members of the American Association of Universities, an elite group of the top 62 research universities in the country. New York boasts the most generous financial aid grant program in the country with the Tuition Assistance Program, and this year that commitment was supplemented by NYHELPS, a low-cost loan program that will ensure access to an additional 45,000 students each year. Governor Paterson is partnering with the Young Leaders Congress to attract more young professionals to our dwindling communities to ensure they have the impetus to grow and thrive. As a result of these investments in intellectual capital, New York's workforce is one of the best educated in the country. Our talented workforce is a unique and valuable resource for existing businesses, and for new businesses looking to locate in New York.

New York State has long enjoyed natural advantages in international affairs, including its rich history as a major port, as the home of the United Nations, as a global center of publishing and fashion, and as the financial capital of the world. Yet New York must proactively supplement these historic accomplishments so that we are aggressively attracting international investment to locate beyond the boundaries of New York City. Governor Paterson has recently begun to lead international trade missions to the Capital Region and Western New York, bringing the promise

of increased foreign direct investments and partnerships with international companies looking to expand in the United States. These two missions will be followed by efforts in every region of the state, which will include Long Island, Rochester, Syracuse, and elsewhere. The Governor has also taken truly unprecedented steps to forge relationships directly with foreign companies and foreign governments to take advantage of short-term expansion opportunities and build the foundation for long-term investments in New York.

In Investment, the state has invested billions of dollars over several years, in regional projects, business expansion and retention efforts, and economic development initiatives that have promised job growth, capital investment, and broad social and economic benefits for the state. The Governor recently announced economic development deals with Kraft Foods Inc. in Livingston County and CVS in Chemung County to expand their production capacity and create a total of 650 new direct jobs for these two projects. These are just two of examples of our economic development efforts that generate good jobs and leverage private investment.

When it comes to the fifth and final “I”, Innovation, Governor Paterson can tout several recent successes that position the State to become a leader in the innovation-based economy. For instance, GLOBALFOUNDRIES, formerly known as Advanced Micro Devices, is moving forward on its investment of \$4.2 billion to develop a new computer chip production facility at the Luther Forest Technology Campus in Saratoga County, and will also forge a partnership with the SUNY College of Nanoscale Science and Engineering. Our state can now boast having 4 of the top 50 fastest supercomputers in the world, two of which are housed at institutions of higher education. And the recent creation of the New York Battery and Energy Storage Technology Consortium (NY BEST), which is working to advance the plug-in hybrid electric vehicle in New York State, combined

with the recent announcement by the State and General Electric to establish a sodium manufacturing battery facility in the Capital Region, promises to be a bridge to countless commercially viable clean-technology products. Finally, New York State institutions recently won 5 major grants totaling over \$95 million from the U.S. Department of Energy. Three of these grants – a full 50 percent of the national total – were in the field of energy storage, positioning New York to be the national and global leader in this sector of the innovation economy. The New York State Foundation for Science, Technology and Innovation (NYSTAR), administers a number of programs that foster the commercialization of science, and brings research institutions together with industry to create the jobs of the New Economy. And on May 14th of this year, Governor Paterson created the Task Force on Diversifying the New York State Economy through Industry-Higher Education Partnerships, which will identify further opportunities for economic expansion through innovation-based enterprises stemming from colleges and universities around the state.

In order for New York’s economy to recover from this downturn, we must fully harness the power of Innovation to make New York a leader in “The New Economy.” As defined by the Kauffman Foundation, “The New Economy” is “a global, entrepreneurial, and knowledge-based economy in which the keys to success lie in the extent to which knowledge, technology, and innovation are embedded in products and services.” New York will be a leader in the New Economy by making targeted, strategic investments in sectors of competitive advantage for the State.

Rebuilding New York’s Economy through Innovation: Out of Crisis comes Opportunity

According to the Council on Competitiveness, approximately 50 percent of the recent US annual GDP growth is attributed

to an increase in innovation. If we don't encourage the growth of this market, New York will fall behind. We have the tools we need to succeed. We are stockpiling all the science that is necessary to become the leader in a number of key innovative industries – life sciences, cleantech, and nanotechnology. In the Kauffman Foundation's *2008 State New Economy Index* study, New York ranked highly in several areas, including: broadband telecommunications, science and engineering, patent development and alternative energy use.

By helping to grow these industries, we will ensure that quality jobs are created in and imported to New York. The innovation economy lends itself to higher paying jobs. The average salary of an individual who works in the innovation economy is over double that of an individual who works in the non-innovation economy. Indeed, New York State ranked second in the nation in the number of "gazelle" jobs – jobs at the fastest growing companies. In addition, in New York State, innovation economy industries produce a higher "multiplier effect." For every one job that is created in the innovation economy, 3.5 jobs are created. Every job created in the non-innovation economy leads to the creation of only 1.7 jobs.

We will take advantage of our state's existing assets, by transforming the science and research that is conducted in our state into the development and growth of a robust commercial sector. According to a 2003 study conducted by the National Science Foundation, our universities and colleges are involved in more research and development projects than all but one state. New York State receives the third-highest amount of Department of Energy funding, the second-highest amount of National Sciences Foundation funding, and the third-highest amount of National Institutes of Health funding. We have a rich population of private-sector corporations that invest a tremendous amount of

resources in research and development projects. This R&D industry is especially strong in the areas of chemical and drug development, computer and electronic product development, and small business product development.

Despite many of our economic development successes, our economic development agencies have focused on stand-alone, one-shot projects that while producing jobs and increasing economic development, often have not given us the highest return on our investment. This is about to change. When identifying where and when to make critical state investments, the Paterson Administration will do so with a statewide vision that takes into account our regional strengths and diversity, and that strategically and consistently leverages our outstanding resources and past investments.

Defining the New Economy in New York: Education

Over the next 100 years, economic growth will be a function of a business climate that promotes innovation and an educated workforce. New York has both. With more than 300 colleges and universities, New York is training and educating the workforce of the New Economy.

The education pipeline feeding the innovation economy in New York begins in Kindergarten. In a recent international assessment of 15 year-old students, the US ranked 28th in math literacy and 24th in science literacy. We are combating these trends in New York, by establishing high standards in math and science and preparing our students to participate in the knowledge economy through our STEM (Science, Technology, Engineering and Math) curriculum. We are also exposing our students to the promise of higher education early in their educational careers: Students from Lockport Central School District in Western New York to Albany City School District in the Capital Region are competing in

international robotics competitions, and taking courses in nanotechnology. 114 of the 300 national semifinalists in the Intel Science and Talent Search this year were from New York State, and nine of the forty finalists were from New York.

More than 1,000,000 students are enrolled in institutions of higher education in New York State. In 2007, New York State institutions granted more than 57,000 associate degrees, nearly 112,000 bachelor's degrees, nearly 64,000 master's degrees, more than 4,500 Doctorate degrees and nearly 9,000 professional degrees. Over 30 percent of adult New Yorkers hold Bachelor's degrees or higher, a distinction which puts New York among the top 10 states nationally in terms of an educated workforce. And New York's 36 community colleges are training the workforce for the innovation economy: from nurses and allied health workers to clean room and advanced manufacturing technicians to laboratory assistants.

New York State trains in-state talent to become the workforce of the future, and it attracts global talent as well. Each year, New York welcomes approximately 70,000 foreign students to more than 160 of its institutions of higher education. These students inject approximately \$2.0 billion into the statewide economy and provide a global talent pool from which employers can draw.

New York State's internationally recognized research laboratories provide our colleges and universities with access to cutting-edge technology development and research capacity, including supercomputing. New York is home to the Brookhaven National Laboratory - one of ten national laboratories in the country - the Broadhollow Science Park, Cold Spring Harbor Laboratory, the Roswell Park Cancer Institute, the Memorial Sloan-Kettering Cancer Center, the Trudeau Institute, the Wadsworth Center, and many other

institutions conduct cutting-edge research every day. In the National Science Foundation's *Science Engineering Indicators for 2005-2007*, New York State ranked second for Academic Research & Development among the 50 States and Puerto Rico.

The Governor's Task Force on Diversifying the New York State Economy through Industry-Higher Education Partnerships, chaired by Cornell University President David Skorton, will help ensure that these education and research assets promote job growth and economic development through business promotion and incubation, and technology commercialization.

Defining the New Economy in New York: Clean Energy Industry Development

New York leads the nation in energy innovation. Every region of the State is home to a leading research or academic institution that has some role in developing the next generation of energy technology. From Brookhaven National Laboratory and Stony Brook University on Long Island, to SUNY ESF and Cornell University in Central New York, to Clarkson in the North Country, we are fostering partnerships among our indigenous supplies of energy and our indigenous supplies of knowledge and information.

The cornerstone of the Governor's energy agenda is his goal to meet 45 percent of the State's electricity needs through efficiency and renewables by 2015. The 45 by 15 program has already resulted in an unprecedented increase in funding to support the State's efficiency and renewable energy incentive programs – by next year, nearly \$1 billion per year will be dedicated to efficiency and renewable energy programs. This funding will leverage up to \$3 billion annually in new private investments in clean energy technologies. This sustained and long-term commitment to

efficiency and renewable energy development will create increased demand for industries delivering these products, and will create jobs in the clean energy industry. We estimate that 45 by 15 will create 50,000 new jobs in New York. In his State of the State, the Governor also called upon industry and researchers to collaborate with a specific focus in the area of battery and energy storage. The State brought more than 19 institutions and 29 companies together in April to create the NYBEST consortium, which will research, commercialize and deploy new technologies.

We have been putting our energy to good use to make innovation possible. In February 2009, Governor Paterson announced an agreement to allocate low-cost electricity from the New York Power Authority for Brookhaven National Laboratory for the construction of a high-intensity light beam project known as the National Synchrotron Light Source II (NSLS-II). In addition to creating up to 1000 jobs over the next few years and several hundred new permanent positions at the research center, the NSLS-II project will enable advances in clean energy technology innovations.

Globe Specialty Metals, which manufactures the silicon used in the manufacturing of solar photovoltaic panels, is re-opening and expanding a silicon manufacturing facility in Niagara Falls, creating 500 new jobs under an agreement with the New York Power Authority and Empire State Development Corporation. As part of the State's economic development package, Globe Metals agreed to make available a portion of its silicon production for a New York-based solar photovoltaic manufacturer. Less than a year after the Globe Metals agreement, SpectraWatt, a solar cell manufacturer that needs the silicon that Globe Metals produces, recently announced that it is moving its operations to Dutchess County, where it will employ 161 people. In addition to manufacturing solar cells, the Dutchess County

facility will be SpectraWatt's global research and development center.

The clean energy sector needs all kinds of talent, and we are investing in training the workforce of the future. Through NYSERDA's network of 32 clean energy-training centers – which include community colleges, public and private universities, BOCES facilities, union training halls, and non-profit organizations – 9600 people have been trained on energy efficiency to date, 2500 in solar and small wind installation, and we have the capacity to train 7000 people in energy efficiency and 5000 people in renewable energy over the next two years.

Our newest clean energy workforce initiative is taking shape in a program called SUNYGREENSNY, which is a partnership among Alfred State College and seven partners, including six NYS community colleges. This initiative grew out of the efforts and recommendations of then-Lieutenant Governor Paterson's Renewable Energy Task Force. This effort has been awarded a \$2 million grant from NYSERDA to develop clean energy technology training across the state. The grant will focus on workforce education in the area of emerging clean energy technologies, including photovoltaic (PV), wind (both wholesale and customer-sited), solar thermal, and geothermal.

By attracting major industry investment, fostering collaboration between academia and industry, and training the green workforce, New York is demonstrating that targeted, State-facilitated investment in energy innovation is good for everyone. The BEST Consortium, in particular, highlights the galvanizing impact of the Governor articulating a challenge in a targeted technology area. The BEST model can be applied to other technology areas to harness the strengths of both academia and industry.

Defining the New Economy in New York: BioSciences

Governor Paterson's stem cell initiative has strengthened New York's position as a leader in biomedical research. During the past year, over \$118 million from the Empire State Stem Cell Trust Fund has supported our most promising stem cell scientists through the development of new infrastructure, research and training.

The Empire State Stem Cell Board's Strategic Plan seeks to leverage the State's \$600 million commitment to funding stem cell research to help create jobs, recruit and retain world-class investigators. This new talent will in turn help these institutions secure additional research funding from the federal government and the private sector, and serve as a stimulus for private-sector investment in the biomedical, biotechnological and pharmaceutical industries, with broad economic benefits to our communities.

The Empire State Stem Cell Board has recently created a workgroup to consult with industry and others knowledgeable about intellectual property and economic development issues to identify ways the State can maximize its investment, facilitate collaborations that help translate the research to the clinical setting, and support the growth of New York's biomedical enterprise while ensuring New York State residents have access to the benefits of this research.

On June 12th, over 150 stem cell researchers and interested parties will attend the first annual NYSTEM Annual meeting of scientists funded by NYSTEM. The meeting will establish and strengthen inter-institutional links. Researchers will share their accomplishments and participate in plenary sessions led by New York's leading stem cell scientists.

New York State is also in the midst of developing an economically viable agriculture-based bioeconomy. The

success of this industry hinges on our ability to conduct the necessary research and development in this emerging field.

Across New York State, research and development in biotechnology and bio-based renewable energy is occurring on many levels, from the sustainable production of feedstocks to the logistics of assuring a steady feedstock supply, from the optimization of the conversion processes to the distribution of the finished products.

Cornell University, with funding from the Empire State Development Corporation, recently completed construction of a state-of-the-art biofuels research laboratory at their main campus in Ithaca. This world-class research facility will address the biological barriers to producing cellulosic and other advanced biofuels. The completion of this research facility will enable New York State to attract some of the best young minds in this country to the challenge of developing sustainable bio-based industries, as well as being able to attract private-sector investment partners to New York.

Plant breeders, physiologists, pathologists geneticists biotechnologists and ecologists at Cornell, SUNY-ESF and other New York State institutions of higher learning are conducting field trial research across the state into various warm season grasses, short-rotation woody crops and oil-seed crops to maximize yields and enhance development of co-products.

Engineers at Cornell, Clarkson, Morrisville, and Cobleskill are conducting research into anaerobic digestion and gasification technologies.

These investments will ensure that agriculture in New York State will be a significant contributor to New York State's New Economy.

Defining the New Economy in New York: Nanotech

In the area of nanotechnology, Small Times Magazine has just recognized the University of Albany and Cornell University as leading the nation in the commercialization of nanotechnology. We are witnessing the investment of more than \$4 billion by GLOBALFOUNDRIES in a world-class production facility which will hire 1,400 people, most of them trained at our community colleges, to produce the next generation of chips. This technology will not only power and improve our computers and our smart phones, but will have significant impacts on almost all industries and all areas of society. It will offer better built, longer lasting, cleaner, safer and smarter products for the home, for communications, for medicine, for transportation, for agriculture, and for industry, in general

And in Syracuse, New York we just announced an agreement with SenSis Corporation. Founded in New York, SenSis is a global leader in radar and sensor technology helping to redefine aviation systems and providing for a much higher level of air traffic safety for every airline passenger.

Preparing the Landscape for Innovation: Universal Broadband Access

Universal broadband is the keystone to creating equal access to opportunity in the innovation economy. The pace of business in the global economy has far surpassed the age of dial-up Internet connections. Governor Paterson is taking steps to ensure broadband is universally available throughout New York.

This task is no small feat. In New York State, only 52 percent of homes have personal computers. Forty-eight percent of households with computers still have not

subscribed to high-speed broadband service. While seventy-eight percent of households with computers use some type of dial up service, this remains below the national average. According to our high-speed Internet service providers, over a million citizens in New York do not have access to broadband services.

This has taken a toll on New York's global competitiveness. While the Nation as a whole is losing ground on a global scale, New York is continuing to lose ground within the United States. According to the Digital Economy Index, 25 percent of states in the U.S. are doing better than New York on indicators that measure our broadband penetration.

Through Governor Paterson's leadership, New York is closer than ever to bridging the digital divide. The New York State Universal Broadband Council taskforce has published a broadband strategy that lays the groundwork for the further development and deployment of broadband around the state. New York's comprehensive strategy for providing high-speed, affordable broadband access to all New Yorkers incorporates the following: infrastructure build-out, digital literacy, economic and workforce development, and expansion of online government services for citizens, businesses, and visitors.

As part of the New York State Universal Broadband Strategy, a broadband mapping project was initiated to prepare a statewide map of existing wired broadband availability. The method used to prepare the map involves use of public sources and a predictive model to show likely availability of cable-modem and DSL broadband. Having a thorough review and validation will enable New York to confidently make policy decisions on broadband, based on an understanding of the current availability of wired broadband services.

Universal broadband access will make the promise of the New Economy real for every New Yorker.

Defining the New Economy in New York: Opportunity for All

In order for New York to succeed in the New Economy, the playing field must be level and open to everyone. As the State moves to make targeted investments in innovation, Governor Paterson is committed to keeping open the doors of opportunity for minority and women-owned businesses (MWBEs). The Chief Information Officer/Office for Technology (CIO/OFT) has set an aggressive agency goal to increase its utilization of MWBE firms to 15 percent by the end of 2009, and 20 percent by the end of 2010. And in conjunction with the Division for Minority and Women Business Development, CIO/OFT has challenged large technology firms in the private sector to aggressively increase their use of minority suppliers. Twenty-four technology corporations have voluntarily pledged to increase their use of MWBEs to 15 percent by the end of 2009 and 20 percent by 2010. CIO/OFT is also fostering business partnerships between burgeoning minority and women-owned technology firms and leading global IT companies. Through the Technology Sector MWBE JumpStart Events, held in Buffalo, Albany, and New York City, MWBE tech firms are working with major corporations in joint venture partnerships, subcontracting agreements, distributorships, and reseller agreements.

We will expand these efforts to include every industry in the New Economy, so that the prosperity of the future becomes a reality for all New Yorkers.

The Challenge before Us: Capturing the New Innovation Economy and Creating Jobs for the People of New York

The time is now. Our economy has suffered a mighty blow. This is a time for bold thinking. This is a time for encouraging the businesses that are thriving, and for investing in the industries that hold promise for the future. Here in New York, we have at our disposal every tool that we need for economic recovery: a K-12 education system that is training today the scientists of tomorrow; more than 300 colleges and universities including world renowned research institutions; one of the most well-trained and best-educated workforces in the country; the capital of finance; one of the most aggressive renewable energy and energy efficiency programs in the country, which is spurring billions of dollars in investment in clean tech and smart grid technologies; a thriving stem cell research program with \$600 million of investment behind it. We will embark on a mission to build on these strengths and resources to reach the potential of New York State.

Working with our partners in academic institutions and private sector firms, we will create long-term economic growth and revitalization in every region of the state. We will work to remove the barriers to growth that are preventing us from reaching our potential. We will strategically utilize the broad array of economic development efforts that are spread across the state. Our mission hinges upon our ability to attract, retain and align our efforts with Innovation Economy sectors, which promise to bring new investments and high quality jobs to New York. As part of this mission, we will use State resources to help our businesses and research institutions attract federal and philanthropic support.

Innovation Economy Matching Grants Program

We will commit up to \$100 million to create the Innovation Economy Matching Grants Program. The National Institutes of Health, the Department of Energy, National Science Foundation and other federal agencies will soon make American Recovery and Reinvestment Act (ARRA) dollars designated for technology and research available for competitive distribution. New York institutions and companies are poised to successfully compete for these funds. In order to leverage these ARRA funds, and to enhance the competitive position of New York applicants, the State of New York is committing up to a 10 percent match in State funds for each ARRA awardee in strategic areas. We will prioritize applications from the most promising sectors of New York's innovation economy: renewable energy, clean tech, and smart grid; nanotechnology; stem cell, biomedical, and life sciences; advanced manufacturing; broadband, information technology, and cyber security. We expect that the State will invest up to \$100 million over several years, thereby leveraging over \$1 billion in federal research funding. The Governor's Recovery Cabinet, which has been closely monitoring opportunities for competitive funds, will determine the parameters of the grants program and oversee its administration. By prudently allocating the State's limited fiscal resources, we can have a dramatic impact on our ability to tap into important ARRA funds, thereby accelerating our economic development efforts across the state.

In addition to the \$1 billion in federal research funding, the American Reinvestment and Recovery Act includes nearly \$8 billion of funding for smart grid technology, renewable energy and clean energy projects. New York will be able to utilize available Recovery Act dollars to accelerate the pace

at which the Governor's 45 by 15 clean energy goal is achieved.

We have reason to be hopeful. The one known major ARRA program for which a 10 percent State match was committed, the Department of Energy Frontier Research Centers (EFRC), will infuse over \$95 million in federal funds to five New York-designated centers. The 10 percent match made by New York entails only approximately \$477,000 in cash outlays in FY 09-10.

Examples of the investments we will make through this matching program are:

Cutting-Edge Research in Medicine and the Life Sciences

- New York is a leader in cancer research, and if we combine the mega-watt talent that resides in this state, we can find better cancer treatments and get them to patients sooner. There are six NIH National Cancer Institute Centers in New York State: Albert Einstein College of Medicine; Cold Spring Harbor Laboratory; Herbert Irving Center at New York Presbyterian Hospital, Columbia University; Memorial Sloan-Kettering Cancer Center; New York University Cancer Institute; and Roswell Park Cancer Center. We will identify specific advances in cancer treatments which have come from these efforts and which are underway today.
- In diabetes research, New York State has NIH designated Centers at Memorial Sloan-Kettering, Columbia University and Albert Einstein School of Medicine. Key to future efforts will be integrating the work of other specialties from other institutions to explore new collaborative efforts for breakthrough discoveries.
- We will foster the creation of a life science innovation cluster, building off of private sector

assets such as the East River Science Park, which will house and attract leading life science and venture capital companies, and the strengths of our leading medical schools, academic health centers, and research institution partners, resulting in a collaborative state-wide research initiative.

Commercialization of Science and Technology

- The Federal Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) programs, administered by NYSTAR, allocate and set aside a portion of federal R&D funds for small business to develop and commercialize innovative technology (In 2009, federal agencies set aside \$2.9 billion in SBIR & STTR program funds). Awards are made by respective Federal Agencies in phases, with initial awards of up to \$100,000 for six months, and subsequent awards of up to \$750,000 for two years made to small businesses. While New York has ranked in the top 6 States for receiving federal SBIR and STTR awards, New York applications for federal funding have trailed well behind states such as California and Massachusetts. Both the submission of applications and receipt of awards are expected to increase if additional matching funds were provided by the State. The Task Force on Industry-Higher Education Partnerships will identify ways to maximize the effectiveness of awarded funds.

Universal Broadband

- Governor Paterson has articulated a goal of achieving universal access to high-speed broadband Internet coverage in all corners of the state. By Executive Order 21, the governor is creating a Broadband Development and Deployment Council that will articulate and execute a broadband policy for the

State and guide the State as it invests funds received through ARRA, so that all New Yorkers become equal and full participants in the information and information economy. With this commitment to universal broadband, New York will leverage the full force of its 19,000,000 resident-innovators.

- The ARRA includes \$7.2 billion for broadband development, and our New York State Universal Broadband Strategy lays the groundwork for the state to maximize these funds. ARRA funding would allow the State to build the next-generation of broadband networks, support affordable Internet connections, and develop digital literacy training programs for low-income households to increase household adoption rates.
- Our broadband goals are designed to: leverage existing State-owned and privately held assets; exploit State procurement practices; foster public/private partnerships to maximize use of services offered over the Internet for citizens; and create jobs through innovative community-based digital literacy and technology training programs to increase household technology adoption rates. These goals can only be achieved by reaching and maintaining speeds and coverage levels that will sustain our competitive advantage.

Nearly \$8 billion in Recovery Act dollars are available for smart grid, renewable energy, and clean energy projects. Opportunities available for energy matching grants include:

Leveraging Recovery Act Dollars for Smart Grid Technology Deployment

- A Smart Grid consortium will bring together more than 16 industry partners and research institutions to position New York in applying for federal smart grid ARRA funding. Partnering New York's research

strengths in areas such as sensing and IT architecture, which is critical to the realization of a Smart Grid, will lead to numerous opportunities for manufacturing the necessary technology components, and enabling the acceptance of other clean energy technologies – i.e. solar, wind and hybrid vehicles.

- Under the federal ARRA, there is \$3.375 billion available nationwide for deploying smart grid technology. The U.S. Department of Energy will pay up to 50% of the project cost for selected projects. Applications are due July 29. As this infrastructure is built largely by utilities regulated by the Public Service Commission, the Commission must approve any matching funds. In an effort to ensure New York's utilities are well positioned to compete for ARRA funds, we requested that utilities file smart grid project plans with the PSC by April 17. Utilities submitted projects totaling \$1.3 billion for PSC review. It is essential that the PSC act swiftly to finish its review of these project proposals, and approve appropriate matching funds before the utilities' applications are due on July 29.

Leveraging Recovery Act Dollars for Clean Energy and Renewable Energy Projects

- The ARRA also makes \$2.5 billion available nationally for clean energy and renewable energy projects. And for projects that commence construction in 2009 or 2010, the ARRA provides a tax credit up to 30 percent of the project cost. In order to ensure there are shovel-ready projects in New York State that can take advantage of the federal tax credit and ARRA funding, NYSERDA must issue a Request for Proposals by the end of the summer, making available over \$100 million in state incentives for eligible renewable energy projects under our Renewable Portfolio Standard program.

Looking forward: Realizing the Vision for the New Economy

At this critical moment in New York's history, it is our responsibility to act, and to act with the interests of future generations in mind. We are a state rich with resources, the most impressive of which is our human capital. The investments that we are making through our Innovation Economy Matching Grants Program will have lasting impacts for the State of New York; from the way we use energy, to the medical cures at our fingertips, to our ability to connect with anyone, anywhere, via the Internet. Through coordination among innovation-promoting agencies such as NYSTAR, ESDC, NYSERDA, PSC, NYPA, LIPA, Agriculture and Markets, CIO/OFT, and many others, and the Governor's Task Force on Diversifying the New York State Economy through Higher Education-Industry Partnerships, we will be putting our greatest resources to work for the People of New York.



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