

INTRODUCTION

For Tampa Electric's customers, energy starts in the concrete, steel and technology of the company's power plants, structures that power the daily lives of the communities we serve in about 2,000 square miles of West Central Florida.

The output of those plants is the heartbeat of the area's present and future. Because of this, Tampa Electric must plan decades ahead to ensure that the generating capacity and infrastructure are in place when they are needed, to provide the most reliable electric service reasonably possible.

Yet while the company serves more than 645,000 customers, a population that continues to grow by over 2 percent annually, it has only one fragile ecosystem that must be preserved. So the production of electricity is no longer the ultimate goal. It must be produced not only with concern for customers, but also for the air, water and land that we all share.

Tampa Electric's environmental mission is based on a commitment embedded in its values and a vision that includes an intended legacy for future residents: the area's

children and grandchildren and the families they start; businesses starting and growing to provide jobs and the area's economic stability; and people moving here to become part of our culture and enjoy the area's wonderful climate.

Customer growth in its service area has required Tampa Electric to increase its generation by 57 percent since 1980. To meet this energy demand growth, the company pursued economic and reliable fuel choices to serve customers' needs.

Like all utilities, Tampa Electric is subject to many regulations that govern air, water and land. Unlike many others, however, Tampa Electric has taken steps on a voluntary basis to lessen the impact of its electricity production on the environment.

The company's greatest environmental emphasis resides in its three major power stations: H.L. Culbreath Bayside Power Station (Bayside); Big Bend Power Station (Big Bend); and Polk Power Station (Polk); and their protection of the area's air, land and water.



The Air

For the last 20 years, Tampa Electric has taken major steps to reduce air emissions from its power plants. It has

repowered a coal-burning facility to natural gas by creating Bayside; equipped its coal-fired Big Bend facility with a flue gas desulfurization or "scrubber" system; and built its Polk Unit 1 using clean coal technology to reduce emissions from its facilities.

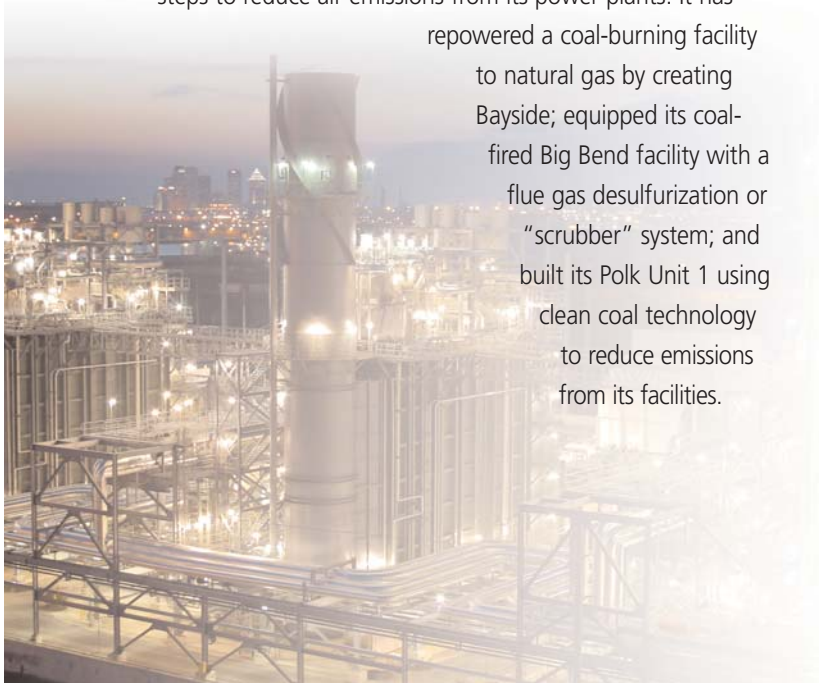
The company is committed to further reducing emissions with such initiatives as installing selective catalytic reduction (SCR) technology at Big Bend.

H.L. Culbreath Bayside Power Station: Centerpiece of Tampa Electric's Emissions Reduction Plan

In 1999, Tampa Electric, the U.S. Environmental Protection Agency (EPA) and the Florida Department of Environmental Protection (FDEP) announced a sweeping 10-year, \$1.5-billion program to dramatically decrease overall emissions from the company's power plants. This program included major initiatives at the company's two largest power plants.

H.L. CULBREATH BAYSIDE POWER STATION

Bayside is the centerpiece of Tampa Electric's landmark \$1.5-billion environmental improvement program.



The cornerstone of the agreement was the retirement of the coal-fired boilers at the company's nearly 50-year-old Gannon Power Station and repowering the facility to become the \$730-million Bayside plant, fueled by natural gas. The plant is located near Tampa Bay and has a generation capacity of nearly 1,850 megawatts.

Completed in 2004, Bayside represented a major change in Tampa Electric's fuel mix, which was previously dominated by coal and is now about 40 percent natural gas. The project has been credited as a significant factor in Tampa Bay's current attainment of National Ambient Air Quality Standards.

Because of the repowering from coal to natural gas, significant reductions in emissions have been achieved at the plant (from 1998 levels):

- Nitrogen oxides (NO_x) and sulfur dioxide (SO₂) emissions have decreased by approximately 99 percent;
- Particulate matter (PM) emissions have decreased by more than 92 percent;
- Mercury (Hg) levels from Bayside have decreased 99 percent – the facility generates virtually no Hg emissions;
- Reductions of over 53 percent of carbon dioxide (CO₂) emissions have been realized.

The repowering of Gannon to Bayside has resulted in a decrease in CO₂ emissions to about 3.9 million tons below 1998 levels. With this reduction, Tampa Electric's CO₂ emissions are in line with its 1990 emission levels.

By using natural gas at Bayside, Tampa Electric is reducing emissions while meeting its customers' growing energy needs.

Big Bend Power Station: Best Available Control Technology

Big Bend is a coal-fired power station with a generation capacity of more than 1,700 megawatts of power. Located on nearly 1,500 acres in southeast Hillsborough County near Apollo Beach, Florida, the station expanded to meet the demands of rapid growth in the area during the 1970s and 1980s. The first unit began service in 1970, the second and third generating units were added in 1973 and 1976, and Unit Four was added in 1985.

BIG BEND POWER STATION

Tampa Electric is currently installing SCR technology to reduce NO_x emissions at Big Bend.

Big Bend meets strict SO₂ regulations through the use of scrubbers, which remove sulfur dioxide produced from the burning of coal.

The scrubbers comply with standards set by the U.S. Clean Air Act Amendments of 1990, and remove 95 percent of SO₂ from all four units. Scrubber technology has been in use at Big Bend since 1985, when first installed on Unit 4. Since 1995, the Unit 4 scrubber has simultaneously scrubbed Unit 3 as well. The scrubber for Units 1 and 2 began operation at the end of 1999.

Further reduction of SO₂ emissions have been achieved by investing more than \$23 million in scrubber upgrades at Big Bend, reducing SO₂ emissions by more than 88 percent versus 1998 levels, when combined with the addition of scrubbers on units 1 and 2.

In 2004, Big Bend completed optimizing its electrostatic precipitators to reduce PM emissions. Combined with the Bayside repowering, PM emissions have been reduced by 73 percent system-wide, compared to 1998 levels.

Tampa Electric is taking additional major steps to further reduce Big Bend's emission levels. By 2010, the emissions reductions achieved at Big Bend will be 84 percent for SO₂, 85 percent for NO_x and 61 percent for PM, all from 1998 levels. Throughout Tampa Electric's system, by 2010 the company's emission reduction initiatives are expected to reduce SO₂, NO_x and PM emissions by 89 percent and 72 percent for the same pollutants.



The company has also invested more than \$10 million to make combustion modifications on all four units at Big Bend, to effect early NO_x emissions reductions prior to the first selective catalytic reduction (SCR) unit going into service in 2007. The company expects those reductions to total 15,000 tons by June 2007.

The work consists of various proven technologies and state-of-the-art programs, one of which was co-sponsored by the Department of Energy. Some of the technologies include low NO_x burners, a separated over-fired air (SOFA) system and artificial intelligence neural network control systems to control NO_x emissions while simultaneously improving unit efficiency.

The company is in the construction phase of the next major project included in its agreement with EPA: the installation of SCR technology at a cost of about \$330 million. The SCR project will reduce NO_x emissions at Big Bend by roughly 85 percent from 1998 emission levels by 2010. The SCR project should be in peak construction from the summer of 2006 until mid-2009, with completion scheduled for early 2010.

**Polk Power Station:
First-of-its-Kind**

The Polk facility is located on 4,300 acres of former phosphate mining land in Polk County, Florida, about 40

miles southeast of Tampa. The Polk facility is one of the nation's cleanest, most efficient and most economical coal-fired generation units, a first-of-its-kind combination of two leading technologies: coal gasification and combined-cycle power generation. The technology is known as integrated gasification combined-cycle (IGCC).

IGCC uses coal to create a clean-burning gas. The coal gasification unit provides clean coal-fueled power with a minimum removal of 95 percent of the sulfur from the coal gas.

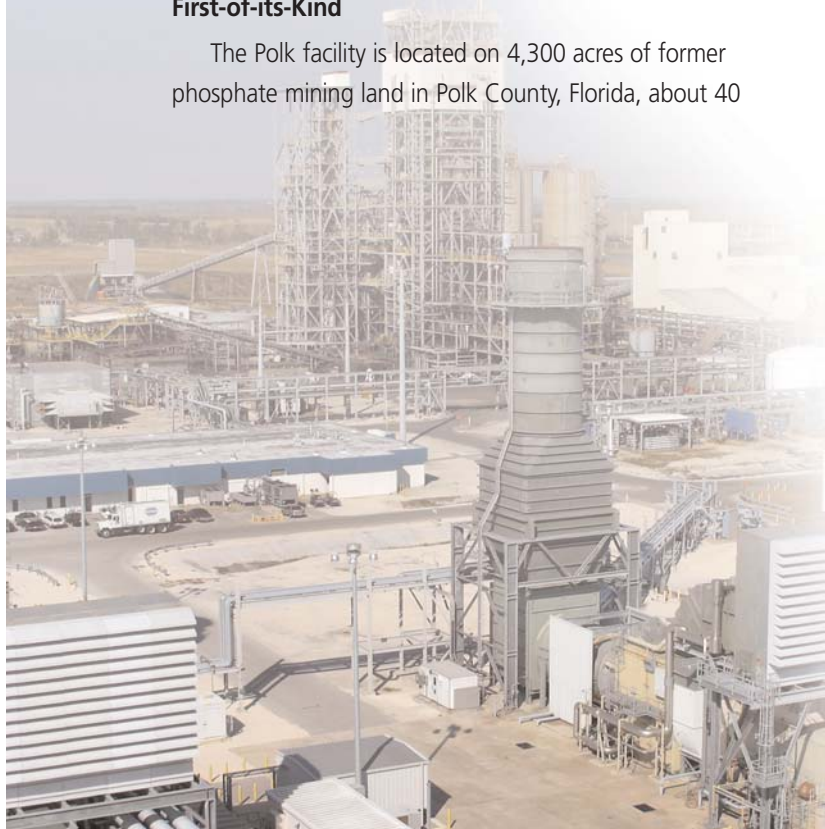
The plant combines coal with oxygen in the gasifier to produce the gaseous fuel. After processing, the clean coal gas is used in the combustion turbine to produce electricity. Combined-cycle technology increases efficiency because it reuses exhaust heat to produce more electricity. Sulfur is removed from the gas prior to combustion. *(See Discussion & Analysis section for more detailed information on IGCC.)*

Tampa Electric received \$150 million from the U.S. Department of Energy (DOE) through its clean coal technology program to help develop its state-of-the-art technology.

Construction on Polk Unit 1 began in 1994 on the site, which was selected by a Power Plant Siting Task Force comprised of 17 citizens from environmental, business and educational groups who met in open meetings and were voluntarily assembled by Tampa Electric. The 260-megawatt IGCC facility began commercial operation in 1996. Today, it has two additional 180-megawatt natural gas-fueled generating units.

With volatile oil and natural gas prices, interest in clean coal technology is on the rise in the utility industry. With a decade of successful commercial operation, Polk is the foundation on which most subsequent IGCC applications will be based.

POLK POWER STATION
IGCC technology reflects Tampa Electric's strong belief in the responsible use of coal, an abundant and affordable fuel.



Tampa Electric's Emission Reduction Initiatives: A Summary

INITIATIVES	ACTIONS	EMISSION REDUCTION ACHIEVEMENTS	THE FUTURE	MEETS BACT LIMITS*
CONVERSION OF COAL-FIRED GANNON STATION TO NATURAL GAS (Bayside)	\$730-million repowering of coal-fired Gannon Station to the reconfigured new natural gas-fired station.	Almost 99 percent less NO _x and SO ₂ , and 92 percent less PM. Hg levels have decreased 99 percent below 1998 levels. CO ₂ levels have been reduced more than 53 percent since 1998.		Yes
SCRUBBER INSTALLATIONS AND UPGRADES (Big Bend)	Installation, beginning in 1985, of flue gas desulfurization equipment on all four units at Big Bend. Investments in improved removal efficiency and scrubber reliability upgrades at Big Bend.	Removal of 95 percent of SO ₂ . In compliance with the Clean Air Act. The addition of scrubbers on Units 1 and 2 and overall scrubber upgrades improved SO ₂ reduction efficiency to more than 88 percent versus 1998 levels.	Additional scrubber upgrades will result in further SO ₂ emissions reductions.	Yes
ELECTROSTATIC PRECIPITATORS (Big Bend)	Upgrade of electrostatic precipitators to further reduce emissions of PM completed in 2004.	Reduction of about 60 percent of PM from the stacks (compared to 1998 levels). Combined with the Bayside repowering, PM has been reduced by 73 percent system-wide, compared to 1998 levels.		Yes
SELECTIVE CATALYTIC REDUCTION TECHNOLOGY (Big Bend)	Installation began in 2005 of \$330 million in SCR technology to reduce NO _x emissions, with installation scheduled for completion in 2010.		NO _x emission reductions of about 85 percent by 2010.	Yes
IGCC TECHNOLOGY (Polk)	Built \$600-million state-of-the-art facility with IGCC technology partially funded by U.S. DOE	Coal-fueled power has a minimum removal of 95 percent of the sulfur from the coal gas, pre-combustion.		Yes

*BACT - best available control technology.

Future Air and Climate Policy

Tampa Electric's efforts to significantly reduce overall emissions at its facilities make it one of the most progressive utilities in the country. The company will continue its commitment to improve air quality for Tampa Bay area residents.

Its parent company, TECO Energy, has been monitoring the increasing conversation concerning CO₂ and climate change on the national and international policy stage.

At the national level, these discussions have identified the variety of scientific views, the numerous interpretations of data and the varying degrees of impact concerning climate change. It is clear that national policy is favoring a shift in the direction of more directly addressing climate change, although the exact timing and details of such an effort remain unclear.

During the 2006 Florida legislative session, a fairly comprehensive energy bill was passed.

Among its provisions was the creation of an "Energy Commission" to advise the legislature on energy policy, which will include evaluating greenhouse gas reduction strategies across all sectors as part of its mission.

Tampa Electric is well-positioned for this debate. The repowering of Tampa Electric's Gannon coal facility to natural gas reduced carbon emissions by 24 percent. In addition, the potential for carbon sequestration at Polk Power Station may provide an opportunity to develop future carbon capture and sequestration technologies.

The company belongs to the Department of Energy's Climate Challenge program and participates in the Chicago Climate Exchange, a voluntary but legally binding cap-and-trade program dedicated to reducing and trading green-

house gas emissions. The Climate Exchange works because it is a voluntary, but market-based mechanism.

Because of the company's membership in the Chicago Climate Exchange, its CO₂ emissions are measured through the use of emissions monitoring equipment and audited annually by the National Association of Securities Dealers, which has certified the results thus far.

TECO Energy and Tampa Electric believe voluntary programs are an effective first step toward addressing greenhouse gas emissions. In 2004 alone, the U.S. electric power industry reduced, avoided or sequestered the equivalent of 282 metric tons of CO₂ – 63 percent of all such tons reported to the federal government that year.

TECO Energy and Tampa Electric support the use of coal, as a plentiful, cost-efficient, and reliable source of energy.

With environmental controls in place and the successful operation of coal gasification for the production of electricity, Tampa Electric has demonstrated that coal is an environmentally sound electric generation source that will continue to have a viable future.

As we face a future that favors low emission facilities and carbon capture, Tampa Electric is accomplishing what others are just now considering. The company supports efforts aimed at carbon capture and sequestration technologies. As Congress debates how to further incent and develop these technologies, TECO Energy will support those efforts that recognize credit for early actions. The longer it takes to develop a national policy in these areas, the greater the challenge becomes.



The Land

The company's stewardship of the land centers around innovative land use and re-use, as well as efficient use of the byproducts of electricity generation.

Land Use

Innovative land use is best exemplified at the Polk Power Station. The state-of-the-art plant is located on former phosphate mining land. The plant's design maximizes plant water recycling and re-use, and minimizes groundwater withdrawal and offsite discharges.

Polk Unit 1 began commercial operation in the fall of 1996, but the company's commitment to make it a reality in the best possible location began long before that. The company assembled a blue-ribbon task force consisting of environmental, business and education leaders to help select the site for the much-needed plant. The company accepted the group's recommendation, and the 260-megawatt Unit 1 was built on the site of a former phosphate mine in Polk County, Florida, where the station now occupies over 4,300 acres and produces enough electricity to serve 75,000 homes.

Byproducts

Tampa Electric aggressively minimizes power plant pollution and markets byproducts from coal combustion, which would otherwise likely find their way into landfills.

At Big Bend, as part of the SO₂ removal system, coal combustion gases are sprayed with slurry of water and limestone in the scrubbers to create gypsum, which is ultimately used to manufacture wallboard. Other coal combustion byproducts are recycled for local use, such as in cement and concrete for construction, roofing shingles or grit blasting material.

Polk produces about 40,000 tons of slag and char annually, all of which are beneficially used. Slag can be used as an aggregate for concrete manufacturing, so the slag from Polk is not disposed of in landfills, and valuable natural aggregate does not need to be mined. Char can be used as a commodity: separating and recycling char recovers its energy value, and it can be used as a fuel source for power generation. Sulfuric acid, produced in Polk's processes, is used to help purify water, and is sold to the phosphate industry for use in the production of fertilizer. Income streams from Tampa Electric's byproducts aid in controlling electricity prices.

Beneficial Byproducts of Electric Generation: Summary

BYPRODUCT	POWER STATION	USE
Gypsum – a byproduct produced from scrubbers	Big Bend	Big Bend's scrubbers yield commercial-grade gypsum, used to manufacture wallboard, at the rate of 60 tons hourly.
Fly Ash – a fine, powder-like material produced by the combustion of coal in a power plant's boiler	Big Bend	Used in the cement and concrete industries.
Bottom Ash – a hard, glassy material with high mineral content	Big Bend	Used in the cement industry; also used for roofing shingles or as grit blasting material.
Slag – a hard, glassy material similar to bottom ash	Polk and Big Bend	Used in the cement industry, and as a blasting material to clean ships, storage tanks and other large surfaces. Also used as a granule on roofing shingles for homes and commercial buildings.
Char	Polk	Used in the fuel stream to generate electricity.
Sulfuric Acid	Polk	Used to help purify water and in the production of fertilizer.



The Water

Water is critical to the generation of electricity. Converted to steam, it turns a power station's steam turbines, which in turn produce electricity. It's also vital as a cooling agent for power plant equipment. As the need for clean water rises with West Central Florida's growing population, Tampa Electric has taken steps to help maintain the health of local water quality, a crucial aspect of Florida's very identity.

Tampa Electric's Bayside and Big Bend facilities are subject to Section 316(b) of the Clean Water Act, which requires that cooling water intake structures have the best technology available to reduce adverse impacts to aquatic organisms, which can become entrapped against screens and other devices, or endure stress in the plant's cooling system.

Water recycling and beneficial reuse programs in the power stations account for about 283 million gallons daily. Beneficial reuse amounts to 8 million gallons daily at Big Bend, 1.5 million gallons daily at Bayside, and 271 million gallons daily at Polk. About 2 million gallons daily of Hillsborough County treated effluent water are recycled to reduce potable water consumption at Big Bend.

At Big Bend, plant reservoirs collect rainwater and water generated by plant washdowns, which are discharged to its recycle pond. Material sent to the reservoirs is segregated and routed through a variety of methods before discharging to the pond.

The station is focused on maximizing the beneficial reuse of coal combustion products to reduce their impact on the environment, and minimizing the effects on soil, groundwater and surface water. Specifically, actions include:

- New construction, replacement, modification or redesign of existing settling ponds and slag ponds;
- Lining and remediating the flue gas desulfurization by-product storage area; and
- Storm water improvements to handle a 25-year, 24-hour rainfall event without a discharge of storm water from the site.

Scrubber technology at Big Bend requires over 3 million gallons of water per day, in addition to other water needs throughout the plant. As public and agricultural water

resource issues continue to become more restrictive in the Tampa Bay area, Big Bend is striving to be self-sufficient in terms of water needs and usage.

Polk is known as a “Zero Discharge Facility.” The station’s combined-cycle technology requires much less cooling water than conventional technology, and Tampa Electric modified existing mine cuts on the site to serve as the plant’s cooling reservoir, which minimizes cooling water requirements.

A brine concentration unit handles all of the liquid waste produced by the station. Salt solids are removed and disposed of, leaving reusable water.

Water Recycling and Beneficial Reuse in Power Stations

STATION	WATER BENEFICIALLY REUSED
Big Bend	8 million gallons daily
Bayside	1.5 million gallons daily
Polk	271 million gallons daily



Compliance and Controls

Tampa Electric’s responsibility for its power plants includes complying with – and frequently exceeding – expectations of various governing bodies, and legislation enacted to control the operations of the power plants.

Tampa Electric’s power plants are subject to many major federal environmental laws, including the Clean Air Act, the Clean Water Act, the Resource Conservation and Recovery Act and many additional state and local regulations.

Operating permits, issued by EPA and FDEP, require that Tampa Electric limit releases to ensure protection of human health and the environment.

Tampa Electric reports on its compliance with its permits, and regulatory agencies regularly conduct inspections to verify these reports.

In 1988, the company initiated its Environmental Audit Program, which plays a major part in assessing the effectiveness of environmental procedures in place. The Audit Program is also a component of Tampa Electric’s Corporate Compliance Plan.

Tampa Electric and each of TECO Energy’s other operating companies have individual compliance plans, which are

all incorporated into the overall Corporate Compliance Plan, called the Standards of Integrity.

The objectives of the environmental audits are to:

- Record each plant’s compliance status with environmental regulations and permits, and report the status to company management;
- Maintain standards by ensuring that rules and procedures are in place and followed by plant personnel;
- Measure the effectiveness of environmental training by showing how it has improved work behavior;
- Reveal weaknesses, if any, in the environmental program; and
- Provide for an exchange of information between the affected facility and the company’s internal Environmental, Health and Safety department to assist with compliance.

Tampa Electric’s operating power plants are audited by the company’s Environmental, Health and Safety department semiannually. The audits generally consist of an interview, records review and physical inspection of the facility.

All distribution and transmission service areas are audited annually, and electric substations are audited every five years.



Related Programs: Conservation & Renewable Energy

Tampa Electric's commitment to the environment also involves encouraging customers to use energy wisely. Through conservation efforts, the company can postpone the building of future generation facilities.

Through 2004, Tampa Electric had spent \$370 million in delivering cost-effective conservation programs to the marketplace. The resulting energy and cost savings benefit everyone because the utility can delay building costly generation, and customers save on their energy bills.

Since 1981, the company's conservation programs have reduced the summer demand by 251 MW (enough to supply 67,770 homes annually) and the winter demand by 731 MW (enough to supply 160,820 homes annually).

Tampa Electric began its conservation program initiatives in the late 1970s prior to any federal or state energy conservation requirements. The company started by offering its customers a computer-assisted energy audit.

When the Florida legislature passed the 1980 Florida Energy Efficiency and Conservation Act (FEECA), Tampa Electric developed an expanded conservation program portfolio in 1981. The company focused on residential customers and specifically targeted the reduction of the winter energy use, when it experiences the greatest demand for energy. A limited number of commercial/industrial programs were also developed.

By 1989, Tampa Electric was the only utility in Florida to have met its conservation goals. Since that time, the company has evaluated hundreds of potential residential and commercial conservation programs for cost-effectiveness. Although some programs have been added, many of the company's original conservation programs have remained mainstays for the company over the past 26 years.

Residential Conservation Programs

1. Free alternate energy audit (offered since May 1981).

The program consists of a free walk-through audit where data on the structure of a residence and the customer's lifestyle is analyzed to present recommendations that apply to the residence.

2. Free computer-assisted audit (offered since June 2002).

This program helps make customers aware of available conservation measures through an online audit where customers answer questions about their home and their energy usage. Personalized audit results are immediately available to the customer.

3. Ceiling insulation (offered since November 1982).

In this program, customers save energy by decreasing the load on their air conditioning and heating equipment. A customer can add a minimum of R-11 insulation to qualify for an incentive of up to \$100 in the form of a certificate the customer can apply to the total cost of installing ceiling insulation.

4. Duct repair (offered since September 1992).

This program eliminates energy loss by sealing and repairing the air distribution system through Tampa Electric-authorized contractors. The current customer fee is \$79 for a typical single-family application. Customers are provided with an estimate prior to work being performed.

5. Heating and cooling rebates (offered since January 1981).

This program is aimed at reducing the growth of peak demand and weather-sensitive energy consumption through two types of heating-and-cooling system replacements. The first type is a rebate of \$250 toward the purchase of a heat pump replacing resistance heat; the second type is a rebate of \$100 toward a heat pump replacing an existing one. Both types of equipment replacement have a threshold for qualification of 12 SEER.

6. Energy Plus Homes (offered since July 2000). This program, aimed at builders, uses incentives to encourage the construction of new homes to be above the minimum energy efficiency levels required by the state. The program is divided into four levels of participation, with requirements that must be met at each level in order to qualify for incentives. Incentives and qualifying requirements are listed in the table below:

LEVEL	INCENTIVE	REQUIREMENT
One	\$0.00	Duct closure with mastic.
Two	\$100.00	Meet Level One requirements, plus installation of a heat pump with a minimum of 12 SEER.
Three	\$200.00	Meet Level One and Two requirements, plus install R-30 ceiling insulation.
Four	\$300.00	Meet Level One, Two and Three requirements, plus installation of heat recovery unit or a heat pump water heater (applicable only when used with an electric water heater).

7. Prime Time Load Management (offered since January 1981). Customers give Tampa Electric permission to control certain customer-selected appliances (air conditioners, water heaters and pool pumps) by radio signal during peak hours or emergencies. Participants receive a monthly credit on their electric bill based on the appliances selected. This program was closed to new participants by the Florida Public Service Commission in 2005.

Commercial/Industrial Programs

Tampa Electric's commercial/industrial programs include:

- **Free Commercial/Industrial Audit** (offered since July 1983);
- **Comprehensive Commercial/Industrial Audit** (offered since May 1981);
- **Commercial Indoor Lighting** (offered since January 1991), which encourages investment in fluorescent lighting technology;
- **Commercial Load Management** (offered since January 1988);

- **Standby Generator** (offered since January 1991), designed to use on-site generation at commercial facilities to reduce weather-sensitive peak demands;
- **Conservation Value** (offered since April 1991), provides incentives to encourage investments in conservation measures that substantially reduce or shift demand;
- **Commercial Cooling** (offered since July 2000), provides incentives for replacing inefficient cooling equipment;
- **Cogeneration** (offered since January 1981), provides incentives for development of cost-effective commercial and industrial cogeneration facilities. These facilities serve the needs of the customer, either by using waste heat from the customer's own process to power a turbine generator, or by using waste heat from the turbine generator in the customer's process. These facilities require significant capital investments. In each case, any excess energy is sold back to the company.

Customer Participation Levels

Customer participation in Tampa Electric's conservation programs since their inception through the end of 2004 is provided below.

Program	Number of Customers
Residential and Commercial/Industrial On-Site Audits	240,000
Residential and Commercial Computer-Assisted Audits (Online or Mail-in)	107,000
Heating and Cooling Rebates	156,000
Ceiling Insulation Incentives	76,000
Duct Repair Incentives	42,000
Energy Plus Homes Incentives	25
Residential Load Management (Prime Time Participants)	71,000
Commercial Load Management Participants	20
Commercial Indoor Lighting Incentives	1,000
Standby Generator Participants	35
Conservation Value Incentives	25
Commercial Cooling Rebates	370
Cogeneration	14

Renewable Energy

Traditional methods of electricity generation rely on non-renewable fuel sources called fossil fuels, such as coal, oil and natural gas. Renewable energy is electricity produced from sources such as the sun, wind, biomass (plant material) and water.

Using renewable resources is another way Tampa Electric helps preserve the environment, by further reducing the amounts of air emissions and greenhouse gases associated with traditional generation methods.

In late 2000, Tampa Electric began its Renewable Energy program, which allows residential and business customers to buy a portion of their energy requirements from renewable resources.

Tampa Electric's Renewable Energy program uses energy from several resources to support customer demand for its renewable program, including:

(1) Biomass, which is organic plant material from yard clippings and other vegetation. Tampa Electric has tested bahia grass as a fuel to generate electricity at Polk. More than 60 tons of bahia grass, grown and harvested on the 4,300-acre plant site, have been ground and mixed with the pulverized coal slurry used in the plant's gasifier.

(2) A 30-kilowatt micro-turbine, which uses methane gas from a local landfill as fuel. This unique technology produces enough electricity to power over 13 homes, using a fuel source that would otherwise be released into the atmosphere.

(3) Photovoltaic panels located at the Museum of Science and Industry in Tampa, and at Walker Middle School in Odessa, Florida, which harness energy from the sun.

Customers can purchase "blocks" of renewable energy for \$5 per month. For each block purchased, Tampa Electric distributes 100 kilowatt-hours of energy generated from renewable resources.

One block of renewable energy per year offsets the same amount of CO₂ as not driving an average passenger car for three months. Three blocks for a year reduce the same amount of CO₂ as planting about an acre of trees.

Through the end of 2005, the environmental impacts of customer participation in the program have been significant:

- More than 2 million kilowatt-hours of renewable energy have been produced to support participating customer requirements;
- CO₂ reductions from using renewable resources are the equivalent of planting more than 6,800 acres of trees or removing more than 4,000 cars from the street.



Community & Stewardship

If emissions reduction and conservation efforts are the head of Tampa Electric's environmental efforts, its stewardship activities are its heart. Key elements in the company's work are educational programs, habitat protection and enhancement, sponsorship of environmental organizations, and employee participation in a wide variety of organizations.

The company continues to participate in a wide variety of environmental programs.

• **Manatee Viewing Center.** Overlooking Big Bend's warm water discharge canal and serving as one of the area's most popular environmental sanctuaries, Tampa Electric's Manatee Viewing Center has attracted over 2 million visitors since Tampa Electric initiated it in 1986. Endangered manatees gather in the warm waters of the canal each winter, and visitors can view them from the center's 900-foot walkway and numerous observation platforms.

The center also houses the Manatee Museum, an environmental education facility that raises awareness about Florida's natural plant and aquatic life and power plant operations. Displays include a full-sized manatee skeletal system, an Audubon bird photography exhibit, mini-theaters, a children's interactive area and other educational materials.

A webcam located at the center also makes it possible to observe manatees in their natural habitat on the Internet.

- **Oyster Habitat Creation.** Tampa Electric has worked with Tampa Bay Watch to create oyster habitat and plant salt marshes on both sides of Tampa Bay at Mullet Key, Whiskey Stump Key and Tarpon Key.

- **Fantasy Island.** Tampa Electric, the Florida Aquarium and the Tampa Port Authority joined forces to restore habitat on a man-made, three-acre dredge material spoil island just north of the Alafia River in Hillsborough Bay. Exotic (non-native) plant species were removed from the island and replaced with native species. A dock and science classroom were also constructed on the island.

- **Osprey Program.** Tampa Electric initiated an osprey program in 1988, to ensure that these fish-eating hawks choose nesting sites away from utility poles. The company relocates osprey nests to custom-built platforms to protect the birds from electrical dangers. Crews also build platform nesting sites in area parks and conservation areas.

- **Avian Protection Program.** In 2004, the Osprey Program was expanded to become an overall avian protection program. Tampa Electric's service area is located amid one of the state's and the nation's most important avian migration thruways, and is home to seasonal nesting sites for dozens of bird species.

The program is designed to help prevent large birds of prey, such as ospreys and hawks, from electrocution and collisions with electric infrastructure, and to guide the company on nest removal and relocation.

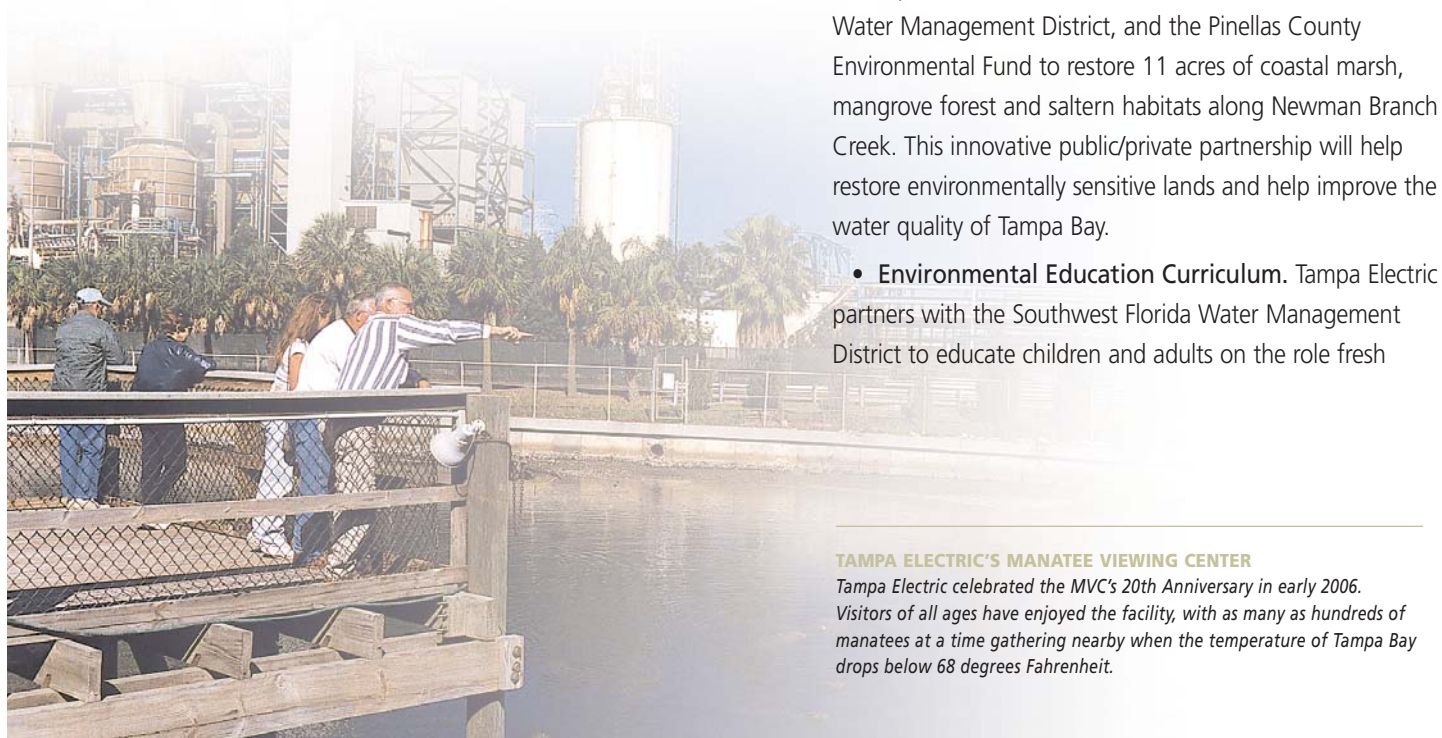
This program helps Tampa Electric identify at-risk species of birds, document bird use of high-risk electric infrastructure equipment, recommend appropriate equipment retrofits to minimize electrocution risk, and develop bird-friendly standards for new construction.

It has identified potential problem areas, based on field surveys within the service territory. The project will be implemented through 2009 and was developed for Tampa Electric by nationally recognized wildlife biologist Richard Harness of EDM International, Inc., based in Fort Collins, Colorado.

The company has donated nesting sites within its service area and worked with the City of Tampa to install four nesting sites in city parks.

- **Newman Branch Restoration Project.** Tampa Electric has received grants from the National Oceanic and Atmospheric Administration (NOAA), the Southwest Florida Water Management District, and the Pinellas County Environmental Fund to restore 11 acres of coastal marsh, mangrove forest and saltern habitats along Newman Branch Creek. This innovative public/private partnership will help restore environmentally sensitive lands and help improve the water quality of Tampa Bay.

- **Environmental Education Curriculum.** Tampa Electric partners with the Southwest Florida Water Management District to educate children and adults on the role fresh



TAMPA ELECTRIC'S MANATEE VIEWING CENTER

Tampa Electric celebrated the MVC's 20th Anniversary in early 2006. Visitors of all ages have enjoyed the facility, with as many as hundreds of manatees at a time gathering nearby when the temperature of Tampa Bay drops below 68 degrees Fahrenheit.

water plays in an estuarine system. The program includes the distribution of booklets targeting grades 2-5 to teachers who visit the Manatee Viewing Center.

- **Bay Regional Atmospheric Chemistry Experiment (BRACE)** - Tampa Electric provided funding for this program of the University of South Florida's College of Public Health. Goals of BRACE include developing better estimates of the atmospheric nitrogen deposition to Tampa Bay and assessment of Tampa Bay air quality before and after the Bayside repowering.

Community Involvement

The company's commitment to the community is backed by actions that demonstrate support for organizations that enhance the quality of the environment. Tampa Electric team members also participate in groups that impact the area's quality of life:

Tampa Electric Environmental Sponsorships and Involvement

- Hillsborough River Interlocal Planning Board
Technical Advisory Council
- Mayor's Beautification Program
- Mote Marine Laboratory
- Pinellas County Environmental Foundation
- Keep Hillsborough County Beautiful
- Save Our Seabirds
- Suncoast Earth Force
- Tampa Bay Watch
- Manatee Menagerie
- The Florida Aquarium
- Florida Wildlife Research Institute Manatee Scar
Identification Program
- Tampa Audubon Society
- Audubon of Florida

- National Audubon Society
- Lowry Park Zoo
- Agency on Bay Management
- Hillsborough Greenways Program
- Hillsborough River Watershed Alliance
- Invasive Species Task Force of Hillsborough County
- Manatee Awareness Coalition
- Mayor's Beautification Program River Cleanup
- Tampa Bay Group of the Sierra Club
- Southwest Florida Water Management
District Alafia River Basin Board
- Tampa Bay Estuary Program

Professional Groups and Associations

- The Auditing Roundtable
- Board of Environmental, Health & Safety
Auditor Certification
- Edison Electric Institute EHS Auditing Task Force
- Edison Electric Institute Utility Solid Waste Activities Group
- Edison Electric Institute Utility Water Act Group
- Florida Air & Waste Management Association
- Florida Electric Power Coordinating Group
- Florida Rural Water Association
- Florida Water & Pollution Control Operators' Association
- International Society of Technical &
Environmental Professionals
- National Registry of Environmental Professionals
- Society of Wetland Scientists

FANTASY ISLAND

Tampa Electric partnered with the Florida Aquarium and the Tampa Port Authority to restore habitat and create a classroom on a man-made spoil island.

