

LONG ISLAND INSTITUTE FOR SOCIO-ECONOMIC POLICY

EXECUTIVE SUMMARY LONG ISLAND POWER AUTHORITY EFFICIENCY LONG ISLAND

ECONOMIC IMPACT OF LIPA'S INVESTMENT IN ENERGY EFFICIENCY

PREPARED BY

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IN ENERGY EFFICIENCY

Introduction

This report examines *Efficiency Long Island's* projected benefits to customers, job creation, and the resulting positive impact on the Long Island and regional economy. Efficiency Long Island (ELI) is a ten-year comprehensive energy-efficiency program of the *Long Island Power Authority* (LIPA) that emphasizes peak demand reductions along with energy savings. ELI is a major element of LIPA's overall plan to meet the objectives of New York State's energy goal of decreasing electricity use 15% by 2015 (15 x 15) through increased energy efficiency.

ELI results in real savings in Long Island household budgets because it reduces the amount of fossil fuel purchased by LIPA and defers the need for the next power plant to come online. Edwards Deming, the quality management guru, said chronic problems require structural solutions. *Efficiency Long Island* is a structural solution to Long Island's energy costs because it can contain fuel costs and is based on solid interdisciplinary financial, conservation, efficiency, and energy delivery goals and objectives.

Environmental Sustainability

The timing of ELI and New York State's 15 x 15 could not be more opportune, given New York State's participation in the *Regional Greenhouse Gas Initiative* (RGGI), the passage in June 2009 of the House of Representatives' *Cap-N-Trade* legislation, and the proposed Federal *Clean Energy Jobs & American Power Act*.

LIPA is continuing to increase its efforts to foster renewable energy development and diversify its electricity resources. The acquisition and use of renewable energy resources will lower power plant emissions and provide for growing electricity needs without contributing to global warming and air pollution. LIPA has adopted aggressive renewable goals in support of the New York State's Renewable Portfolio Standard (RPS), which is targeting 25% renewable resource supply by 2013. LIPA is currently evaluating increasing its renewable goal to 30% by 2015. LIPA's renewable plan relies on the continued operation of existing renewable projects and an ongoing commitment to the development of new renewable projects, such as LIPA's leadership in Solar Power initiatives and LIPA's partnership in the regional wind-power initiative with New York City and New York State.

As compared to the base year of 2007, by 2018, ELI is projected to reduce both LIPA's peak demand by 520 Megawatts (MW) or 7.9% and total energy requirements by 1,600 Gigawatt hours (GWh) or 5.2%. Further benefits are: reducing dependence on fossil fuels by an equivalent of 10.5 million barrels of oil; reducing participating customer's electricity bills; reducing carbon emissions by nearly 20 million tons; deferring the need for new-generation resources until 2015; and, reducing demand growth by 0.6% per year, from 1.7 percent to 1.1%.

The Economic Benefits of ELI

The primary economic benefits from ELI will come from the deferral and avoidance of new power plants, and the reduced fuel use and purchased energy that would have been necessary to serve the higher demand for energy, had the ELI initiative not been implemented. One example of deferring purchasing power plants was LIPA's recent decision not to buy *National Grid's* power plants. Energy efficiency will reduce demand and diminish the need to purchase energy-producing plants.

ELI targets both new construction and the significant energy efficiency potential in existing homes and businesses. Thus, the economic impact of the ELI investment of \$924 million will come in two segments. The first segment is the economic impact during the ten-year ELI investment period, ending 2018 when the efficiency investments are phased in with economic benefits expected to exceed ELI's costs. The second segment will be during the period after 2018, when the ELI investments end and consumers continue to enjoy the savings from the efficiency efforts made during the prior decade.

As had been the case in efficiency programs, the primary economic impact benefit of ELI comes from two initiatives. The first is the savings from reduced fossil fuel use and purchased energy. The second is from deferral and avoidance of new power plants that would have been required to meet the higher demand and energy requirements, had consumers not engaged in energy efficiency efforts through ELI.

Other benefits of the ELI program that will result in a positive regional economic impact are: decreasing dependence on fossil fuels from foreign countries; reducing electric bills to customers; market transformation for energy-efficiency products and services; substantially reducing carbon dioxide emissions; improving load factor, and, efficient utilization of the electric system; all of which will strengthen the Long Island economy through greater disposable income in households and businesses who participate in ELI.

As participating energy customers use fewer kilowatt-hours of energy, the projected peak electric demand and energy sales impact over a 20-year period for the ten-year ELI program and related base-rate revenues will be reduced (or lost) from what they would have been if ELI was not initiated. Offsetting these lost revenues will be LIPA's corresponding lower fuel and purchased power costs, and reduced capital expenditures and interest costs associated with long-term borrowing, as LIPA will be able to defer planned capital additions to the LIPA system.

The benefits of ELI will be passed along to energy users through bill savings resulting from reduced energy consumption and lower fuel and purchased power costs. Participation in ELI at moderate or high levels is projected to yield net bill savings for both residential and commercial customers. It is projected that 77% of LIPA's residential customers will have participated in ELI at some level by 2018, as well as 28.5% of the region's commercial structures.

Basis for projecting economic impact

Because the financing of ELI comes from energy ratepayers, the savings during the first ten years come only from the incremental household savings in energy costs due to energy efficiency, lower usage costs due to efficiency, and LIPA savings on fossil fuel costs. The same holds true for commercial structures. However, as the ELI investment is phased in, so are the economic benefits, until 2018 when the ELI investment period will end. At that time, the return on ELI's investment in energy efficiency begins to produce the greatest projected benefits, primarily from decreased fuel purchasing costs which are projected to exceed the lost revenues.

Further are the differences between how efficiency savings generated from residential and commercial customers will be used. Data suggests that residential energy efficiency savings will first shore up lost personal savings and pay down personal debt. Neither will lead to a positive economic impact until lost personal savings are replaced and debt levels are as low as possible. After that, savings from ELI will go directly into the economy with an economic multiplier of two. The economic sectors most likely to be positively impacted will be the lower paying wholesale/retail sectors, office, financial services, and, hopefully, technology. To put potential new wages to be created in perspective is that, between 2002 and 2008, the average median single-individual wage was \$38,629. Given the current economic condition of the Long Island economy, the short-term economic impact over the next two years will be modest, as well as job increases.

The commercial energy efficiency savings will be used differently, and be dependent on the industry sector that the commercial customer is in. For retail/wholesale, real estate, financial services, health care, and education, the savings will be used to sustain their current workforce, replenish the capital that was used during the recession, and pay down debt. Publicly traded companies will be more concerned about stock value, and privately owned companies will be more concerned about building equity in their businesses. None of these alternative uses will generate new jobs. At best, they will keep their current workforce employed. However, after the several years it will take to accumulate new capital, build up stock value and business equity, and pay down debt sufficiently; then, depending on whether consumer spending increases, businesses will be in a position to make new investments in inventory, technology, and workforce. At that time, it would be expected that the positive economic impact envisioned by ELI would begin to gain traction in the regional economy.

These supply-and-demand issues, compounded by the longest recession since the Great Depression, will play a critical role in determining where consumers will spend their money. It is difficult to make these projections because it is not clear, at present, which sectors will retrench—certainly wholesale/retail has, and which sectors will emerge stronger. While there will be a positive regional economic impact from ELI, as envisioned from a micro-economic perspective, where the demand for goods and services will come from and what that demand will be is yet to be determined.

ELI Program Costs and Projected Benefits

The ten-year ELI Program costs of \$924 million is projected to generate, between 2009 and 2028, approximately \$3.7 billion in nominal gross benefits, or \$1.9 billion in net present value gross benefits which recognize the time value of money. Offsetting the gross benefits are the \$924 million of ELI program costs resulting in a nominal gross benefit net of ELI program costs of \$2.8 billion, with a respective net present value benefit of \$1.3 billion.

Since recovering from the current recession introduces uncertainties as to how energy consumers, both commercial and residential, will spend their savings, the range of economic benefits between the net nominal gross benefits and gross net present value benefits fall within a range. The projections of efficiency savings are based on reduced fossil fuel and purchased energy costs, whose efficiency savings can be assumed to go directly into the household budgets of energy consumers for spending in the local economy. Thus, the economic impact of the net present value savings of \$1.3 billion can conservatively be projected to be \$2.6 billion and the economic impact of the net nominal benefit of efficiency savings of \$2.8 billion can conservatively be projected to have an economic impact of \$5.6 billion.

Therefore, the range of projected primary jobs to be created by ELI between 2009 and 2028 will be based on the 2008 projected median income for a single Long Islander of \$40,780. Consequently, the jobs estimated will be based on the nominal net benefit projected to be between 68,661 and 137,322, or 3,433 and 6,866 jobs created annually. The jobs created using the net present value of the net benefit are projected to be between 31,878 and 63,756, or annual jobs created of between 1,594 and 3,188.

Another aspect to be considered is the economic benefit of LIPA's education and training programs for contractors, real estate professionals, and retailers of durable goods. These individuals can be expected to support the ELI program by their knowledge of the benefits and incentives available through ELI. As previously discussed, 12,368 persons have been trained through the *Energy Efficient Products Program*, and, based on the average median wage for single individuals between 2002 and 2008 of \$38,629, LIPA's education program is estimated to have contributed, in part, to retaining an economic impact in the Long Island economy of an estimated \$477.8 million of payroll. This is because the persons trained have gained knowledge of *Efficiency Long Island*, green energy, and the skills necessary in a changing energy delivery market.

Conclusion

The basis for the positive and substantial economic impact projections of *Efficiency Long Island* is based on the reported results of other states' energy efficiency initiatives, as well as the positive economic impact of ELI's predecessor, LIPA's *Clean Energy Initiative*. Success of ELI is also dependent on a culture change of Long Island's energy customers to embrace and invest in efficiency that will ultimately result in lower fossil fuel and purchased fuel costs, thousands of jobs created and retained, billions of dollars of retained, and created economic activity.



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Martin R. Cantor has a Bachelor of Science Degree in Accounting from Brooklyn College of the City University of New York, a Master of Arts Degree in Interdisciplinary Studies from Hofstra University focusing on the socio-economic relationships between education, household income, and community and workforce development for New York City and Long Island, and an Ed.D. in Educational Administration from Dowling College. He has served as Suffolk County Economic Development Commissioner (*New York State's largest suburban county*), brought *Computer Associates* to Suffolk County, and created over 23,000 jobs with an estimated \$1.4 billion annual payroll economic impact. He has served as: Chief Economist, New York State Assembly Subcommittee for the Long Island Economy; Senior Fellow at the White Plains, New York-based Institute for Socioeconomic Studies—a public policy think-tank concentrating on poverty in America and senior citizen quality of life; Chair and Chief Economist of the Long Island Development Corp.; a building trades labor/management arbitrator; a consultant to the Nassau Interim Financial Authority; a faculty member in the Brooklyn College Department of Economics; Executive Director of the Patchogue Village Business Improvement District; and, Director of Economic Development and Chief Economist for Sustainable Long Island, as well as the Long Island Fund for Sustainable Development, providing financial and technical assistance to businesses and not-for-profit organizations. His work is included in the *National Tax Rebate-A New America With Less Government* and he has prepared downtown revitalization plans for Long Island and New York City neighborhoods, featuring arts districts, economic restructuring, waterfront projects, and community organizing. He was the architect of the Nassau County Comptroller's debt restructuring plan for resolving Nassau County's fiscal crisis; and has authored federal, state, and local legislation; economic impact analyses; socio-economic profiles of the New York City's and Long Island's economic, employment, and educational bases; annual reports on the State of the Long Island Economy; and, a convention center feasibility study.

He is a Certified Public Accountant in private practice; He served as Director of the Long Island Economic and Social Policy Institute at Dowling College from 2007 through 2010 and as an Adjunct Associate Professor of Economics; economic development and planning consultant to counties, towns, villages, Industrial Development Agencies, and communities; and, Chairman of the Suffolk County Judicial Facilities Agency which financed the acquisition of the Cohalan State Court Complex and the construction of the Suffolk County Jail in Yaphank. He provides economic and business commentary on television and radio; is a columnist for the *Long Island Business News*, Long Island's largest business weekly; *LI Pulse*, has appeared in the *New York Times* and *Newsday*, and has been syndicated nationally by *Newsday*, *Bridge News* and *Knight-Ridder/Tribune News Service*. He is an Honorary Member of Delta Mu Delta - The National Honor Society in Business Administration and has been recognized by the National Association of Counties for innovative uses of Industrial Revenue Bonds, for international trade promotion initiatives, for downtown revitalization policies, and for minority business incubator initiatives. He was invited by Dr. William Julius Wilson of Harvard University's John F. Kennedy School of Government to present his paper, entitled *Race Neutral Sustainable Economic Development*. He is the author of the recently published *Long Island, The Global Economy and Race: The Aging of America's First Suburb*.

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