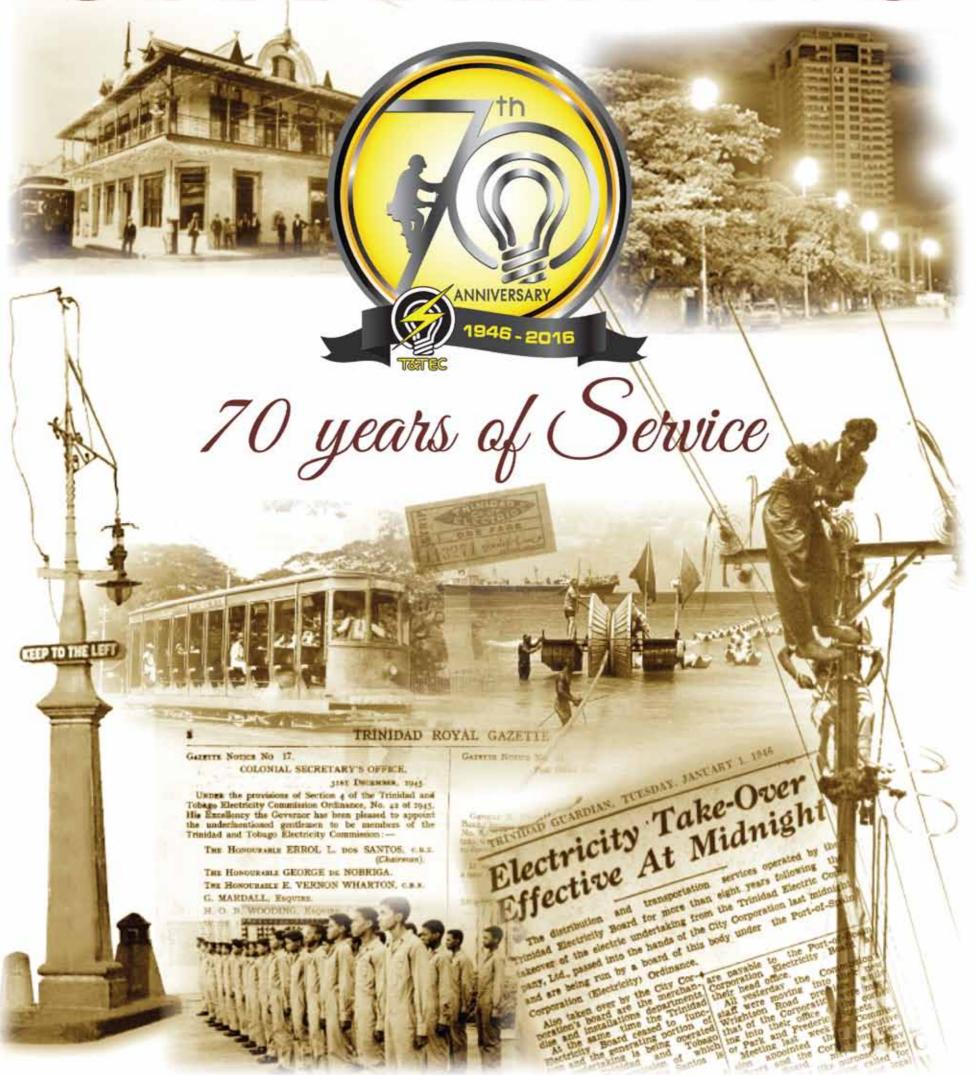
TRINIDAD AND TOBAGO ELECTRICITY COMMISSION







# Greetings



Keith Sirju Chairman, T&TEC

Generations past can recall the transformative effect of electricity and the enormous difference it made in their early lives. Since then, electricity has facilitated the growth of the energy sector, industry and commerce, and improved the quality of life for all citizens. It is no surprise then, that the Trinidad and Tobago Electricity Commission's (T&TEC) 70 years of operations are marked by many milestones, several of which match significant moments in our nation's development.

T&TEC has come a long way since 1946. From foreign management to being run entirely by locals; systematic development of human capital; continuous installations of increasingly modern plant; divestment of our generation assets and the introduction ever more convenient services for customers, all have kept the spirit that led to our stated Mission "to provide a safe, reliable, high quality electricity supply in an efficient and environmentally responsible manner, utilizing best practices, through empowered employees committed to excellence and customer satisfaction."

The Commission's success over seven decades must be credited to the performance of its dedicated employees, both past and present, whose efforts ensure that just over 460,000 customers are kept on constant supply. Their hard work has placed the Commission among the best performing utilities in the country and has earned us top marks in "professionalism, knowledge and friendliness" in a 2013 national customer satisfaction survey.

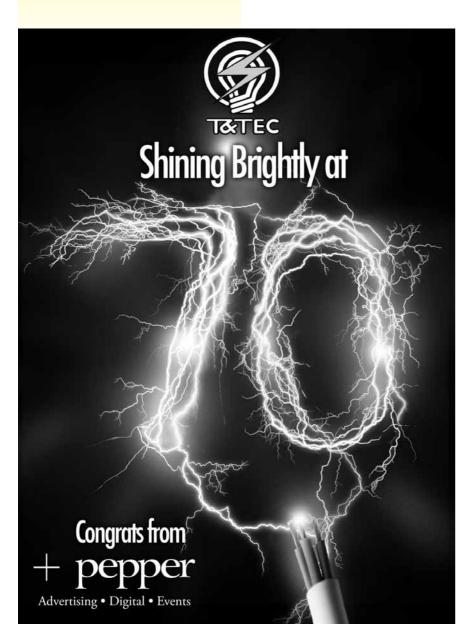
Today, Trinidad and Tobago is among the most electrified countries in the Caribbean region, with an electrification rate of 99% and a steadily climbing demand that peaked at 1396MW in 2015. We thank our customers and citizens of Trinidad and Tobago for your encouragement and support as we continue to push ahead seeking ways to improve our service delivery.

But even as we celebrate our rich legacy and many accomplishments, we acknowledge that there are some challenges that have to be addressed. Despite these present challenges - financial viability and infrastructural upgrades - T&TEC will continue to support Government's plans for the development of our nation and ensure that we satisfy the requirements of our regulators, the Regulated Industries Commission.

A major part of that support focuses on safeguarding our energy patrimony and we have invested in testing renewable energy sources for eventual integration to the electricity grid. Of course, we are also daily engaged in managing the transmission and distribution system to ensure that customers continue to receive a reliable supply of electricity and in the event that unforeseen situations arise crews are always available to respond quickly to restore power.

Today, the progress of electricity has gone past what many had envisioned in the early days, but the words archived in the Port of Spain Gazette of December 31st 1945 still hold true, "what ten or a dozen years back was believed to be impossible is now to become a matter of common use and the world has given up on being surprised at each new development in science".

As T&TEC celebrates 70 years as the sole supplier of electricity to the nation, our innate desire is still to make the impossible common place and, to do so we will continue to embody the legacy of determination, innovation and commitment to guide us to a brighter future.



# Powering national development for seven decades



Edgar Tripp

#### The early years

One hundred and twenty five years ago, before there was T&TEC, there was Edgar Tripp.

An American transplant, Tripp was a business man blessed with innovation and ingenuity and a deep seated determination to supply Port of Spain with electric light and power.

After four years of negotiation with the City Corporation and self-inflicted false starts, Tripp's 'Electric Light and Power Company' illuminated the first street lights down town on February 26, 1895. Much of his work was destroyed less than two weeks later by "the Great Fire of 1895" which consumed most of the shops and stores in downtown Portof-Spain. However, as a direct outcome his work, a historic transformation of the transport system occurred a few months later with the introduction of electric trams. The leadership of Edgar Tripp, although significant, was short lived as he sold the company and tramway systems to Canadian businessman,



An electric trolley, painted by David Moore in 1972.

Charles Hazlitt Cahan. The company was renamed the 'Electric and Transport System' and was granted a 30-year franchise under the guidelines of Ordinance No 4 of 1901.

#### **Enter T&TEC**

A few years after the franchise ended the Trinidad Electricity Board took office on May 1937, managing the electricity business on behalf of the City Corporation, which had taken over from Cahan's company. One year later, the Board envisioned an island-wide electricity scheme that included plans to attract major electricity consumers such as oil companies and sugar estates. This was only to be realized when the Trinidad and Tobago Electricity Commission (T&TEC) came into being,





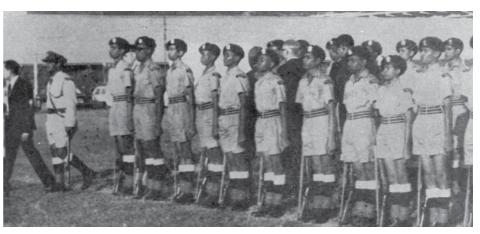
by virtue of the Trinidad and Tobago Electricity Commission Ordinance No 42 of 1945. History records that the first T&TEC Board Meeting was held on December 31 1945 and operations began on January 1, 1946.

T&TEC was established to generate and distribute electricity outside the city of Port of Spain, exclusive of San Fernando. Using available natural gas from south Trinidad, the Commission operated one power station - the Port of Spain Power Station, located on Wrightson Road—and served 6,613 customers. T&TEC also began generating electricity on the sister isle, with the commissioning of the Tobago Power Station at Darrell Spring Road in September 1952. The following year consumption increased by over 100% and the streets of Scarborough were lit for the first time.

As the organization continued to gain momentum, focus was turned inward and of major significance was the introduction



The first symbol and logo of T&TEC.



Annual inspection parade of Cadets. T&TEC platoon of apprentices at attention.

# **ENERGY FOR A LIFETIME**





Trinity Power Limited operates an efficient, reliable and environmentally friendly simple cycle power plant in Trinidad & Tobago. Powered by a multi-skilled staff highly trained in power plant systems, we bring excellence to the independent power industry. We

remain committed to providing a reliable and affordable supply of electricity to the TRINIDAD AND TOBAGO ELECTRICITY COMMISSION (T&TEC), and by extension, the people of the Republic of Trinidad & Tobago.

of the Apprentice Training Scheme, a five-year training programme for craft apprentices, in 1952. The "trade school" was eventually used as a model for the introduction of such facilities locally and regionally. Today, the revamped Craft Training Programme is a three and a half year course and, along with the Engineerin-Training programme which started in 1956, remains a wellspring of highly skilled talent for T&TEC and the industry. Some of these initiatives would have been recorded in the 'T&TEC Times', the first internal house organ, introduced in December 1953 to record the organization's progress for prosperity. Later, the Commission introduced its long service and safe driving awards programme and a suggestion scheme for employee recognition.







The Port of Spain Power Station



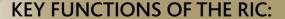




Protecting YOUR Interests

The REGULATED INDUSTRIES COMMISSION (RIC) is the statutory body that regulates the Water, Wastewater and Electricity sectors and is responsible for protecting consumer interests while at the same time ensuring that service providers have adequate resources to provide the highest quality of service to all customers.

The Service Providers that fall under the purview of the RIC are WASA, T&TEC, Trinity Power and PowerGen.



- Set price limits so that Service Providers can finance necessary investments;
- Ensure that tariffs are fair and non-discriminatory;
- Monitor the Service Providers' performance and efficiency and take action, where necessary, to protect consumer interests;
- Set and enforce standards of service for the utilities; and
- Handle complaints and settle disagreements where possible when consumers cannot get redress from Service Providers.

Consumers

Telephone: 800-4RIC (4742) - Toll Free or 627-0503/627-7820/625-5384

Fax:

Email: complaints@ric.org.tt; comments@ric.org.tt

Website: www.ric.org.tt P.O. Box 1001 Post:

1st & 3rd Floors, Furness House Address:

Cor. Wrightson Road & Independence Square, Port-of-Spain.

Follow us! facebook.com/pages/Regulated-Industries-Commission/ youtube.com/user/RICCorpComm twitter@RIC\_TT







#### Decades of growth and development

As the customer base grew the Commission responded by introducing mobile service centres to serve rural customers and later established a permanent presence some of those areas. Electricity was marketed as a new, convenient way of life and the service centres were made available to appliance retailers to mount displays and demonstrations to promote the use of electricity. The Frederick Street head office was a popular location for these exhibits. On the technical side resources were boosted by strengthening the generation capacity and expanding the transmission system.

The unification of electricity rates for Trinidad and Tobago in 1960 (Trinidad customers previously paid a lower rate because natural gas cost less (0.3 cents per unit) than the diesel (2.2 cents per unit) which was used at the Scarborough power plant) heralded another phase of operational growth.

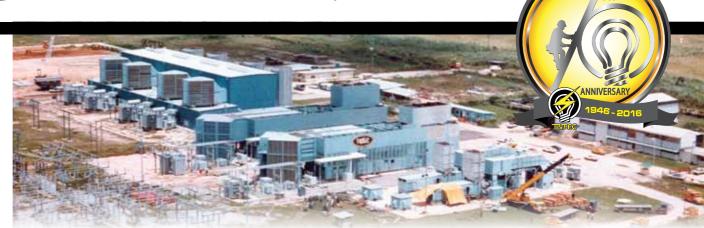
The story is told that the wave of nationalism that permeated the country pre-independence may have prompted the exodus of foreign senior engineers at the Commission by 1964. But the Board responded with a deliberate organisational restructuring that filled the vacuum and positioned the Commission for future development. Simultaneously moves were made to recruit local engineers overseas, access international technical assistance and partner with the University of the West Indies to build future capacity. The strategy worked and when more expatriates left some time later "

the changing of the guards went so smoothly ... it was like business as usual", former Deputy General manager George Ford remembered. The exuberance of that success may have well motivated them to two major triumphs in 1966, the installation of a 23-mile 33,000V submarine cable from Trinidad to Tobago, and the commissioning of the new Port of Spain "B" Power Station at Wrightson Road.

The single most popular memory of a nationally significant event from 1977 would probably be Janelle 'Penny' Commissioning winning the Miss Universe crown. But, of importance to national development was the establishment of the Pt. Lisas Industrial Estate, which was supported with electricity from T&TEC's new 88MW gas turbine power plant on the estate. The plant catered for demand caused by abnormal load growth and rapid industrial development and was supported by a 66kV transmission substation to serve as the tie in point for the station onto the 66kV transmission system.

By 1982 the significance of the exponential growth was being recognized regionally, and the Point Lisas Power Station was declared the largest power station in the Caribbean, with an installed capacity to 634MW. Soon after, the number of customers on the electricity grid crossed 250,000. New substations were continuously added to the system to match demand and a new submarine cable was installed to supply the offshore islands of Kronstadt, Point Gourde and Carrera.

In December 1994, as a corollary of the national economic downturn T&TEC's generation assets were divested to the new Power Generation Company of Trinidad and Tobago (PowerGen) to stimulate new capital projects. T&TEC retained 51% of the shares and the remaining shares were owned by Southern Electric International (SEI) with 39% and Amoco holding the minority of shares of 10%.



The Power to make it work, since 1946

Pt. Lisas Power Station under construction





Trinidad and Tobago Section

The Institute of Electrical and Electronics Engineers Trinidad and Tobago (IEEETT) Section

congratulates

The Trinidad and Tobago Electricity Commission



on its

#### 70<sup>th</sup> Anniversary

and recognises the invaluable contribution to the IEEETT Section & its Power and Energy Society.



The IEEETT Section expresses its sincere gratitude to T&TEC, as our Gold Partner of the recently concluded 2016 IEEE Region 9 Regional Meeting hosted in Port of Spain, Trinidad & Tobago. We look forward to future collaborations and invite members eligible for membership upgrade to apply. **Happy 70<sup>th</sup> Anniversary T&TEC!** 

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#### The New Millennium

On the cusp of the new millennium improvements to customer service continued with the laying of a 25MVA submarine cable between Trinidad and Tobago in and five new Substations Commissioned in Trinidad. After Y2K passed with no disturbances to the system, thanks to the efforts to an internal compliance team, the Commission sustained its drive to electrify the nation. In 2005 the national Street Lighting Programme was launched, with the mandate to illuminate all

highways and major roadways - a job that was largely completed by 2009. In 2008 the programme was renamed the national Public Lighting Programme and expanded to include recreation facilities and other civic spaces.

In an act that well exceeded the intent behind the early T&TEC Times, T&TEC's history book, "Electricity in Trinidad and Tobago (1895 - 2006)" was published in 2007, to commemorate its 60th anniversary the year before. Authored by Dr. Michael Anthony and former Public Relations Officer Roy Mitchell, the book is valued by local history enthusiasts and students of electricity. Copies are sold at T&TEC's head office on Frederick Street Port of Spain

The Commission made another revolutionary investment in infrastructure with the 2009 commissioning of a dual-fuel power plant at the Cove Eco-Industrial and Business Park in Tobago which was the first natural gas reciprocating engine plant in the region supplying 64MW of power. In the same year, work on the new Gateway project began, with the first

phase seeing the 132kV double circuit tower lines extended from Bamboo Substation the Sea Lots area. This was a long term multi-phase project designed to ultimately transmit power from the 720MW Trinidad Generation Unlimited (TGU) power station in La Brea, into Northwest Trinidad via the new Gateway 132/33kV Substation which would later be commissioned

Below: Composite photo of T&TEC employees at work and at play, over the years



in 2014. Other related projects, such as the 2014 upgrade of the Commission's largest Substation at Brechin Castle and the construction of the Gandhi Village 220/132/12 kV Sub Station in Debe (commissioned in 2015) assisted in importing the power from TGU for the rest of the grid.

The Commission continued to improve efficiency and safety in the workplace when it launched its revised Safety Rules book and introduced a Fleet Management System, closely followed by technological improvements in processing customer requests. These were just some of the service attributes that would have led customers giving the Commission top marks for service in 2013.

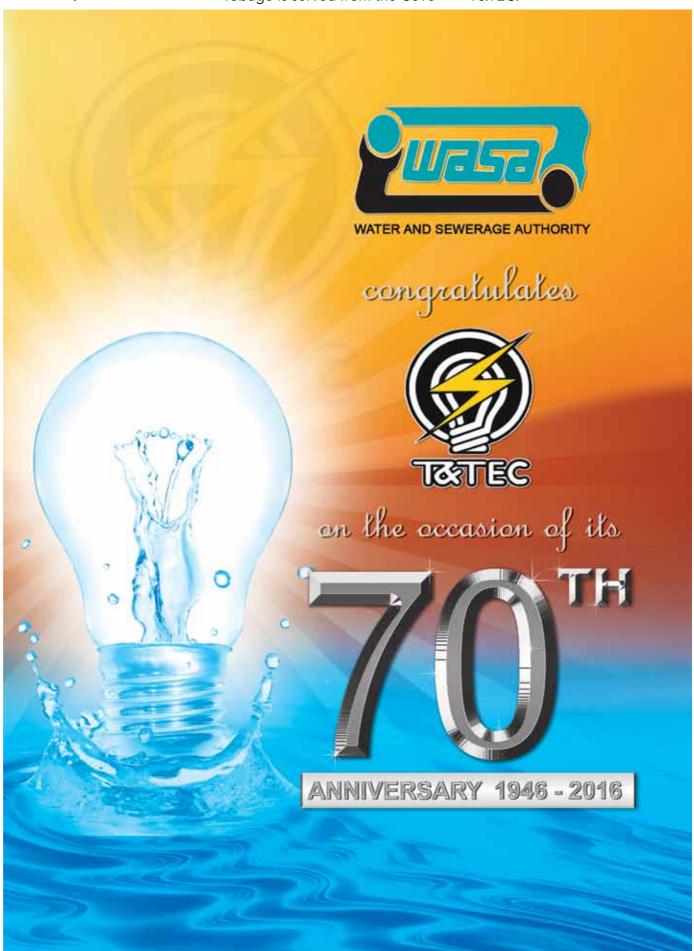
2014 saw more work being done in Tobago to upgrade the supply in areas that had previously been challenged. The first phase of the Studley Park Substation, resulted in improvements for customers in the north east of the island and, in Lowlands, the Cove Power Plant began using natural gas as its primary source of fuel. Tobago's reliability was further enhanced with the commencement of the 21km Northside 12kV feeder re-engineering project which benefited customers from Runnemede to Campbleton, Charlotteville.

In the same year T&TEC and PowerGen signed a new Power Purchase Agreement (PPA) for the supply of 705MW of power, even as the Commission continued its research into renewable energy, with the installation of two wind measurement stations on Tobago's windward coast. Another environmentally friendly move by the Commission was the discontinuation of yellow bills.

By 2015 the Gateway project was finalized as the longest and largest 132kV underground cable going into Port of Spain was successfully installed. At the close of the year preparations were well underway for the decommissioning of the PowerGen "B" power station in

Port of Spain, with more power now coming onto the grid from TGU. PowerGen continues to operate plants in Pt. Lisas and Penal and, with combined power from TGU and Trinity Power, T&TEC reliably services its 465,000 customers in Trinidad. Tobago is served from the Cove

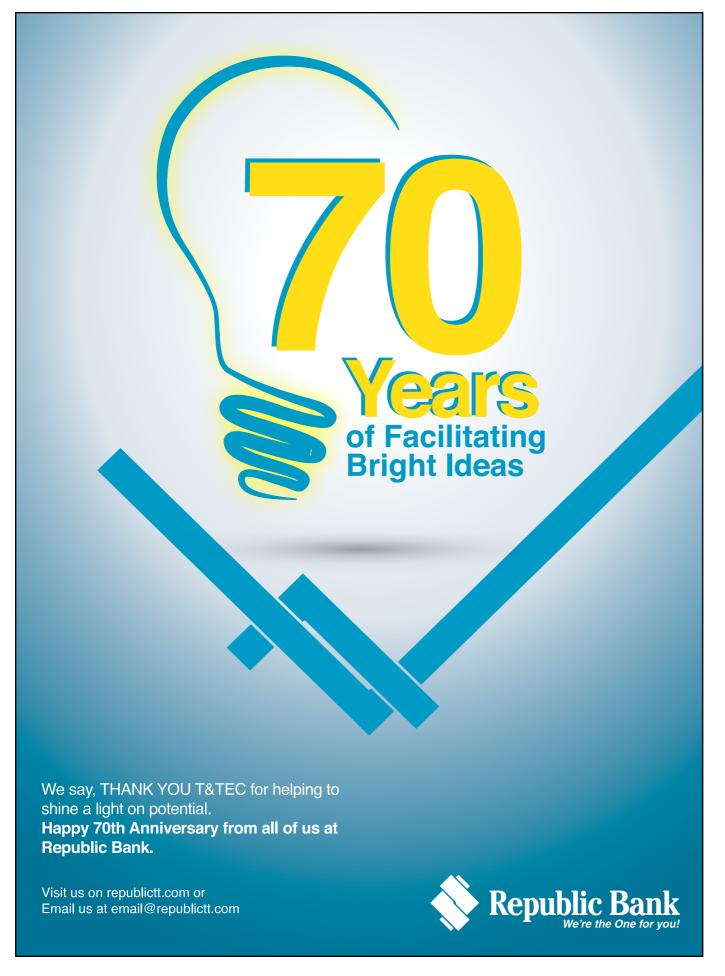
Power plant, which is the only generation plant operated by T&TEC.





# Memories live on but, with electricity, life couldn't be better

In the still of the night in 1950s Todd's Road, Ballyram Sookdeo would stare wistfully at the lights at the brick factory in





Ballyram Sookdeo

Longdenville, planning for the day when electricity got to his village.

Without electricity life was pleasantly quiet; night life was nonexistent, unless you counted the chores which included tending animals after dark, but Mr. Sookdeo knew of the potential electricity carried for the three generations that occupied the house he grew up in. Living for 52 years with flambeaus, candles and lamps made him more anxious simply to "have lights in the house". According to his memory, Todd's Road received electricity about 10 years after the service started expanding from Port of Spain and though life with electricity is great, life was still pretty good back then.

Mr. Sookdeo was one of several customers from that generation who were happy to share their



Soorgie Nanan

experiences before and after electricity. Though they were from different parts of

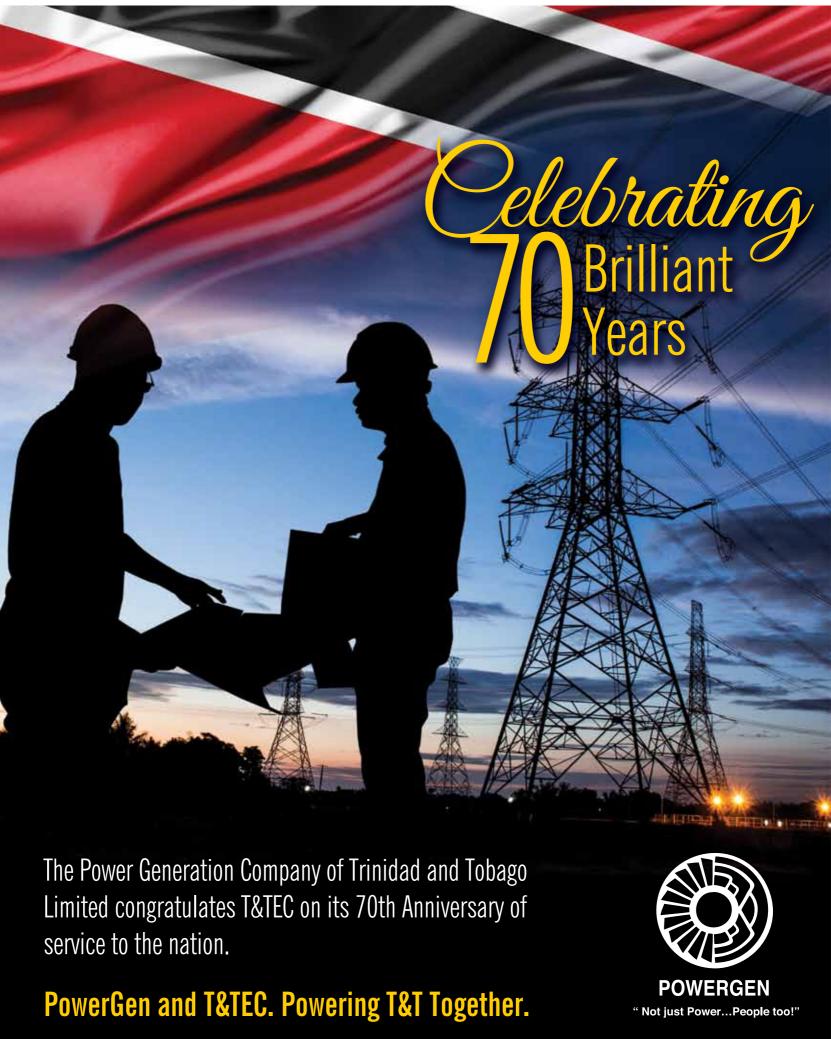
the country, their stories were similar everybody welcomed the new lights, but treasured what they already had.

"It felt like Christmas" was how Mrs. Soorgie Nanan described her family's move, at age 36, from Hardbargain to St Julien Village in Princes Town, which already had electricity. But she still reminisces about their old life: "Pa used to connect the radio to a car battery so we could listen to Indian music [but] that was limited because when the battery run out, no more music!" Cooking on a "chulha" was not as fun because keeping wood stoked could be tedious, and the fresh air from open windows at night was "nice and healthy', much better than "dirty fans" circulating air nowadays.

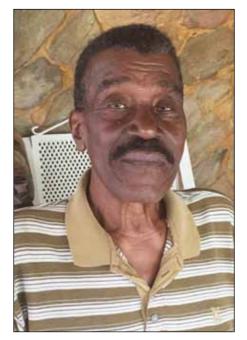
Like Mr.
Sookdeo,
the Nanans'
biggest wish for
electricity was
for a quality life
for their children.
Electric lights
meant no more
homework by
sooty lamp
light or candle,

studying for longer hours, and the potential to do better in school. Electric appliances came later and, in the case of the Nanan children, Sesame









Ulric Hinkson

Street provided many hours of fun education.

Before its spread across the country, electricity had been available in Port of Spain and environs for over 50 years. In St James, young Ulric Hinkson had a few years with the dim light provided by the Electric Light and Power Company, T&TEC's predecessor, before his parents moved to a remote part of Gonzales, Belmont where lines had not yet been strung. The bare bulb powered by an extension cord from the St James landlord provided illumination for the one-roomed house, but conservation was the order of the day as the landlord

would unplug the light whenever the bill was too high. Now Mr. Hinkson, 79, is fully aware of the danger of that setup and tells the story as a friendly warning.

Perhaps because he

knew light before darkness, the impact of the electric light left few memories and, somewhat ironically, life after electricity seemed nicer then. The senior Mr. Hinkson's carpentry skills left his son proud of the icebox they used in Gonzales; "[he] was an A1 carpenter, he made an icebox from wood lined with tinning [metal sheeting], with compacted sawdust in between. The icebox used to store ice for days... we kept all our meat and produce in it", Ulric declared. Liming or working beyond daylight meant making a flambeau with "a wick from crocus bag and stuffing it in a Bay Rum bottle half filled with kerosene" and walking friends to the junction to make their way home.

Years later, in 1970, as he took up residence in Diego Martin he happily did so to the modern benefits of electricity. But, he will never forget that before, "we didn't have light, but we had love".



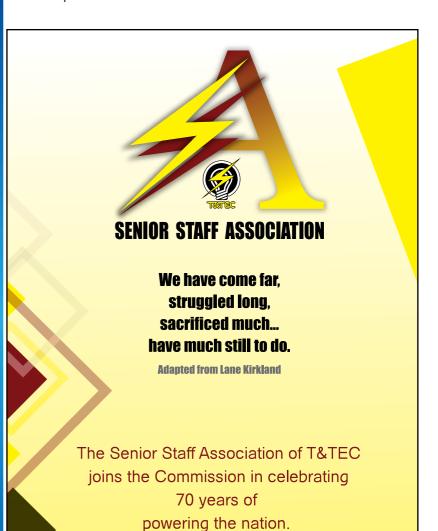
The Association of Professional Engineers of Trinidad and Tobago (APETT)

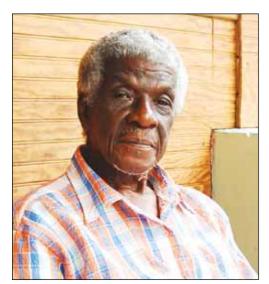
congratulates the Trinidad and Tobago Electricity Commission



Since the inauguration of APETT in 1959, the Engineers at T&TEC have continued to play a key role in the development of our Association and made outstanding contributions to the advancement and development of APETT.







There was a similar kind of love in Tobago in 1952 when the first person to receive electricity, deceased grocery owner Lucien Rivers, was the talk of town when his store was connected. "It looked well, people come and say 'Rivers, look how your place look now!", his nephew Thomas recalled on Tobago's sixtieth anniversary in 2012. Scarborough and Bacolet were the first places illuminated and the community benefited - the Rivers' were the first family to have electricity in Scarborough and were also the first to purchase a television set which was housed below their home; all the children in the village were frequent visitors, huddled together to watch the popular shows at the time.

Then, as now, the affordability of electricity allowed citizens from all walks of life to enjoy the service, bringing Trinidad and Tobago to today's 99% electrification rate and making T&TEC a leader in electrical energy in the Caribbean region, standing in the same rating category as countries like Costa Rico, Chile and Brazil.

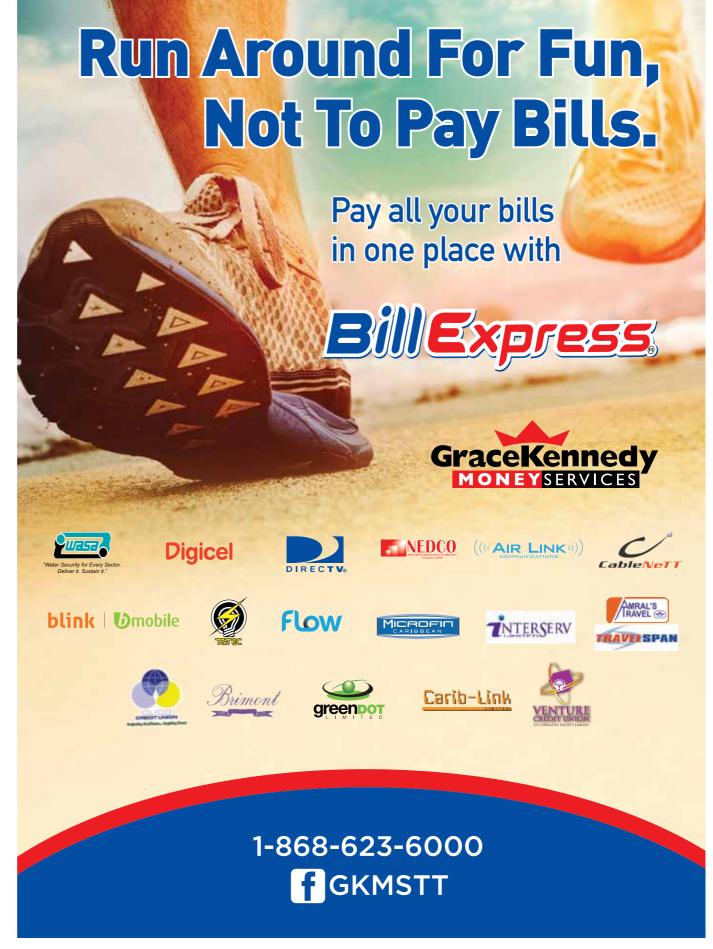
Using the RIC's last rate adjustment for 2009-2010, the price of electricity in Trinidad and Tobago is the second lowest rate per unit among 28 countries in the Caribbean, where Suriname is the lowest, according to a 2011 CARILEC survey. This is a status that the country has enjoyed, with little contest, for decades. In addition to the low unit rates, Government concessions such as the Utilities Assistance Programme, provide for the less fortunate in society. The national Public Lighting programme has also facilitated the

illumination of hundreds of public spaces across the country, benefiting citizens and further raising the standard of living of all.

As the early customers have learned, life's evolution will bring changes. And though

memories of the "good old days" can always provide a pleasant retreat from the present, it is impossible to fathom life without the upgrades facilitated by T&TEC.





# **Looking forward**

Building on the strategic legacy of the teams that led the Trinidad and Tobago Electricity Commission (T&TEC) through the past 70 years future development projects are focused on new business models and enhanced customer service.

Although the country's generation capacity is at a satisfactory level, energy sales

forecasts suggest that additional generation will be required by 2020. The promotion of energy efficiency and renewable sources of energy is key as the country aims to reduce its reliance on fossil fuels and increase energy security. In this regard, T&TEC will continue to pursue renewable energy projects which already include successful testing of grid-interconnected solar systems (from 2012 to 2015) and the collection of wind speed data.

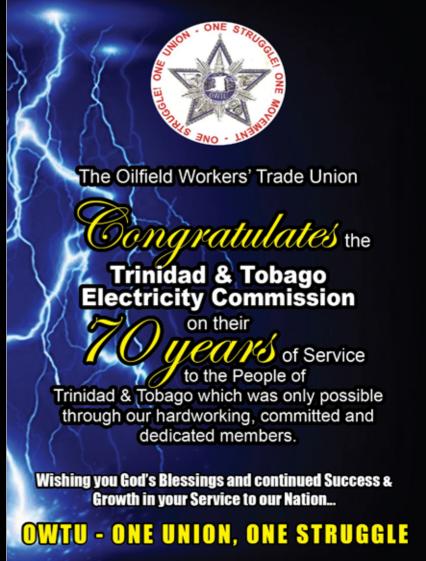
Regarding the latter, two wind measurement stations installed at Ministers Bay and Flag Staff Hill, overlooking Charlotteville in Tobago are providing valuable data, the preliminary results of which are optimistic. Further research is also planned for opportunities in waste-to-energy and tidal/ wave energy. But even as research continues, the Commission is moving ahead to meet the Ministry of

street lights.

Energy and Energy Industries, target of 10% of generation coming from renewable sources by 2021. Related to this project is the planned introduction of LED and solar

In the meantime, vital transmission and distribution infrastructure need to be completed, tested and commissioned to ensure that the quality and reliability of our service is not only maintained but improved. To this end, substation upgrades are





currently in progress in Diego Martin, Belmont, Laventille, Five Rivers, Pinto Road, Gulf View, Barrackpore and Maraval. In the area of disaster preparedness, T&TEC is working to ensure that it is better prepared for any eventuality, with the purchase of several trailer-mounted



transformers expected to be completed in the near future. These portable transformers can be deployed to communities to facilitate rapid restoration of supply in the event of natural disasters or significant equipment failure.

Employees will also be engaged in several initiatives to improve customer service in the coming months. These include electronic billing, additional gateways for online payment, call center upgrades to facilitate more efficient communication, a new mobile app and the Commissionwide implementation of the ISO-9001:2008 Quality Management System. This quality certification will improve the way T&TEC operates and is expected to reduce wastage and increase productivity.

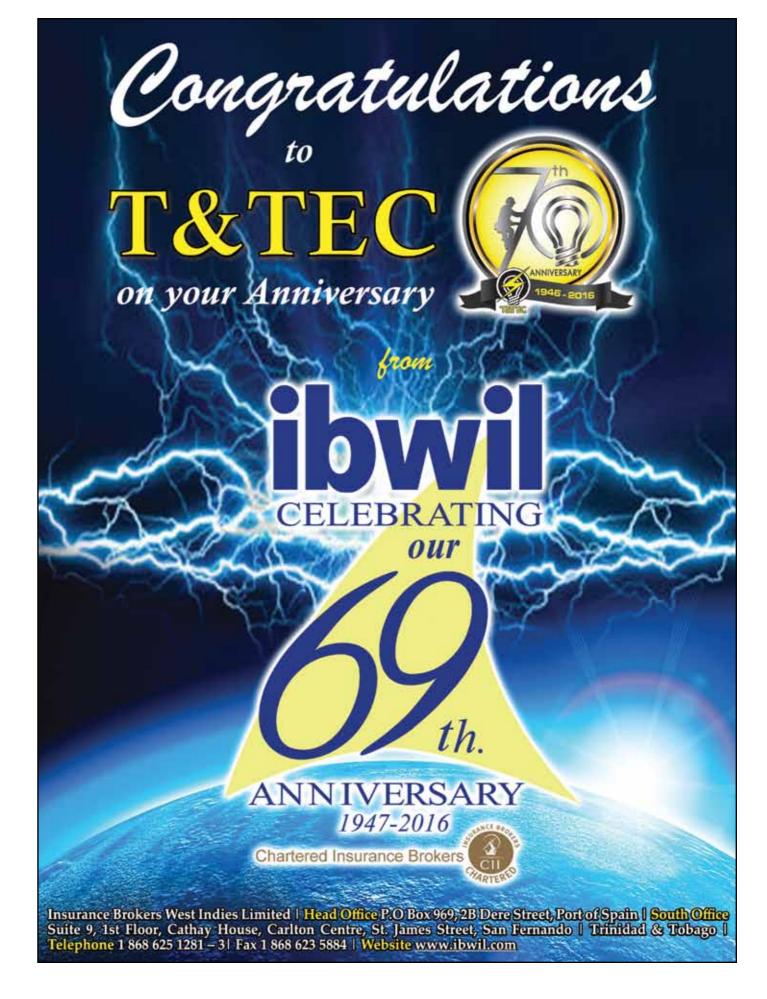
The Commission also plans to implement a procurement policy to adhere to the requirements of the Public Procurement and Disposal of Public Property (No. 2) Bill 2014 and complete its Outage Management System - which will allow customers to be alerted to unplanned outages and kept up-to-date on restoration efforts - to better

serve customers in the event of interruptions to their electricity supply.

Considered together, these initiatives forecast a brighter future and a new era of customer care for T&TEC's

customers as the Commission looks forward to another 70 years.







We salute you T&TEC for your 70 years of dedication to Trinidad and Tobago, providing the much-needed energy for us to achieve excellence, as we grow together as a nation.

It's All About You





**Royal Bank**