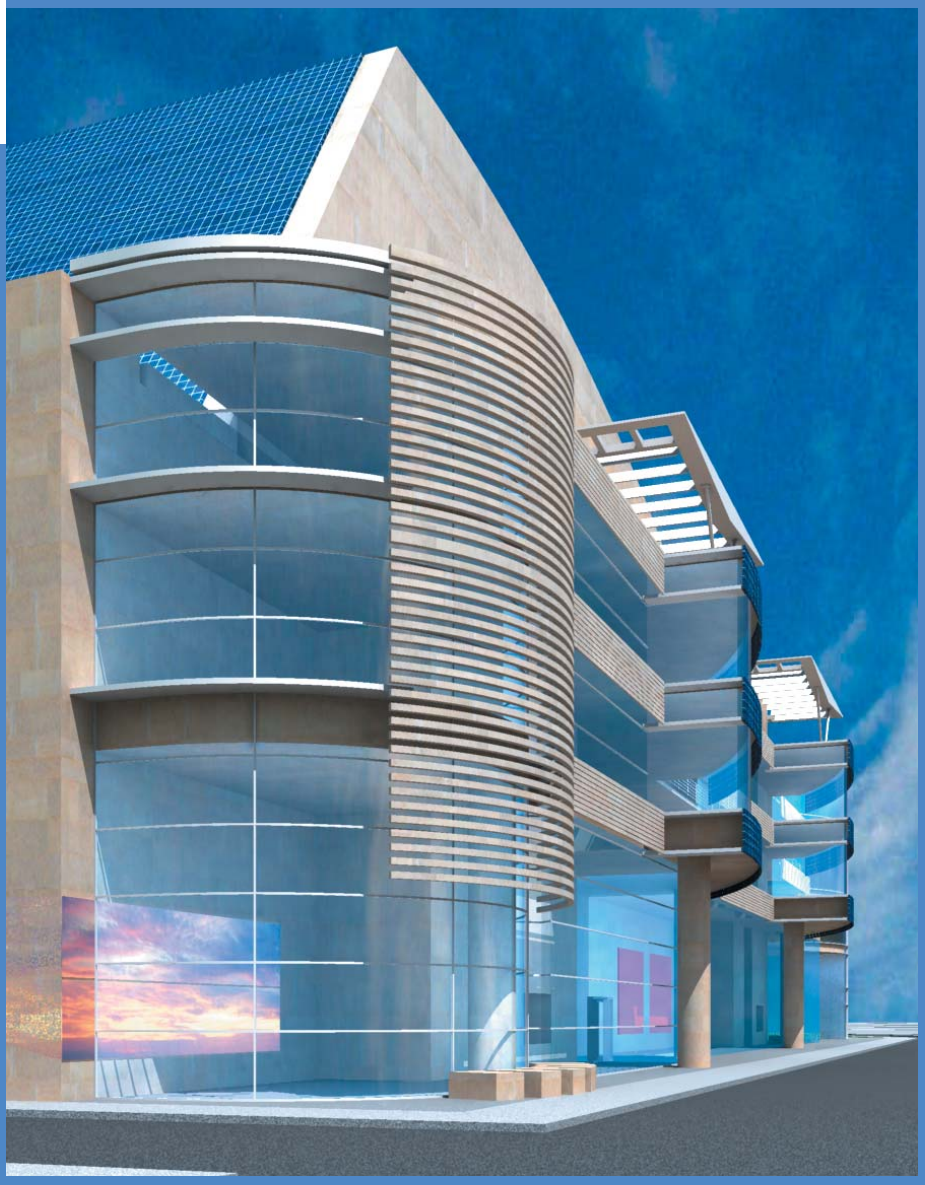
TransGas
ENERGY SYSTEMS LLC

Clean, Reliable Energy for New York City



Natural Gas Cogeneration Facility

One North 12th Street

Brooklyn, New York

A Report for Planners, Leaders and the Community

TransGas
ENERGY SYSTEMS LLC

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TransGas Energy, LLC

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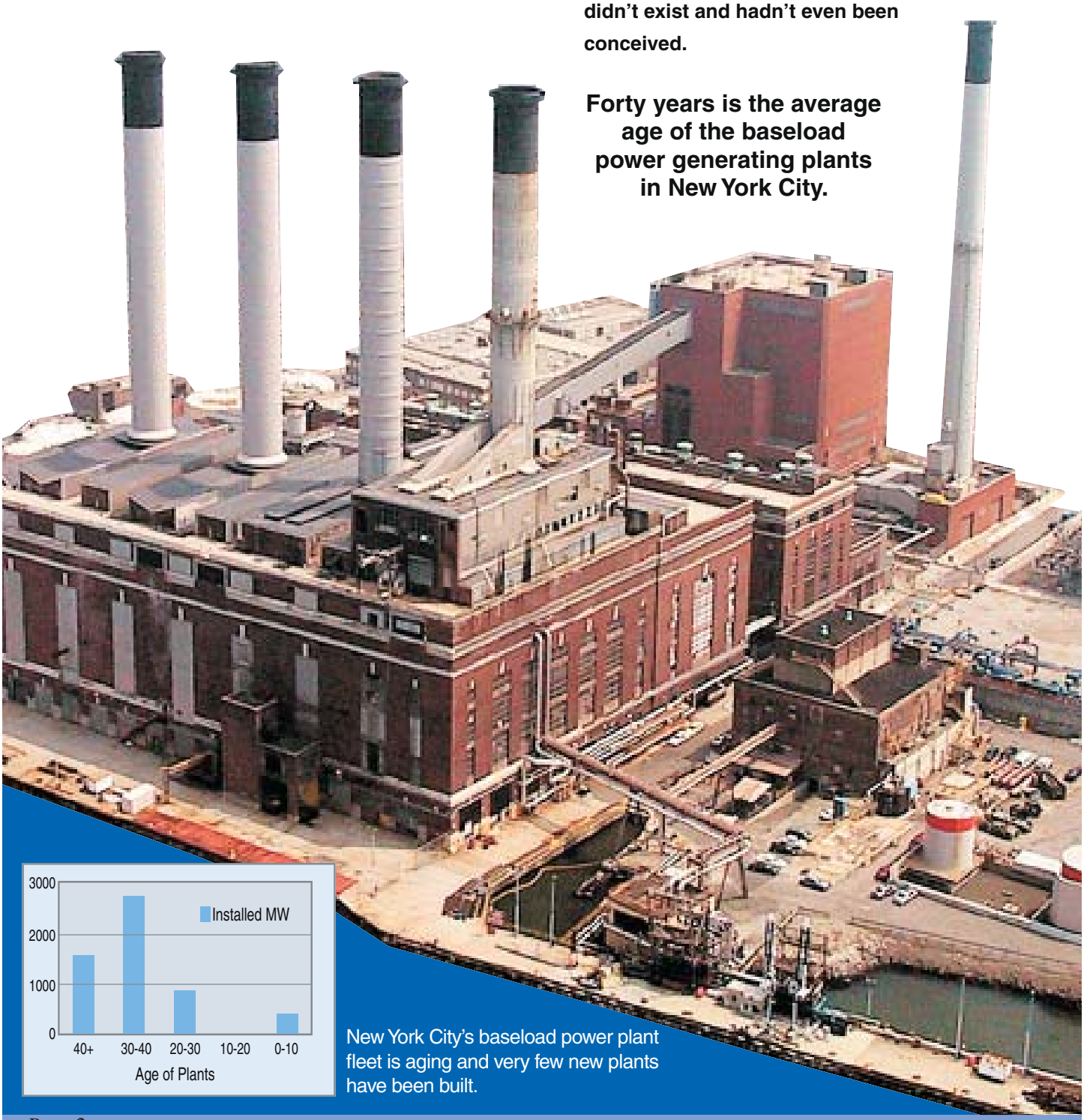
FROM OLD...

Forty years ago, mainframe computers were very costly and very rare. The invention of the personal computer was still nearly two decades away.

Forty years ago, the Verrazzano Narrows Bridge hadn't been built. Neither had Lincoln Center.

Forty years ago the Boeing 747 didn't exist and hadn't even been conceived.

Forty years is the average age of the baseload power generating plants in New York City.

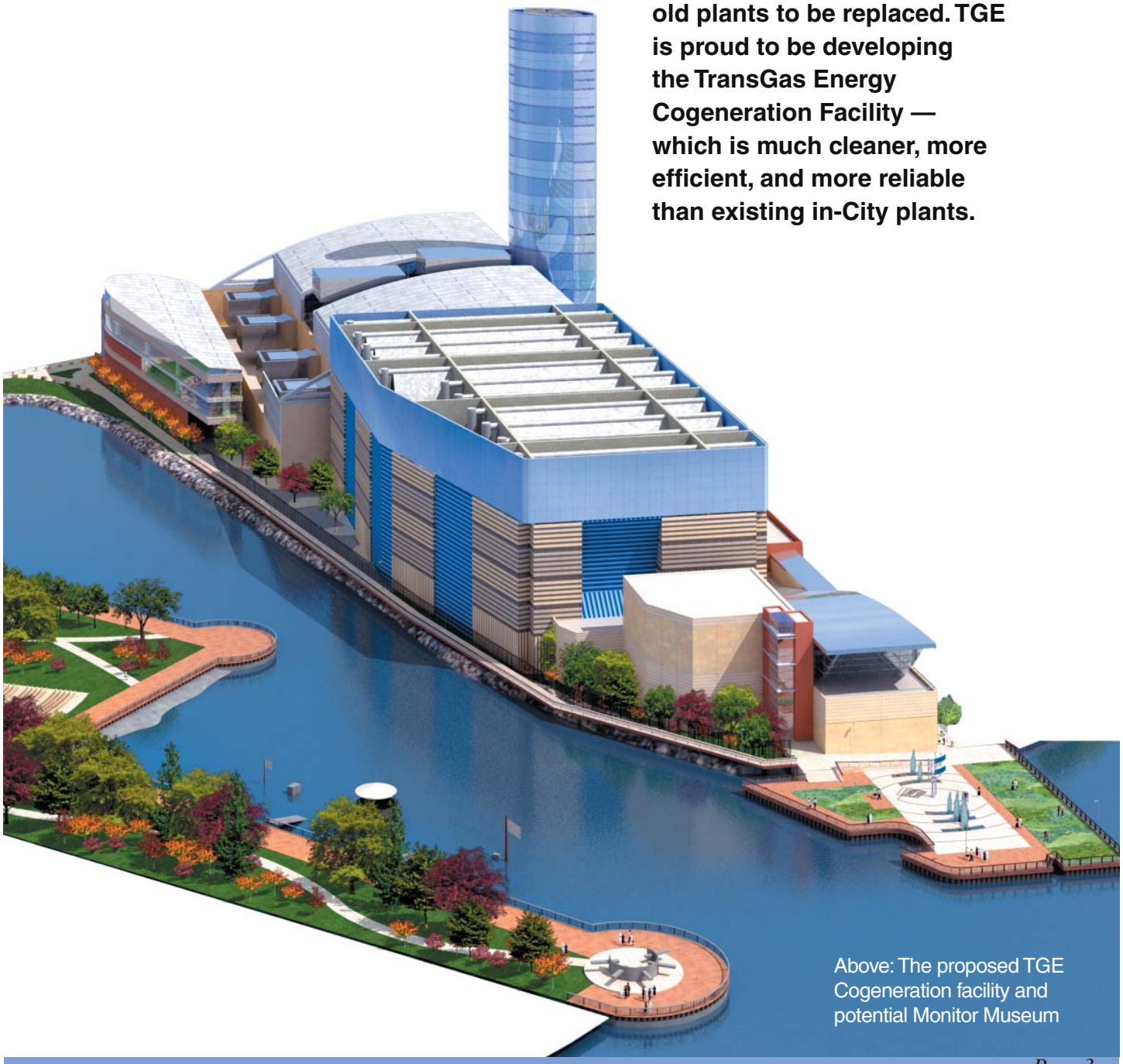


New York City's baseload power plant fleet is aging and very few new plants have been built.

TO NEW

The older baseload plants employ the power generation technology of the 1940s. They were state-of-the-art for their day. But they were built without the benefit of modern combustion control technologies, without the benefit of computer-aided design, and long before efficient combined-cycle generating technology had been developed.

It is past time for New York's old plants to be replaced. TGE is proud to be developing the TransGas Energy Cogeneration Facility — which is much cleaner, more efficient, and more reliable than existing in-City plants.



Above: The proposed TGE Cogeneration facility and potential Monitor Museum

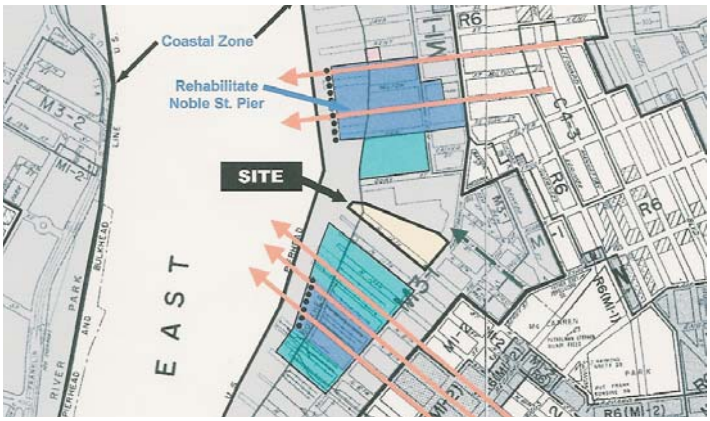
Overview

TransGas Energy Systems' proposed facility will make efficient use of natural resources, help to reduce the environmental impacts from power generation, improve the reliability of the power and natural gas systems and provide benefits to the local community.

The plant will use natural gas to generate 1,100 megawatts of electricity and up to 2 million pounds per hour of steam — about 10% of New York City's peak steam and electric energy needs.

The facility will operate in the competitive wholesale power market that has been instituted in New York over the past five years. Unlike the past, when utility companies built power plants, TGE will bear the risks of construction and operation instead of electric customers.

The plant will use air instead of river water for cooling and is expected to reduce the consumption of potable water for energy generation. To ensure reliability, very low sulfur oil may occasionally be used as a backup fuel. Interconnections to electric, steam, water, natural gas and fuel oil infrastructure are all located on or near the proposed site on North 12th Street and Kent Avenue, Brooklyn, New York.



Economic Benefits

Energy Reliability – The facility will be an additional source of energy supply inside New York City, enhancing the long-term reliability and security of the energy system, to the benefit of the City, its residents and businesses. Additional capacity will help mitigate short-term price spikes.

Independence from Middle East oil – By using North American natural gas for at least 98% of its electrical output, the plant will reduce dependence on oil. Annually, more than a million barrels of oil imports would be averted.

Energy Cost Savings Spurring Growth– This highly efficient facility will help reduce the price we pay for energy. Affordable energy helps to retain and attract businesses, which over time generates an estimated $100 million in additional economic activity and more than 1,000 additional jobs, attributable to TGE. It will also enhance local revenues.

Economic Investment and Jobs – Construction will generate approximately $500 million in economic activity locally, with more than 1,000 multi-year temporary and 100 permanent jobs (including secondary employment effects).

TGE is the kind of private investment project that can anchor the remediation and open space plans for the Greenpoint-Williamsburg waterfront. (Possible Monitor Museum and Olympic facilities are depicted with the Plant)

Right: Proposed view from Kent Avenue and North 12th Street. The box-like aesthetic of most industrial facilities is avoided by wrapping the project with modern offices and gallery space.

Environmental Benefits

Improved Air Quality – Operation of the TGE facility is expected to reduce local power plant pollution and dramatically reduce regional power plant emissions. Even ignoring pollution reduction, facility impact levels will be negligible. Health-based air quality standards will be met.

Reduced Truck Traffic – TGE will replace a currently operating fuel depot and, with it, 300 fuel trucks per day that emit diesel exhaust in the waterfront streets.

Brownfield Cleanup – TGE's parcel is a contaminated site used for over 100 years for oil refining and storage, and adjacent to a former coal gasification plant. Before building, TGE will remediate the site, under the auspices of the Department of Environmental Conservation.

Reduced Water Demand – The facility will use no river water for cooling and no drinking water for most of its other needs. The waste water source TGE proposes to treat and use could reduce the withdrawl from the New York City's reservoirs by more than a billion gallons per year.

Pollution-Free Solar Energy – Extensive photovoltaic cells will cover much of the main building and exhaust building, producing 350,000 watts.

This facility will redefine the way urban power plants integrate with the community and the environment.

Social / Cultural Benefits:

Innovative Architecture – The facility will redefine the way urban power plants integrate with the community and the environment with a design that is responsive to its surroundings and to the community's aspirations for waterfront access. Visual and physical waterfront access is being incorporated into the design. Sustainable design practices include efficient solar orientation and renewable energy.

New York City 2012 Olympics – In anticipation of New York City's bid to host the 2012 Olympic Summer Games, TGE is developing the facility to integrate with the proposed archery and beach volleyball facilities planned for parcels to the south of the TGE site. The TGE facility also will integrate with any other passive or active recreational uses that might be planned for parcels south of the TGE site.

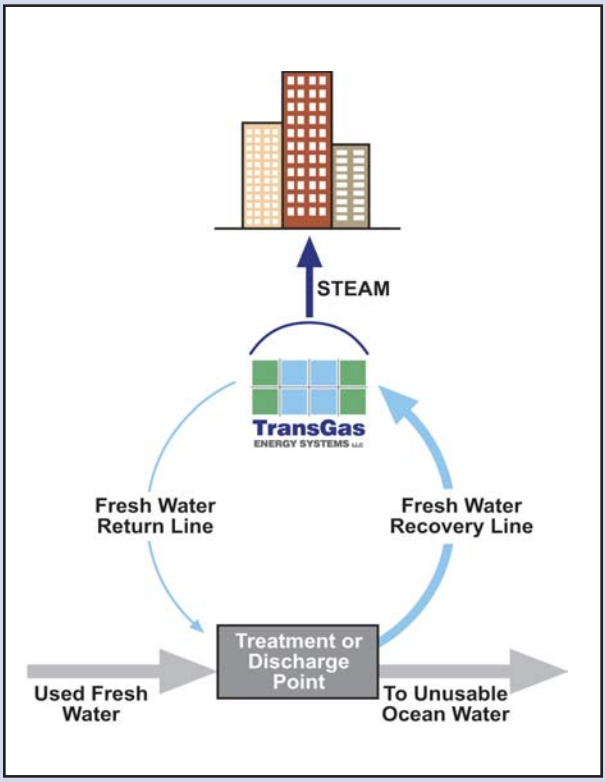
Education and the Arts – Displays and interactive terminals along building walls will provide information about sustainable development and environmental architecture. Space will also be provided for local artists to display their work, including HDTV niches where video documentaries can be presented.

Making our City Healthier and Safer

Saving Clean Water

Most steam and electric plants take their water from municipal water systems. In New York, 25 million gallons of potable water are used on a peak day to create steam. The water is then lost to the sewer system.

TGE's plant will reclaim water that is otherwise wasted. More than a billion gallons per day of recoverable fresh water is sent into the salt waters in New York City, through sewers, storm drains and industrial discharges. Reusing only a portion of these flows saves an otherwise wasted resource — clean potable water that can be used by New York City's residents and businesses.



Avoiding Marine Impacts

Existing electric plants take in massive flows from the Hudson and East Rivers. These intakes affect the migration of fish and other aquatic organisms. TGE's facility, on the other hand, will entirely avoid any such intake structures.

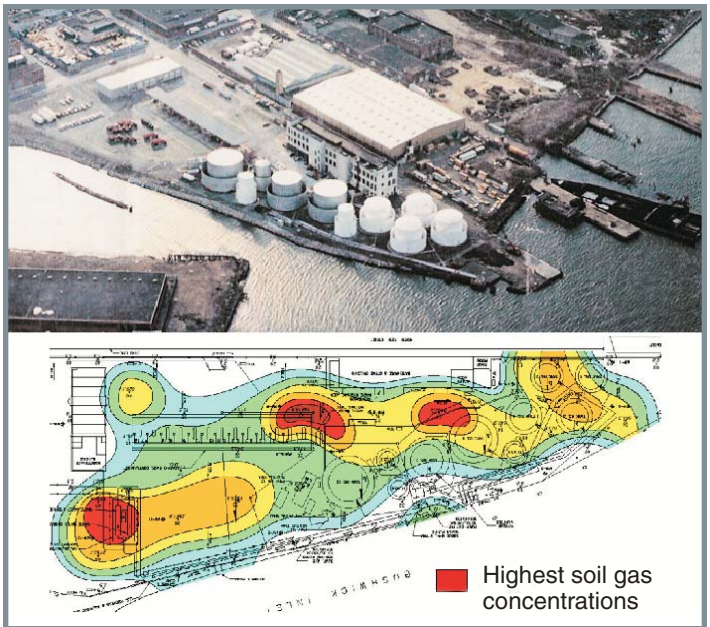
In a variety of ways, replacing existing old, obsolete power plants with new modern ones will improve the quality of life for New Yorkers.

The TransGas Energy Facility, using advanced technologies, will emit far less air pollution than existing plants in the City. As newer plants substitute for older plants, air pollution will decrease.

The facility will reduce the withdrawals from New York City drinking water reservoirs, and will not harm the ecology of waters surrounding the City.

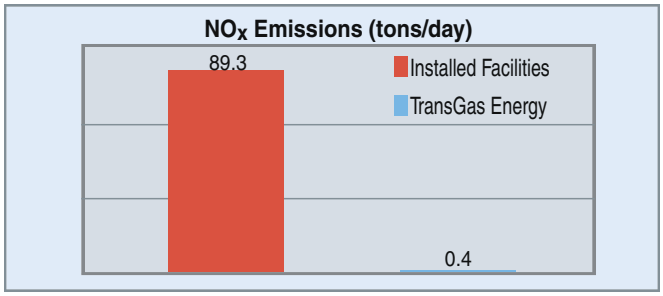
Compared to existing plants, the TGE facility will be safer, quieter, cleaner and more reliable.

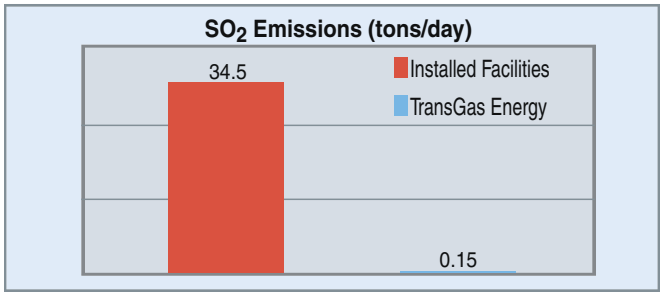
Cleaning Contaminated Land

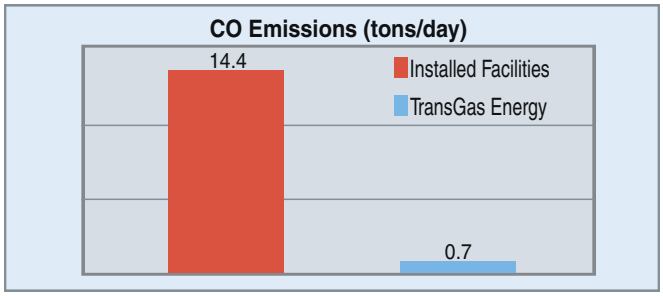


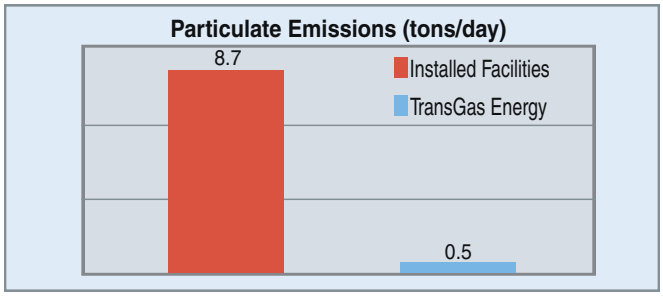
TGE's site is an environmentally distressed brownfield in an area that has seen a prolonged history of industry and manufacturing. The site has been used as a petroleum refining and storage facility for over 100 years. Prior to construction, TGE will remediate the site under New York State's Voluntary Cleanup Program.

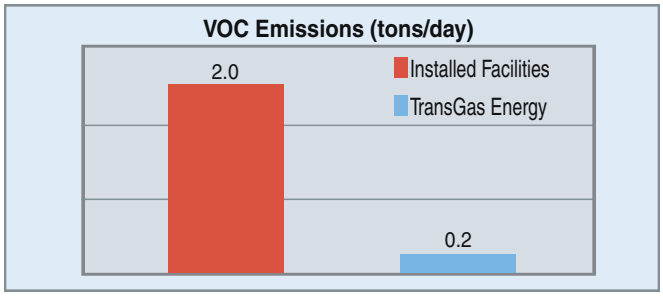
Reducing Air Emissions











"Installed Facilities" are East River Station in Manhattan and the Hudson Avenue, Gowanus and Narrows facilities in Brooklyn. Together, these produce about the same amount of electricity and steam as will TGE.

Acid Rain Damage

Why emissions <u>decrease</u> when you <u>add</u> a new plant

Building new power plants are expected to result in a decrease in the total of power plant emissions in the region. This seemingly paradoxical result occurs because new power plants emit so much less than older ones and, in daily operations, the new plants will substitute for the output of old facilities.

The charts to the left compare the emissions from the TGE facility to those from an equivalently-sized group of existing older plants in Brooklyn and lower Manhattan. For nitrogen and sulfur oxide emissions, the reductions are 99.6%.

The TGE facility will emit far fewer pollutants and global warming gases per unit of electricity generated.

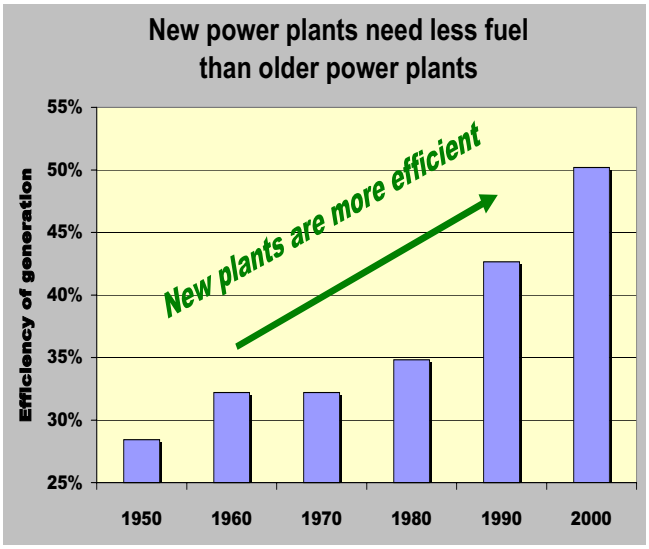
How is it possible to reliably predict that the new plants will run and the old ones will not? This result comes about through the operation of the competitive market for wholesale power. Under this market, an independent regulatory entity (the Independent System Operator) selects which power plants will be chosen to operate in any given hour. Under this selection process, the most economical plants will be selected first and less economical plants only as a last resort.

Because the TGE facility will be cheaper to operate, it will be selected to run before older plants, thereby reducing air emissions significantly.

Power plant efficiency has increased dramatically in the past half century.

In the beginning, steam-turbine plants represented the dominant technology for power generation. In the 1960s, combined cycle technology was introduced. Gas turbines, initially developed for the aircraft industry, became widely used for power applications in the 1980s. Cogeneration utilizes the waste heat from an electric power plant, resulting in even greater efficiencies. Cogeneration can only be achieved when power generation is located near large steam or hot water users—such as district heating systems.

TGE'S plant takes advantage of state-of-the-art combined-cycle and cogeneration technologies to produce a plant that is exceptionally efficient.



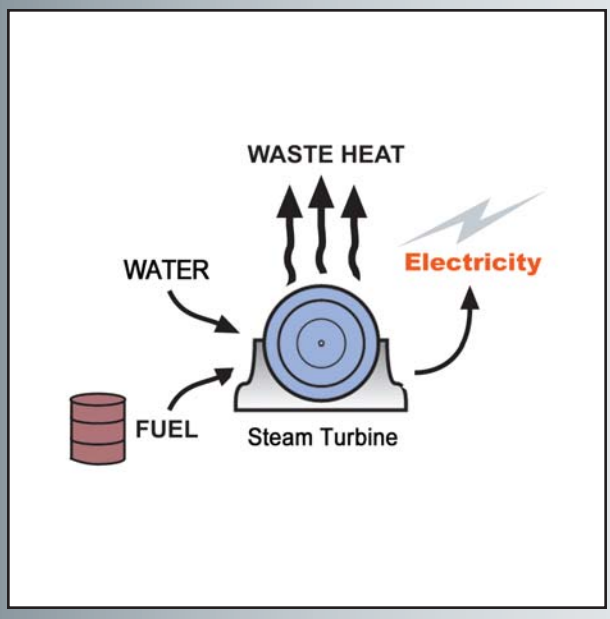
Electric generating plants have made very significant efficiency gains over the last five decades. Development of new technologies, the need to control fuel costs, and environmental regulations have all contributed to the strides that the industry has made towards increased efficiency.

Simple Cycle

SImple cycle power plants can employ either steam-turbine or gas-turbine technologies.

Older oil or gas-fired steam-turbine power plants like the ones that still provide most of the power used in New York City use a steam turbine alone and have an efficiency of about 33%.

"Peaking" plants—employed only a limited number of hours of the year—use gas turbines, the best of which have an efficiency of about 35%.



NYC Baseload Power Plant

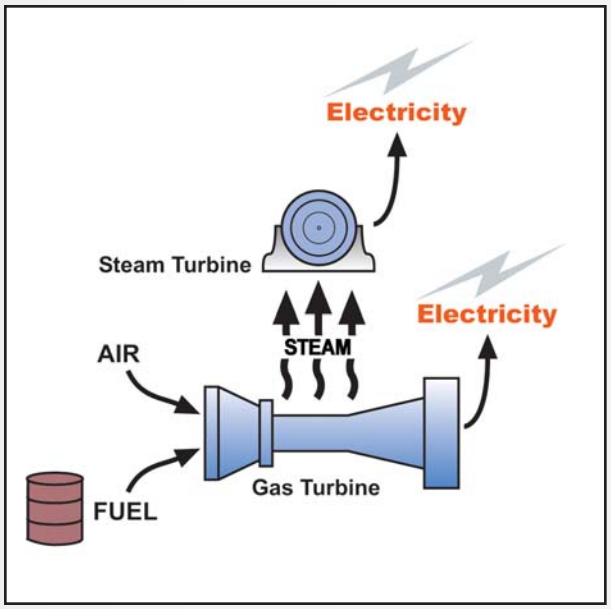
33% efficient

Combined Cycle

Combined-cycle power plants marry the gas and steam generation cycles to each other and, in doing so, achieve a very high level of energy efficiency.

The secret for achieving the high efficiency is that fuel is burned only once—in the gas turbine. The energy to drive the steam turbine comes, not from additional fuel, but from the hot exhaust gasses of the gas turbine.

The technology of "combining" these two power generation "cycles" was perfected in the 1990s. The newest combined-cycle plants can achieve efficiencies of over 50%.



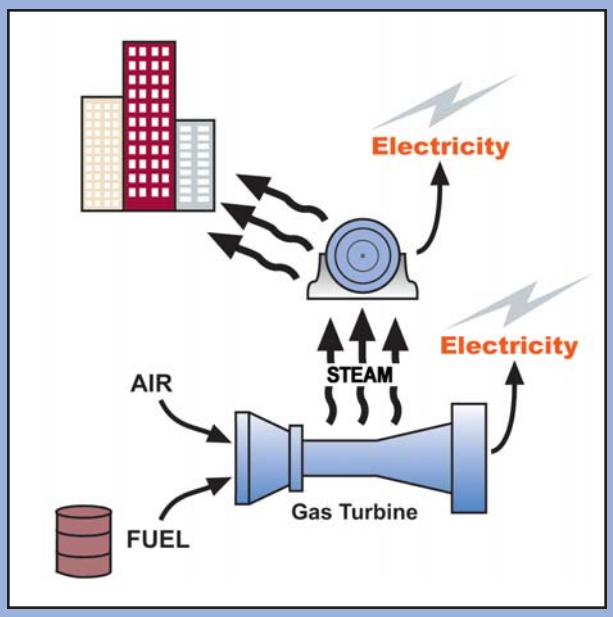
Typical Modern Power Plant

53%
efficient

Combined Cycle + Cogeneration

Simple-cycle and combined-cycle plants extract part of the energy from fuel and send it out to the transmission system in the form of electricity. But half to two-thirds of the energy is still exhausted to the atmosphere in the form of waste heat.

A "cogeneration" plant captures much of this waste heat and applies it to a useful purpose. By using congeneration in tandem with combined cycle, efficiencies over 75% can be achieved.



TransGas

76%
efficient

New York City Needs New, Reliable En

New power generating capacity must be built in New York City to replace existing, obsolete plants and to meet the growth in load.

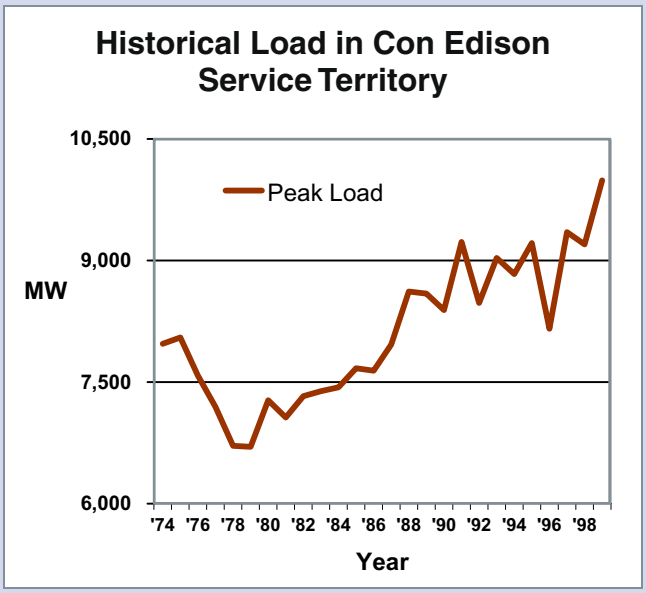
Transmission lines linking New York City to other areas of New York and to New Jersey permit the City to import some of its power. Both existing and new transmission lines have a limited capacity, however, and are vulnerable to outages. Finding feasible routes for new transmission lines has proven to be very difficult.

A recent report by the New York Building Congress concludes that despite the World Trade Center tragedy,

"New York City still faces a critical need for 2,000-3,000 MW of new electric capacity by 2006 in order to meet demand, to replace aging power plants and improve the environment, and to maintain market stability. Continued conservation efforts and customer demand reduction programs will help ease peak load demand, but construction of new facilities is still necessary to provide sufficient reliable power."

(NYBC, *Electricity Outlook 2002.*)

1. Load Growth



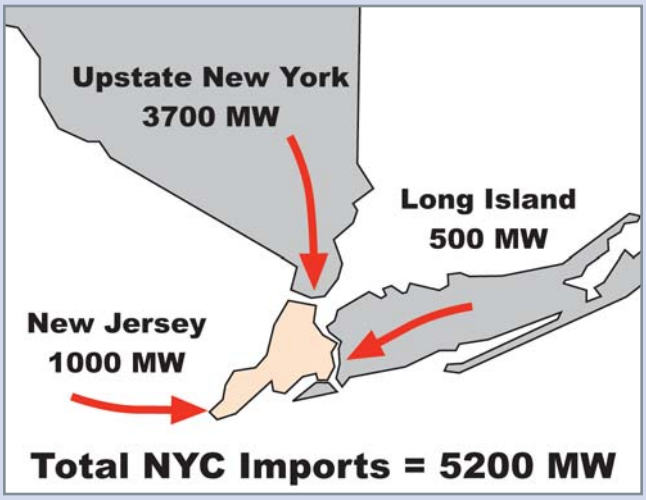
The demand for power in the Con Edison service territory has grown at an increasing rate in recent years. Sustained economic growth and the digital revolution have fueled these increases.

2. Transmission Constraints

What is a Load Pocket?

There are regions on the power system — called "load pockets" — where transmission lines cannot bring in all of the power that consumers require. Since the ability to import power is restricted, then electric generating capacity must be located in load pockets.

New York City is a load pocket. During peak load periods, the load is approximately 11,000 megawatts. To reliably serve this load, approximately 8,800 megawatts of in-City capacity should be available, but today only about 8,000 megawatts can be produced in the five boroughs, and much of that capacity is obsolete. As the older obsolete plants are retired, new facilities must be built to replace them.

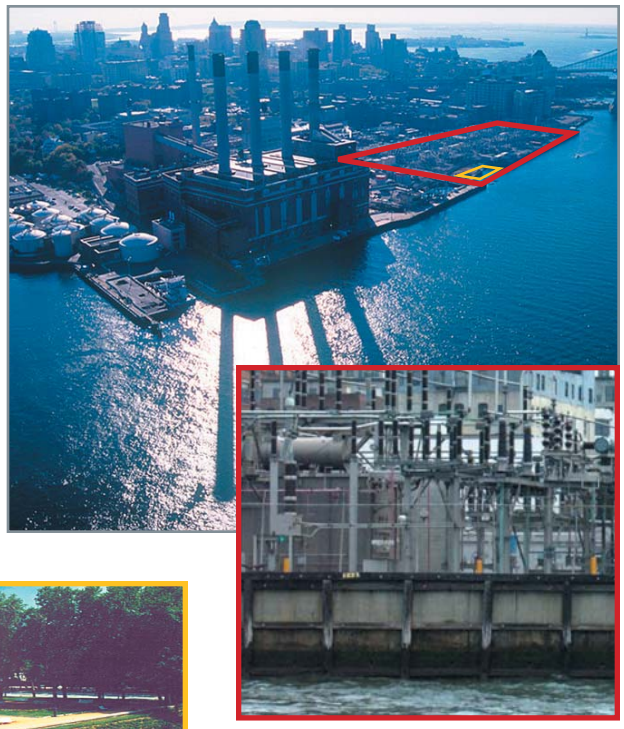


3. A smaller, better substation

By importing significant amounts of power, New York City relies extensively on the continued operation of an expansive network of overhead transmission lines and open-air substations. These facilities are vulnerable to extreme weather conditions and outages from other external factors. They are also very large and their "wirescapes" can be visually obtrusive.

A better way exists. Gas-insulated substation (GIS) technology accommodates the same electric current with just 5% of the land area. These substations not only use land efficiently, but also permit the entire installation to be indoors, for better security and superior aesthetics. TGE will build a secure, indoor substation within its own fence. Should a blackout occur, the TGE black start capability will help restart the power grid and supply it through the secure new substation.

Air Insulated Switchyard Gas Insulated Switchyard



Gas insulated switchyards (GIS) can be installed underground and require only 5% of the land area that a comparable air insulated switchyard would occupy.

World's largest steam district

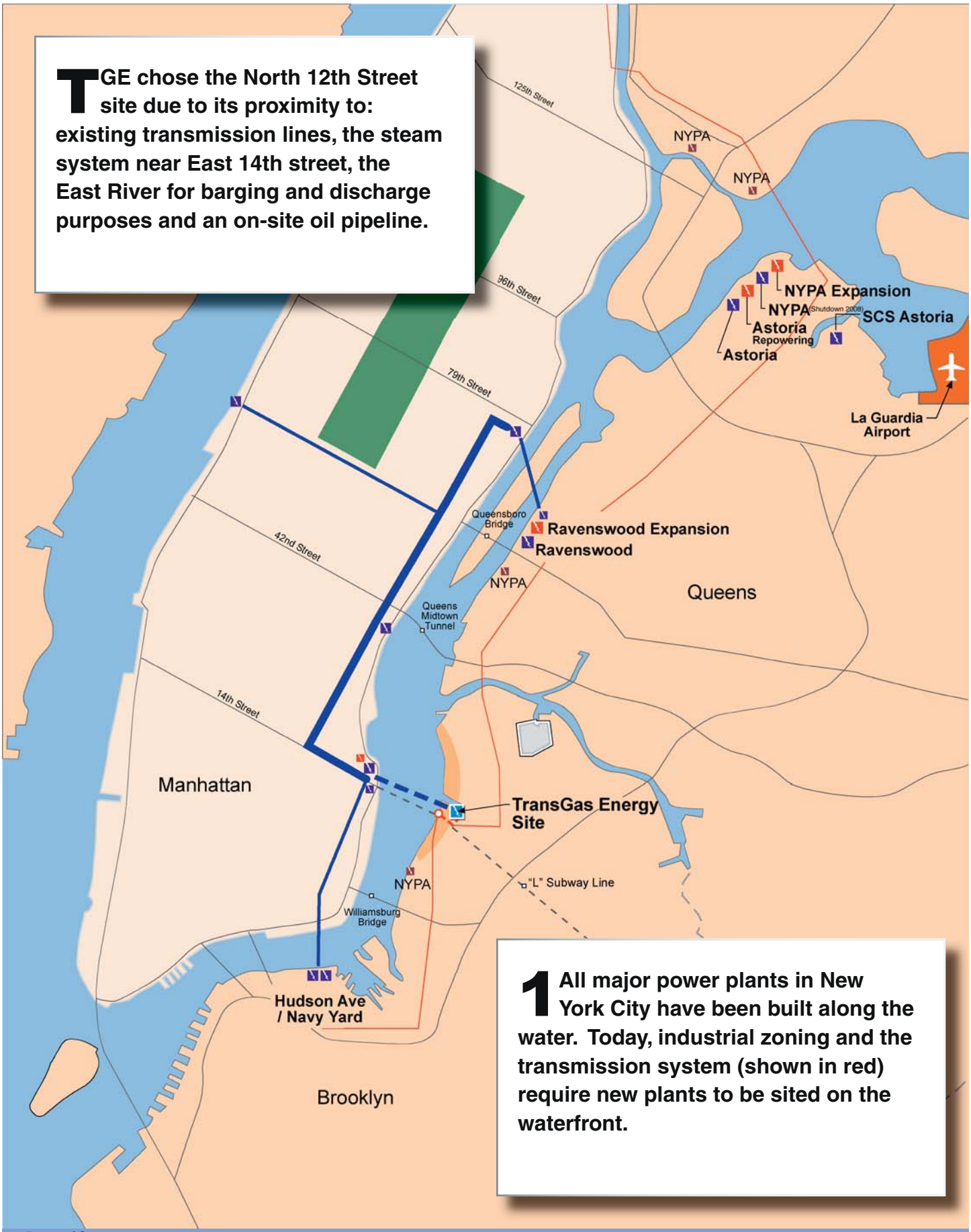
Manhattan has a vast underground steam system that serves most of its major high rise residential and commercial buildings. Owners of these buildings do not need to install boilers, furnaces or hot water heaters, saving both capital and operating expenses. Air quality is improved because thermal energy is created in only a few larger plants, as opposed to more than 2,000 separate, smaller boilers.

To ensure fully reliable steam production, TGE will have on-site backup for its fuel as well as its water supply. TGE's plant will be well situated for a potential steam delivery into the Con Edison steam distribution system.

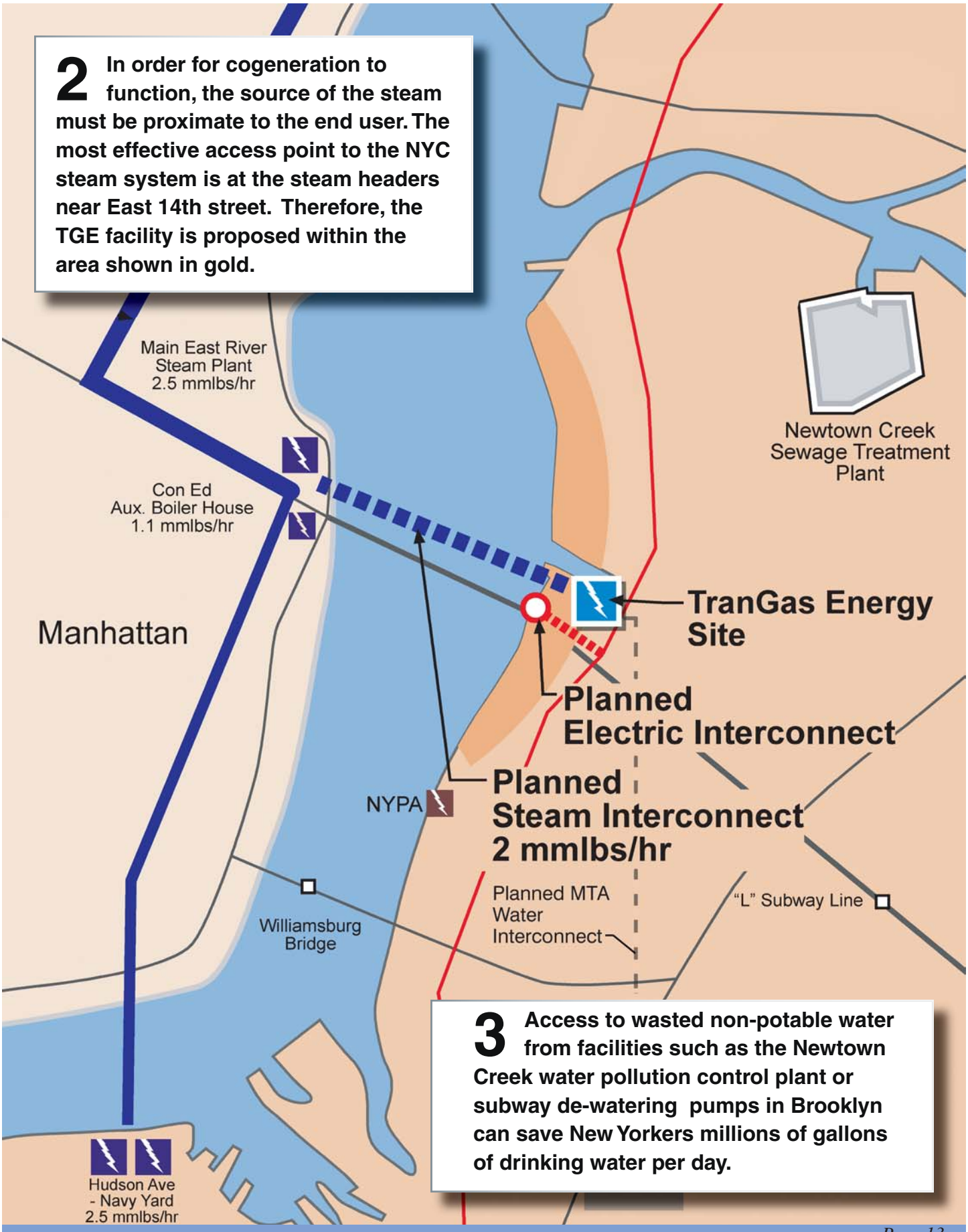
The TGE facility would strengthen New York City electric and steam system reliability.

Why Greenpoint / Williamsburg?

TGE chose the North 12th Street site due to its proximity to: existing transmission lines, the steam system near East 14th street, the East River for barging and discharge purposes and an on-site oil pipeline.



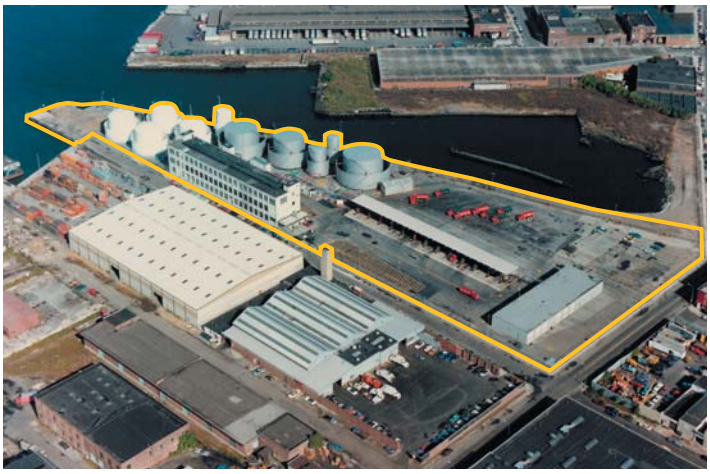
1 All major power plants in New York City have been built along the water. Today, industrial zoning and the transmission system (shown in red) require new plants to be sited on the waterfront.


2 In order for cogeneration to function, the source of the steam must be proximate to the end user. The most effective access point to the NYC steam system is at the steam headers near East 14th street. Therefore, the TGE facility is proposed within the area shown in gold.
Main East River Steam Plant 2.5 mmlbs/hr
Con Ed Aux. Boiler House 1.1 mmlbs/hr
Newtown Creek Sewage Treatment Plant
Manhattan
TranGas Energy Site
Planned Electric Interconnect
Planned Steam Interconnect 2 mmlbs/hr
NYPA
Planned MTA Water Interconnect
"L" Subway Line
Williamsburg Bridge
Hudson Ave - Navy Yard 2.5 mmlbs/hr
3 Access to wasted non-potable water from facilities such as the Newtown Creek water pollution control plant or subway de-watering pumps in Brooklyn can save New Yorkers millions of gallons of drinking water per day.

Land Use and Architectural Design

Contamination Problems

Today, TGE's proposed site is utilized as a fuel oil storage and distribution terminal amidst a generally dilapidated, although economically vibrant, industrial waterfront setting. Oil refining and storage have been the site's use for more than a century. A coal gasification plant once stood adjacent to the oil terminal. The site is zoned for heavy industrial use (M3), the only zoning district category in New York City that permits electric generation as of right. The site is contaminated and will require comprehensive soil and groundwater



Bayside Fuel Oil Terminal - TGE's Proposed Site

Innovative Solution

Significant capital investment is necessary to bring about any new land use. In the absence of TGE's proposed investment, the Bayside Oil Terminal will continue and plans to expand its trucking and fueling operations.

TGE can anchor an innovative solution by providing new infrastructure, expanding public access to the waterfront and funding community revitalization projects. Above all, TGE is committed to an architectural design that redefines how an industrial facility can fit into a changing waterfront.

Waterfront Aspirations

New York City and the Greenpoint and Williamsburg communities aspire to redevelop the North Brooklyn waterfront. The goal is to find a balance among the natural, cultural and economic uses of the waterfront, especially by finding underutilized sites. Waterfront redevelopment can attract new real estate investments, increase open space amenities, preserve the waterfont's natural value, expand waterfront access and transportation linkages, and reflect and celebrate the waterfront's cultural heritage and history.

Proposed park and 2012 Olympic facilities

Above: Conceptual night rendering of TGE plant, land proposed for Olympics 2012 facility and a Monitor Museum in the Bushwick Inlet.

The underlying design concept for the TransGas Energy facility challenges common perceptions about industrial buildings. It also promotes sustainable design, reflecting TGE's overall mission. Pollution-free photovoltaic solar panels line the south face of the plant, while building orientation further reduces the building's air conditioning requirements. Elevations are varied, subdividing the bulk and rendering it much less imposing. Exhaust stacks are gathered into a single building, transforming the maligned industrial image of electric generating facilities.

TGE's proposed architectural design calls for high quality materials such as terracotta, glass, and metal curtainwall systems. A visitors center and artist gallery space line Kent Avenue (the primary waterfront street in the area) and North 12th Street. With its reduced scale, dynamic architectural façade and innovative treatments, the architecture of the building creates a vibrant and inviting atmosphere.

Above: Proposed view from Kent Avenue and North 14th Street.

Permitting and Public Involvement

Article X , one of the most thorough environmental, technical and policy reviews in the nation.

Environmental Permitting

The TGE Project requires the approval of several environmental agencies. Pursuant to Article X ("Article Ten") of the New York State Public Service Law, a comprehensive process has been set up, in which several lead New York State agencies, various New York City departments and the local community are all participants. Under Article X, an applicant intending to build an electric generating facility of 80 megawatts or more must first obtain a "Certificate of Environmental Compatibility and Public Need." In addition, air and water discharge permits must be obtained from the New York State Department of Environmental Conservation.

The Article X and DEC processes for power plants comprise perhaps the most thorough environmental, technical and policy review in all of New York State, and among the most rigorous of such processes in the nation. The major areas of study are:

- **Promotion of Competition**
- **The Public Interest**
- **Electric Transmission System**
- **Compatibility with Local Requirements**
- **Land Use and Waterfront Issues**
- **Aesthetics and Historic Resources**
- **Noise**
- **Construction Management and Traffic**
- **Socioeconomics**
- **Safety and Security**
- **Air Quality**
- **Environmental Justice**
- **Water Supply**
- **Aquatic and Terrestrial Ecology**
- **Soils and Geology**
- **Archaeology**
- **Alternative Mitigation Technologies**

Subsurface soil and groundwater sampling

Some Participating Entities:

Federal

Environmental Protection Agency
Federal Aviation Administration
National Marine Fisheries Service
Fish and Wildlife Service
Coast Guard
Army Corps of Engineers

New York State

Department of Public Service
Department of Environmental Conservation
Department of Health
Department of State
Office of Parks, Recreation and Historic Preservation

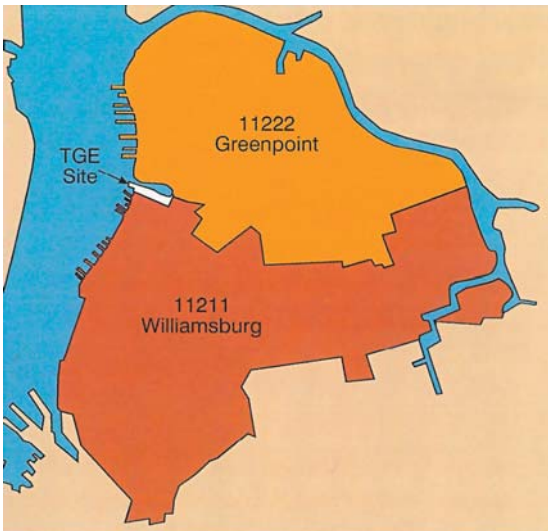
New York City

Department of Environmental Protection
Department of City Planning
Office of Environmental Coordination
Landmarks Preservation Commission
Department of Transportation
Economic Development Corporation

Office of the Brooklyn Borough President

Brooklyn Community Board 1

Community stakeholders



Map of Greenpoint and Williamsburg

TGE is committed to working with the community and incorporating public benefits into the project.

Project Schedule

Permitting for the TGE facility is approximately a two-year process. In September 2001, TGE submitted a "preliminary scoping statement" that described the project, invited public comment, and proposed a program of environmental study. Over the next 9 months, public agencies and grassroots organizations made comments on the project and proposed changes to the program of study. Official public forums held by state agencies were convened in December 2001 and March 2002. TGE's own outreach meetings occurred at various times throughout the process, and continue as an ongoing program. Public involvement activities include informing the public, hosting interested visitors at TGE's on-site offices and communicating with all interest parties.

In June 2002, New York State agencies and New York City approved the program of study, or "stipulations." This action marked the first time that the City signed study stipulations in an Article X proceeding.

In December 2002, TGE filed its studies in a formal application to the New York State Siting Board. The process allows interested parties to scrutinize TGE's studies and, if warranted, present their own recommendations. For local agencies and community groups, a special fund of $300,000 has been allocated by State law, administered by independent judges.

After project approval and financing, site demolition and subsurface soil remediation will follow. When the site's environmental issues have been addressed, construction of the energy facility will begin, and is expected to take more than two years.

For the construction and operation periods, a protocol for community updates and continued communication will be developed.

Development Activity	2001 Q1	Q2	Q3	Q4	2002 Q1	Q2	Q3	Q4	2003 Q1	Q2	Q3	Q4	2004 Q1	Q2	Q3	Q4	2005 Q1	Q2	Q3	Q4	2006 Q1	Q2	Q3	Q4
1. Siting																								
2. System Reliability Studies																								
3. Environmental Permitting																								
4. Project Financing																								
5. Site Remediation and Construction																								
6. Commissioning and Operation																								

The Development Team

TGE has assembled a broad-based team of developers, engineers, environmental consultants and attorneys experienced in the permitting, engineering, construction, and operation of electric power generation facilities. Furthermore, TGE has selected development team members that have succeeded in working in New York's complex and challenging physical, environmental, and human environment.

The Project is being developed by TransGas Energy Systems, LLC (TGE) whose president is Adam Victor. Mr. Victor has over 20 years in the power industry and developed one of the largest steam-generating facilities in New York State, Project Orange Associates, LP (POA), following the initial deregulation of the electric power industry in the 1980s. Located in Syracuse, NY, POA's cogeneration plant has provided a highly reliable source of steam and electricity that is distributed to several hospitals and universities. Under Mr. Victor's direction, POA has consistently met its steam customers' requirements. TGE's corporate offices are located in Syracuse, NY, and TGE has also established an onsite field office at the proposed plant site.

Adam Victor, *President of TransGas Energy*

TGE's core development team is led by the same participants that helped make POA a success: Len Shapiro (project management), Tracy Jones (engineering and operations) and Douglas Corbett (fuel, marketing and regulatory issues). Together, these three individuals bring another 75 plus years of power and energy development experience to the project.

Energy Consulting Group

ECG provides strategic management services in support of power project development and operations. ECG senior management have decades of executive experience in the field of power generation construction, equipment supply and related services — with over 15,000 MW of combined cycle power plants. ECG chairman Rolf Kehlhofer, former president of ABB Power Generation worldwide, is a recognized name in the field of combined cycle power plants.

TRC Environmental Corporation

TRC is a national environmental consulting firm, with a network of over 60 offices in the United States. It is an industry leader in brownfield remediation and the siting and licensing of power generation and pipeline projects. TRC has participated in the successful permitting of numerous power plants nationwide, with several recent projects in New York City. TRC's role is to conduct and coordinate all necessary studies relating to environmental and community resources.

Siemens Westinghouse Power Corporation

Siemens AG is one of the premier power and steam equipment manufacturers in the world, employing more than 20,000 people and serving customers throughout the world. Numerous existing and proposed combined cycle plants in the United States are driven by various Siemens Westinghouse gas and steam turbines. For the TransGas Energy facility, Siemens Westinghouse will supply the turbines, heat recovery and cooling systems.

ABB Transmission and Distribution

ABB Inc. is a global leader in providing solutions to the energy delivery business, having completed projects of varying complexity and cost throughout the world. ABB Consulting, one of its divisions in the US, is the system analysis and consulting center for ABB worldwide. ABB Consulting personnel have expertise in all areas of electric power generation, transmission and distribution. For the TGE facility, ABB will supply all electrical infrastructure in the switchyard and connecting to the power grid.

DIRECT DESIGN ENTERPRISES

Direct Design Enterprises has won numerous design awards for large scale commercial projects such as the renovated Poughkeepsie Intermodal Station and Parking Structure.

CLOUGH, HARBOUR & ASSOCIATES LLP
ENGINEERS, SURVEYORS, PLANNERS & LANDSCAPE ARCHITECTS

CH&A, the building sytems engineers, are leaders in structural, electrical and mechanical engineering for large scale projects including sports stadiums, rail facilities and power plants.

JENNY ENGINEERING CORPORATION
CONSULTING ENGINEERS

Jenny Engineering Corporation

Jenny Engineering is the leader for utility tunnel design and construction in New York City. In its more than 36 years of tunneling experience, Jenny has completed more than 150 tunnel projects, including a major steam tunnel under First Avenue and the deep-bedrock Water Tunnel no. 3. Jenny Engineering will be responsible for the installation of a new steam and industrial water tunnel connecting Brooklyn and Manhattan. This major project — an improvement for New York City's overall utility infrastructure — is part of the proposed project, and would be financed by TGE.

Frequently Asked Questions

Why is TGE building a power plant in New York City?

In New York State, the generation of electricity is subject to a competitive market place. TGE's proposed facility is expected to be very efficient and will be well positioned to compete against and displace generation from older, less efficient generating facilities. Studies performed by municipal and state organizations forecast that New York State's and New York City's power demands are growing and more generation capacity must be built.

How much of the City's power requirements can the TGE plant provide?

At present, the plant would provide enough power and steam to supply approximately 10% of the City's peak requirements. However, New York City's power requirements are growing. In addition, plants built four or five decades ago are now obsolete and need to be replaced.

Why do plants have to be built in the City? Why can't the power be brought in from someplace else?

The transmission lines which connect the City to the surrounding areas are already fully loaded and cannot bring in more power when it is vitally needed during peak periods. Finding acceptable rights-of-way for new transmission lines is extremely difficult. Also, steam cannot be economically transported long distances; the production of steam must be proximate to the steam distribution system. For both of these reasons, most or all of the new power plants necessary to meet the reliability requirements of the City's energy system must be built within the City.

Where will the TGE plant be built?

The project will be built on an eight-acre parcel located on the East River in an industrial area of the Williamsburg/ Greenpoint section of Brooklyn. Currently the site is used as oil storage and distribution terminal. The site is bounded by the East River on the west. On the north, it is bounded by the Bushwick Inlet; on the east by Kent Avenue; and on the south by North 12th Street.

Why was this site chosen?

The site was chosen as a suitable site due to its appropriate zoning and because of its proximity to critical electric, fuel, water, wastewater and steam infrastructure.

The project site has been used for industrial purposes for over a century. It has been contaminated by various pollutants. As a consequence of the contamination, any redevelopment of the site will require the expenditure of very large sums for remediation.

What type of power plant will TGE build?

TGE's plant will be an advanced, highly efficient and tightly controlled 1100 MW, combined-cycle power plant. In a combined-cycle plant, both a gas-turbine and a steam-turbine are used in an integrated thermal cycle, resulting in a very efficient system. The primary fuel will be natural gas. In addition, the plant will function in a "cogeneration" mode which means that waste heat from the power cycle will be used to generate steam which could be delivered into the steam distribution system supplying most of Manhattan's larger buildings with steam.

How do new power plants differ from old ones?

The older baseload power plants currently serving the City were built in a different era. They were state-of-the-art when they were built, but that was a very long time ago. There have been major advances in power generation technologies, in combustion-control technologies, and in computerization of equipment and control systems since that time. Needless to say, regulatory standards are far different today than they were several decades ago, and plants must meet much higher standards in a variety of respects.

In short, new plants are much more efficient (they use much less fuel), much cleaner, and are more reliable and safer than older plants.

What are the environmental effects of such a plant?

Our plant will be much cleaner than the existing, older generating units serving the City. The advanced gas-turbine technology we will be using greatly reduces the level of key air emissions as compared to those from existing older power plants. The reduction in air pollutant emissions is striking – from 10 to 250 times. As our plant and others like it substitute for the older units over time, there will be substantial regional air quality benefits as well as reductions in the generation of global warming gases.

Besides air emissions, are there other environmental benefits to the TGE plant?

The cooling system for TGE's plant will not withdraw from the Hudson and East Rivers, avoiding adverse impacts to aquatic habitat. TGE will also help to reduce the use of potable water, which is presently used to generate steam, by reusing water that is presently wasted.

What technological improvements allow new plants to be more efficient?

The primary technological breakthrough leading to a significant jump in efficiency was the introduction of combined-cycle technology. This technology "combines" a

gas turbine with a conventional steam turbine. The efficiency improvement occurs because fuel is combusted only once — in the gas turbine. The hot exhaust gases from the gas turbine are used to heat the steam needed to generate electricity in the steam turbine. Older baseload plants utilizing only steam turbines were limited in their efficiency to less than 40%. Combined-cycle systems can achieve efficiencies approaching 55%.

Combined cycle technology became possible only after gas turbines were adapted for power generation in the 1970s. The technology began to be widely used in the 1990s. Today, combined cycle systems are the technology of choice for most of the baseload power plants being built in the US.

How does an electric power plant also generate steam?

Waste heat from an electric power plant still contains enough heat to generate steam. Some electric generation potential is typically sacrificed in order to generate the steam but the overall effect greatly increases efficiency. When a single plant produces both electricity and steam, it is called a "cogeneration" facility. By making use of the waste heat, cogeneration systems can achieve overall efficiencies of 75% or more.

What will the plant look like?

TGE is taking extraordinary care to design its plant to be visually compatible with a modern, vibrant, urban setting. The plant design will not fit most people's image of what a power plant or an industrial facility looks like. It will look more like a modern building than like the older power plants that currently exist in the City. We believe the architecture of this facility will redefine how power generating facilities should be designed in the future.

What benefits will the project provide to the City?

The project will generate millions of dollars in tax revenues for New York City. The project will create a thousand multi-year construction jobs and dozens of long-term professional positions. The project will reduce electric and steam costs in New York City and will help mitigate against price spikes, since every new supplier dilutes the potential that the few existing suppliers will use their position to gain market power.

Are there any other benefits of the proposed project to the community?

TGE has proposed several community amenities and benefits:

- A long-standing contaminated site will be cleaned up.
- Innovative architectural design that transforms the perception of a power plant and includes planted roofs and terraces, waterfront access, space for potential community-based uses, solar panels and dynamic façade treatments.
- The site will be developed so as integrate and enhance activities for New York's 2012 Summer Olympic bid.
- TGE intends to establish a multi-million dollar fund for community-oriented projects.

Who will take the risk that the plant will be built on time and on budget and that it will run properly?

In the past, when utilities built power plants, the electric consumer frequently bore the risks associated with construction and operation of power generating facilities. Today, power plants in New York are being built by independent generating companies, in a competitive environment. TGE will bear the risk of construction and operation of this facility. As an electric consumer, you will not have to pay if construction costs go up or if the plant does not operate as planned. In addition, a special decommissioning fund will be set up to dismantle the facility after the end of its useful life.

What is the approval process for the project?

In New York State, major power projects must receive approval through a process outlined in Article X of the State's Public Service Law. Through this lengthy process, issues associated with the project are thoroughly reviewed. The procedures outlined in Article X are designed to encourage and facilitate public participation in the approval process. TGE is holding public meetings, sending out mailings, and making information available regarding the project.

When is the project expected to begin operations?

The project's scheduled in-service date is 2006.

Who is TGE?

TGE is an independent power company whose principal, Adam Victor, pioneered in the development of independent power projects in New York, developing a major cogeneration plant in Syracuse. That project reliably serves several hospitals, universities and colleges with steam and delivers electricity into the local power grid.

For the development of this project, TGE has assembled a broad-based team of developers, engineers, environmental consultants and attorneys experienced in the permitting, engineering, construction, and operation of electric power generation facilities. TGE's team members have succeeded in working in New York's complex and challenging physical, environmental, and human environment.

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