THE NGC GROUP OF COMPANIES CORPORATE QUARTERLY JOURNAL





NEW FRONTIERS



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of Landfill Gas



Transforming Sport Development in the Digital Age





THE NATIONAL GAS COMPANY OF TRINIDAD AND TOBAGO LIMITED











New Frontiers

For many people, the word 'frontier' might conjure images of the American Old West — a time and place of expansion and development — or perhaps colonial transatlantic exploration, or space odysseys into the vast unknown. The common thread of these frontier visions is that sense of stepping over the edge of what is comfortable and familiar, pushing past boundaries and entering uncharted territory full of opportunity.

For us in the energy sector, we are today challenged to go on a similar journey beyond the frontiers of our industry and transition into an age of cleaner fuels and power sources. In that new age, sweeping economic, policy and societal changes are expected, as the world gears up for a decade of aggressive climate action. Our sector — and indeed the rest of the world — is simultaneously facing unprecedented expansion across digital platforms, with the concept of the 'metaverse' en route to becoming a buzzword in 2022.

Within this context of flux and expanding boundaries, The NGC Group is taking on an additional challenge - recalibrating our business model and asset portfolio in line with the shifting frontiers around us and building an energy brand that can be sustained through these waves of change. Although the future is full of uncertainty, as with any frontier explorer, we are approaching that future with hope, excitement and anticipation of the opportunity that lies ahead.



In this issue

In this issue of *GASCO News*, we are pleased to highlight some of the work we have been doing this past quarter which represent new frontiers for our business, and new possibilities for our country.

Among this work is our landmark project to design and construct a pressure regulator package for the Takoradi Distribution Station in Ghana – a project which we have been successfully and innovatively managing through virtual platforms due to the pandemic. On completion, it will represent the first project of this kind that we have executed outside of Trinidad and Tobago.

On the clean energy frontier, we were proud to sign an MOU this quarter with the Solid Waste Management Company (SWMCOL) to explore opportunities to capture and commercialise landfill gas for such uses as the provision of carbonnegative, renewable compressed natural gas. We are also making good progress on our quest to improve energy efficiency through subsidiary National Energy's Super ESCO project.

In the CSR space, pandemic restrictions forced us to think outside the box and push the boundaries in terms of how we delivered programmes to our supported groups. Sport is one area we are revolutionising with a new digital approach.

In this issue, we will also reflect on the recently concluded COP 26 climate conference, sharing our Group's perspective on the outcomes of that critical event. In addition, we will capture some of the highlight achievements of our Group over the year 2021, as a tribute to the many bold steps we have taken across the business-as-usual threshold into the new landscape of energy.

As you will see, The NGC Group continues to embrace change and go boldly where no state company has gone before, in pursuit of better for the people of Trinidad and Tobago.

Mark Loquan President, NGC

GASCONEWS | DECEMBER 2021

2021 HIGHLIGHT REEL

BUSINESS Gas rises to USS2.78

NGC gas deal worth billions

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ROGEN POWER

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NGC/NAAA NATIONAL TRACK AND FIELD YOUTH ELITE PROGRAMME [YEP] 2020

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YEAR IN REVIEW

OPERATIONAL ACHIEVEMENTS

46TH ANNIVERSARY MILESTONE

In August 2021, NGC commemorated 46 years of service excellence and value creation in the energy sector.

THE NGC GROUP FINANCIAL REBOUND

After a turbulent 2020, The NGC Group restored its position of profitability in 2021, closing its third quarter with a profit of over **TT\$1 billion** — an uplift of **2,588%** over the same period for 2020.



TTNGL FINANCIAL UPLIFT

TTNGL also recorded an improved financial performance in 2021, announcing third-quarter after-tax earnings of **TT\$134.1 million**, compared to TT\$30.0 million in the prior year.

NEW GAS CONTRACT WITH TRINGEN

In May 2021, NGC signed a Gas Sales Agreement with Trinidad Nitrogen Company Limited - a contract which will help secure Trinidad and Tobago's position as a key exporter of ammonia.

CONSOLIDATED MHTL CONTRACT

NGC signed a Consolidated Gas Supply Contract with Methanol Holdings (Trinidad) Limited (MHTL) in July 2021. This contract will support operations at the MHTL Methanol Complex, which includes the mega-methanol M5 plant, one of the world's most efficient low carbon methanol producers.



DENOVO CONTRACT FOR ZANDOLIE FIELD

In August, DeNovo Energy Limited and NGC announced the signing of a Gas Sales Contract for commercialisation of the Zandolie Field located in Block 1(a), which will enhance supply security.

ACQUISITION OF HERITAGE INTEREST IN BLOCK 3(A)

NGC increased its shareholding in Block 3(a) from 11.41% to 31.54% with the acquisition of Heritage Petroleum's Non-Operated Joint Venture (NOJV) participating interest. NGC will now have access to additional equity crude, which will bolster its marketing and trading portfolio.



EPC FOR GAS SUPPLY TO PHOENIX PARK INDUSTRIAL ESTATE

In January, NGC signed an Engineering, Procurement, and Commissioning (EPC) contract for gas infrastructure for eTecK's Phoenix Park Industrial Estate (PPIE), with the Beijing Construction Engineering Group Company Limited (BCEG)



ENHANCED ASSET INTEGRITY MANAGEMENT

New technologies such as an infrared camera and satellite monitoring have helped strengthen NGC's Leak Detection and Repair (LDAR) programme. Satellite technology is also being used to monitor pipeline Rights of Way for third party interference (TPI).



PPGPL FACILITY TURNAROUND

In a demonstration of innovation and adaptability, subsidiary Phoenix Park Gas Processors Limited (PPGPL) successfully navigated pandemic challenges to safely execute a facility turnaround in 2021.

PPGPL WINS SAFETY AWARD

PPGPL was adjudged first in its division for safety in 2020 by the US Gas Processors Association for the 18th time since 1999.



FUTURE OF WORK

NGC has activated a team to explore options for optimising workforce distribution in the new normal, guided by employee input and bestpractice future-of-work considerations.



GLOBAL POSITIONING



NGC REMOTELY DELIVERS GHANA PROJECT

NGC embarked on a groundbreaking project in Ghana, to design, procure, construct and install a pressure regulator package at the Takoradi Distribution Station. Due to COVID-19, this project is being delivered remotely.



STRONG PERFORMANCE FOR PPGPL'S NORTH AMERICAN ASSET

PPGPL's North American subsidiary, Phoenix Park Trinidad and Tobago Energy Holdings Limited, yielded significant gains on the initial investment and contributed approximately **5%** to PPGPL's profit after tax.

INTERNATIONAL CONFERENCES

NGC Group representatives shared insights into the organisation's business at a number of global events, including:

- Caribbean Maritime Climate Action Conference and Exhibition
- Guyana Basins Summit
- Bloomberg New Energy Finance Annual Conference 2021
- 1st Hydrogen Congress for Latin America and the Caribbean
- Suriname Energy, Oil and Gas Summit
- Hydrogen Americas Summit
- Africa Energy Series
- S&P Global Platts Central America and Caribbean Energy Virtual Conference
- Gas Exporting Countries Forum (GECF) 4th Annual Workshop on the Promotion of Natural Gas Demand



YEAR IN REVIEW

GREEN AGENDA

SOLAR-POWERED PREYSAL SERVICE STATION OPENED

National Energy completed installation of a rooftop solar array to power operations at the state-ofthe-art multifuelling station opened at Preysal. The station is also the newest CNG filling site, offering **10** CNG pumps.



FORMATION OF PLEA GREEN AGENDA SUB-COMMITTEE

NGC was instrumental in the formation of a new green agenda sub-committee of the Point Lisas Energy Association (PLEA), which will lead PLEA sustainability and green agenda actions, and coordinate synergies among member companies in support of national targets.



MOU WITH SWMCOL

The NGC Group signed an MOU with The Trinidad and Tobago Solid Waste Management Company Limited (SWMCOL) to explore opportunities to commercialise landfill gas for uses such as the provision of carbon-negative, renewable compressed natural gas.

WORK WITH ATLANTIC ON EMISSIONS REDUCTION

NGC has been working alongside other Atlantic shareholders to help the company develop strategies to reduce emissions at its facilities and support production of greener LNG.

SUPER ESCO PROJECT PROGRESSED

National Energy has made significant advances in its Super ESCO project, aimed at improving energy efficiency in the operations of small industrial consumers.



EYE ON METHANE

NGC intensified its focus on methane emissions reduction, by integrating satellite data and an infrared camera to visualise leaks along its infrastructure. The Company also became a member of the Oil and Gas Methane Partnership (OGMP).



PARTNERSHIP FOR GREEN HYDROGEN NGC, National Energy and Kenesjay Green Limited (KGL) signed an MOU to work collaboratively on the creation of a sustainable hydrogen economy for the

a sustainable hydrogen economy for the energy sector of Trinidad and Tobago.

LAUNCH OF THE CARIGREEN WEBSITE

At the Trinidad and Tobago Energy Conference, NGC launched a new website called CariGreen, to serve as a central repository for investor, academic and citizen research into clean energy in the Caribbean.





RESEARCH PROJECTS WITH ACADEMIA

The NGC Group has initiated several research projects with the University of Trinidad and Tobago (UTT) and The University of the West Indies (The UWI). These include a Climate Change Mitigation Project; feasibility studies for solar-powered irrigation systems and wind integration into the grid; and studies into domestic vehicle emissions rates.

2021 Highlight Reel | CONTINUED

CSR & SUSTAINABILITY



10 YEARS OF BOCAS

In 2021, the NGC Bocas Lit Fest celebrated a decade of outstanding service and achievement in the sphere of literature and the literary arts. This year, the NGC Bocas Youth Fest was launched as a series of online events for young people to engage with literature on new levels and explore potential career opportunities in the literary arts.



YOUTH ELITE PROGRAMME HANDBOOK LAUNCHED

A handbook was produced to support incoming inductees into the NGC/NAAA Youth Elite Programme. This book will serve as a guide for the athletes, their parents and coaches in terms of programme expectations and target outcomes.



PUBLICATION OF SUSTAINABILITY REPORT 2020

For the fourth consecutive year, NGC published a Sustainability Report, sharing information on its economic, social, environmental and governance performance in 2020.





NGC extended its carbon sequestration study with The UWI to quantify the amount of carbon stored in the root biomass of trees at its reforested sites. Based on cumulative results from this study, the Company is looking at extending its reforestation exercise beyond the initial scope of 315 hectares.



PARTNERING IN COMMUNITY DEVELOPMENT

NGC is partnering with the Ministry of Sport and Community Development on the implementation of the National Policy on Sustainable Community Development in the pilot community of La Brea.



THE NGC GROUP PERSPECTIVE



MORE INTENSE HURRICANES ARE A SYMPTOM OF RUNAWAY CLIMATE CHANGE.



As several Caribbean leaders passionately expressed to COP 26 audiences, failure to act swiftly to address climate change will have dire implications for the region If one were asked to summarise the rationale for the recently concluded COP 26 climate conference held in Glasgow, a single word could suffice - survival. This sobering theme was common to almost every speech delivered by leaders at the event, with unanimous agreement that climate action is now quite literally, a matter of life and death.

This is especially true for the Caribbean region. As several Caribbean leaders passionately expressed to COP 26 audiences, failure to act swiftly to address climate change will have dire implications for the region. We stand on the frontline as a small island developing state, facing the brunt of impact from a warming planet. We are already experiencing more severe weather events, coastal degradation, loss of wetlands and coral reefs, droughts, and flooding, and must brace for even worse. Rising sea levels mean saltwater intrusion into groundwater sources, impacted coastal livelihoods and destruction of the lifeblood industry of many islands - tourism.

While the writing has been on the wall for some time, many have criticised world leaders, corporations, and other stakeholders for kicking the can down the road in terms of taking the aggressive action that was needed to curb runaway climate change. Promises made since Paris 2015 - and even others before then have failed to materialise, with political and business agendas often stymieing progress on emissions reduction. Due to insufficient urgency in collective global action, the discourse has moved from limiting warming to 1.5 degrees by 2050, to keeping the possibility of 1.5 alive.

In some ways, conversations at COP 26 echoed the rhetoric of years past - for example, we need to cut emissions, we need to finance clean energy and of course, we need to move past rhetoric and act now. However, there were some positive new developments which offer hope for change in the right direction if they are carried through to their successful implementation.

Reflections on COP 26 - The NGC Group Perspective | CONTINUED

The announcement that the USA and China will collaborate on climate strategies is one of them, given the combined carbon footprint of these countries. Among the weapons of their combative efforts will be reducing methane emissions, transitioning to clean energy and decarbonisation. This is good news for the Caribbean and other small island developing states whose fates are largely in the hands of big emitters. This partnership between two global superpowers who have often diverged on policy, could be a bellwether for multilateral cooperation going forward, which is critical to the climate fight.

Another positive for the region is the commitment to increased financing for clean energy projects in developing countries. A sticking point has always been the perceived injustice of developing nations being asked to forgo fossil fuel-based industrialisation in favour of growth led by more expensive, and in some cases still incipient, clean energy technologies.

Having access to funding that can support this type of energy transition will relieve some of the economic burden from such countries and allow them to focus on other priority development areas, including climate change adaptation strategies. For the smaller economies of the Caribbean, such financing would be a welcome boon, particularly as some are still struggling with recovery from catastrophic climate events.

In addition, since renewable energy (RE) is abundant in the region, once the overheads of RE infrastructure are covered, islands would have a degree of self-sufficiency in energy. This will give a further boost to those economies currently spending on imported oil for power.



That said, fossil fuel-based power generation is likely to be around for some time vet, given the rapid growth in energy demand and the deployment limitations of clean energy technologies. Realistically, although a decision was agreed to reduce spending on fossil fuel projects, these fuels are so entrenched in producer economies and consumer societies that the transition toward cleaner alternatives will take time. However, the balance is certainly shifting in the energy mix, particularly in the power sector, with some of the pollutant coal and oil expected to be displaced by natural gas.

As reinforced by the Gas Exporting Countries Forum (GECF) at COP 26, gas can and should play a critical role in transitioning developing economies into the clean energy future and decarbonising energy production. We at The NGC Group see a clear place for our business in the future that will be architected post-COP 26. An upsurge in LNG demand will mean opportunities for small-scale and micro-LNG projects, which our teams are already exploring. Clean energy investment will take off. and market opportunities for veteran energy businesses such as our own will grow in tandem. To this latter point, many of the skills and technical requirements for clean energy technologies are transferrable from fossil fuel-based industry project management; engineering and design; geospatial information services: module fabrication: and even logistics, will be just as important in a clean energy future.





THE PROMISE OF INCREASED FINANCING FOR CLEAN ENERGY PROJECTS IN DEVELOPING COUNTRIES WILL GREATLY SUPPORT DECARBONISATION EFFORTS.

We appreciate that the years ahead and Glasgow Climate Pact commitments will demand greater corporate accountability of our company. Our business is part of an industry that must take urgent and aggressive action to decarbonise operations. For The NGC Group, methane is already a front-burner issue, and we are leading the sector in terms of monitoring emissions and addressing leaks. Together with our subsidiary companies and industry partners, we are actively collaborating to make solar energy, green hydrogen, and biogas a reality for Trinidad and Tobago.

Advocacy and knowledge transfer are also priorities – we are bringing learnings from the Oil and Gas Methane Partnership (OGMP) to industry forums; we are educating the public through green agenda events and technology platforms; we are supporting the efforts of light industrial consumers to increase their energy efficiency; and we are pushing for greater collaboration at the level of the Point Lisas Energy Association (PLEA) to address the industry's carbon footprint.

One of the notable outcomes of COP 26 was a commitment by 141 countries to end deforestation, in recognition of the centrality of forests, biodiversity and sustainable land use to the achievement of the SDGs. We at NGC have adopted a 'no-net-loss' principle in our operations and implemented a project in 2005 to replant acreage cleared during pipeline construction activities. To date, our reforestation programme has restored 315 hectares in South Trinidad with native tree species, and we are now looking to expand the project and our impact in this area.

At the same time, we continue to track and report on our emissions, offsets and sustainability initiatives through our annual Sustainability Reports, the scope of which we are progressively extending. We are committed to full transparency in our business and aspire to the highest international standards in all areas of our business, including our Environmental, Social and Governance (ESG) performance.

At the end of the day, the success of COP 26 lies not in the agreement signed at the close, but in the fulfilment of commitments and implementation of action items after 2021. Even the best-laid plans offer no guarantees – we need to put in the work. For our part, we at The NGC Group are stepping forward, putting our hands up, and saying we are ready to bat for our country and our planet. The hope is that we are joined on the field, so that we can all have a fighting chance at a future.





PIVOTING PROJECTS — NGC leverages technology and is set to deliver first international project in Ghana in 2022



NGC'S PROJECT IN GHANA WILL SUPPORT A MORE STABLE GAS SUPPLY TO AN IMPORTANT POWER GENERATION PLANT.

In 2020, the Company had several ongoing construction and upgrade projects, which were forced into temporary suspension. Even more significantly, NGC was also due to embark on a new design-build project in Ghana – the first international venture of its kind for the state company. While the COVID-19 pandemic was a spanner in the works for most industries and sectors, activities which involved travel or close gathering of persons, or which were dependent on disrupted supply chains, were deeply impacted. Among these were many engineering and construction projects which were stalled or suspended due to legislated or logistical restrictions.

The National Gas Company of Trinidad and Tobago Limited (NGC) was one of the many companies facing project setbacks due to the pandemic. In 2020, the Company had several ongoing construction and upgrade projects, which were forced into temporary suspension. Even more significantly, NGC was also due to embark on a new designbuild project in Ghana - the first international venture of its kind for the state company.

Prevailing circumstances notwithstanding, and while domestic lockdowns put local projects on hold, NGC determined that it was still possible to deliver the project in Ghana through a combination of technology, resourcefulness and manpower flexibility. This determination has led to yet another success story for NGC, for which it was shortlisted as a finalist in the 2021 Inter-American Development Bank (IDB) President's Awards for Innovation and Service Excellence in the Public Sector.

Project background

In 2007, the Honourable Patrick Manning, then Prime Minister of the Republic of Trinidad and Tobago, made an unprecedented announcement at the 8th Annual Meeting of the African Union, that Trinidad and Tobago would make its technical expertise available free of charge to certain energy-producing West African nations.¹ This 'Africa Initiative' - as it came to be called - prompted a series of exchanges, study tours and delegation visits over the next decade, as those West African nations sought to learn from the Trinidad and Tobago experience.

¹ https://ngc.co.tt/wp-content/ uploads/2018/08/gasco-news-july-2018vol28-no2.pdf Pivoting projects - NGC leverages technology to deliver first international project in Ghana CONTINUED



NGC and its subsidiaries were among the entities hosting tours and sharing expertise with visiting energy delegations. It was eventually determined that there were significant opportunities for the NGC Group to play a more active role in the development of emerging industries on the African continent. A Technical Services Agreement (TSA) was signed with the Tanzania Petroleum Development Corporation in 2011, and subsequent Memoranda of Understanding (MOUs) were signed with NGC's counterparty state companies in Ghana and Mozambigue, all with the aim of supporting projects in their respective jurisdictions. Facilitating and strengthening these agreements were government-to-government collaboration and diplomatic outreach through Trinidad and Tobago's consular network.

Within this collaborative framework, and in furtherance of NGC's thrust to commercialise its expertise in gasbased development, NGC entered into a technical services contract with Integrated Logistics Bureau Limited (ILBL) of Ghana in 2020.

The scope of this contract was the design, procurement, construction, installation and commissioning of a

pressure regulator skid package for the existing Takoradi Distribution Station (TDS) in Ghana owned and operated by the Ghana National Gas Company (GNGC).

Pressure regulating stations are utilised by natural gas transmission companies. Natural gas is usually transported through pipelines at high pressure. However, at supply points to end users of the natural gas, that pressure must be stepped down or regulated to meet the requirements of the specific user and its facilities. Pressure regulating stations are therefore strategically important to service delivery and natural gas supply reliability. In the case of the TDS, supply through the facility feeds an important power generation plant. NGC's contract with ILBL to deliver a pressure regulator skid package at the TDS was therefore a critical one to ILBL and its client GNGC.

Prior to the onset of the pandemic, delivery of such a project in Ghana would have involved site visits to assess as-built conditions, collaboration with and working with ILBL's teams and other stakeholders on the ground in Ghana to finalise design specifications and direct oversight and management of local contractors during the construction installation and commissioning phases.

COVID-19 made all this challenging and could have derailed the project completely, were NGC not agile enough to adapt to the new reality and initiate remote management of the project.

Pivoting project management In December 2020, with COVID-19 restrictions making travel between Trinidad and Tobago and Ghana impossible, NGC's Projects Team turned to virtual platforms to execute those tasks that would usually require on-site presence.

The team used virtual meeting tools and relevant software applications to gather data, review designs, and collaborate with their Ghanaian counterparts who were on-site and eventually complete a design that secured the necessary approvals. The project leveraged technology to progress engineering workflows, using 3D computer aided design to communicate the design and test options for improvement. Microsoft SharePoint was used to share technical drawings with the client and to facilitate documentation of comments, input, review, and quality control. Site data was



supplemented by online videos, which served to provide another level of quality assurance on the as-built specifications that would guide the project.

One of the key project drivers was to coordinate all activities to support a planned turnaround in the third Quarter of 2021. To ensure the project was kept on schedule, the teams from both NGC and Ghana had to conduct regular virtual meetings from different time zones to transition from design to procurement and construction. This demanded flexibility in working hours for team members, and true dedication to the project outcomes. Cultural bridges were also required to foster mutual understanding and optimal work relationships. Additionally, the Supply Chain team worked on different options to identify sources of materials and expediting options to achieve onsite target dates. This was complicated by changes in scope arising from the progression of detailed engineering design activities.

Notwithstanding these and other challenges related to remote management, the project is progressing with fluidity due to willingness of all stakeholders, including ILBL and GNGC, to work together collaboratively and adjust schedule expectations. The project is ongoing and is currently in the construction phase, with NGC providing virtual oversight of the Ghanaian contractors through online platforms. To date the regulator station inlet and outlet piping, regulator station process piping and skid frame have already been constructed in Trinidad and Tobago and have been shipped to Ghana. The estimated completion date for the project is now forecasted to be Q3 2022.

Positive takeaways

NGC has several positives to take away from this project thus far.



SECTION OF PRESSURE REGULATOR SKID PACKAGE AT FABRICATION YARD

In the past, NGC has purchased third party services to manage some of its major projects. Over the years, having built up some requisite capabilities in-house, the Company recognised the value to be derived from marketing this expertise. This has consequently been one of the avenues for income generation being actively explored in recent years. Once completed, the TDS project will represent the first time that NGC has executed a project of this type outside Trinidad and Tobago, and it will provide a template for future international projects.

For NGC, this experience is strengthening its project management capability, particularly in an evolving industry where blended work environments are becoming the norm. Whilst this project is not large, our project and supply chain management teams are gaining invaluable firsthand experience in terms of gathering and analysing technical data remotely and with greater efficiency; navigating cultural divides while managing team dynamics in online settings; and leveraging technology in place of traditional project management tools and methods to achieve desired outcomes. NGC's project team's agility was further tested in the latter part of 2021 as

global supply chains were disrupted and the project team had to respond to uncertainties in the deliveries of valves and other mechanical equipment, which required significant interfaces and engagement with our client and the Ghanian regulators. Refinement of these skillsets will enhance NGC's value proposition to potential partners and build a case to support any future bids to manage projects in other countries - whether in person, remotely or a combination of both. Building on the confidence arising from this project, NGC has sought additional international opportunities by tendering for projects that could benefit from similar types of services, and this will remain part of the Company's portfolio of service offerings moving forward.

Importantly, the TDS project is firmly establishing NGC as an international energy player, building its brand capital and opening the door for other companies in The NGC Group to enter international energy service markets. The attendant outcomes of internationalisation, brand recognition and portfolio diversification are strategic goals that will help secure The Group's long-term sustainability in the transitioning global energy industry.



PIVOTING THE BUSINESS

Tapping the Potential of Landfill Gas





PIVOTING THE BUSINESS

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From a renewable energy standpoint, landfill gas is one of the most effective sources of renewable energy. According to **IRENA's World Energy Transitions** Outlook (June 2021), there is consensus that an energy transition grounded in renewables and efficient technologies is the only way to give us a fighting chance of limiting global warming to 1.5°C by 2050.

Landfill gas (LFG) is a natural byproduct of the decomposition of organic material in landfills. LFG is composed of roughly 50% methane (the primary component of natural gas), 50% carbon dioxide (CO_2), and a small amount of non-methane organic compounds. Methane is a potent greenhouse gas 28 to 36 times more effective than CO_2 at trapping heat in the atmosphere over a 100-year period, according to the latest Intergovernmental Panel on Climate Change (IPCC) assessment report (AR5).

In the United States, municipal solid waste (MSW) landfills are the thirdlargest human-generated source of methane emissions, releasing an estimated 99.4 million metric tons of carbon dioxide (CO_2) equivalent (MMTCO₂e) to the atmosphere in 2019 alone. With a global warming potential greater than CO_2 , and a short (12-year) atmospheric life, methane is a key contributor to global climate change. In addition, methane contributes to background tropospheric ozone levels as an ozone precursor.¹ As a result, reducing methane emissions from MSW landfills is one of the best ways to achieve a near-term beneficial impact in mitigating global climate change.

From a renewable energy standpoint, landfill gas is one of the most effective sources of renewable energy. According to IRENA's World Energy Transitions Outlook (June 2021), there is consensus that an energy transition grounded in renewables and efficient technologies is the only way to give us a fighting chance of limiting global warming to 1.5°C by 2050. Therefore, the next decade will be decisive to achieve the Paris and Sustainable Development goals. Any delay will drive us in the direction of further warming, with profound irreversible economic and humanitarian consequences.

² https://www.irena.org/ publications/2021/Jun/World-Energy-



FIGURE 1: SIX COMPONENTS OF THE ENERGY TRANSITION STRATEGY² SOURCE: IRENA WORLD ENERGY TRANSITIONS OUTLOOK (2021)

¹ https://www.epa.gov/Imop/basicinformation-about-landfill-gas

Tapping the Potential of Landfill Gas | CONTINUED

Electricity Generation

2. PROCESSING

Methane is piped to a processing facility, where moisture, carbon dioxide, sulphur, volatile organic compounds and other impurities are removed. 3. DISTRIBUTION The refined and compressed methane is ready to be used as vehicle fuel or pipeline gas, or for electricity generation and other industrial applications.

1. COLLECTION

Landfills are constructed in sections, or cells, where trash is covered daily with shallow layers of soil or other materials. The final cover is thicker and often consists of clay, sand, soil and grass. Methane is collected with a network of wells, pipes and pumps.

By reducing methane emissions, we can quickly reduce the atmospheric warming effect, and according to Jeff Chanton, Climate Scientist at Florida State University, targeting landfills is a great place to start. Landfills help keep our communities clean, but they also pose serious threats to the health of our environment. The most pressing environmental concern regarding landfills is their release of methane.³ At the same time, methane emissions from MSW landfills represent a lost opportunity to capture and use a significant energy resource.

Utilising landfill gas as a renewable energy source helps to meet energy needs, improves environmental and health concerns, and provides economic benefits such as revenue generation, job creation, and

Transitions-Outlook

market development. By capturing methane from landfills, various forms of energy can be produced, such as electricity, boiler fuel, steam, alternative vehicle fuel, and pipeline gas.⁴

Vehicle

Wells, pumps

Sarbag

In the United States, approximately 70% of currently operational LFG energy projects generate electricity, by utilising a variety of technologies, including reciprocating internal combustion engines, turbines, microturbines, and fuel cells, to generate electricity for on-site use or sale to the grid.

Additionally, the direct use of LFG can offset the use of another fuel, for example, natural gas or fuel oil. Current industries using LFG include auto manufacturing, chemical production, food and beverage processing, pharmaceuticals, cement and brick manufacturing, wastewater CAPTURE AND USE SOURCE: ENVIRONMENTAL PROTECTION AGENCY

FIGURE 2: LANDFILL METHANE

treatment, consumer electronics and products, paper and steel production, and prisons and hospitals.

LFG can also be upgraded to renewable natural gas (RNG), a high-Btu gas, through treatment processes by increasing its methane content and, conversely, reducing its CO₂, nitrogen, and oxygen contents. RNG can be used in place of fossil natural gas, as pipeline-quality gas, compressed natural gas (CNG), or liquefied natural gas (LNG). Options for the use of RNG include thermal applications to generate electricity or as fuel for vehicles. The RNG can be used locally at the site where the gas is produced or can be injected into the natural gas transmission or distribution pipelines for delivery to another location.⁵

³ https://www.colorado.edu/ ecenter/2021/04/15/hidden-damagelandfills

⁴ http://large.stanford.edu/courses/2014/ ph240/thorne2/

⁵ https://www.epa.gov/Imop/basicinformation-about-landfill-gas



Landfill Gas-to-Energy in Latin America and the Caribbean

Over the past several decades, health and environmental concerns associated with LFG have been mounting in urgency, particularly in the context of small island developing states (SIDS), such as in the Caribbean, which are constrained by space, limited resources, and fragile ecosystems.

In 2006, the Landfill Gas-to-Energy (LFGTE) Initiative in Latin America and the Caribbean was published with the objective of:⁶

- Contributing to the maximisation of methane emissions reductions and the development of carbon trading opportunities
- Promoting LFGTE investment in Latin America and the Caribbean to improve solid waste management practices in the region
- Creating awareness of LFGTE opportunities
- Documenting and disseminating LFGTE experience and
- Establishing knowledge sharing mechanisms to increase cooperation

Consequently, in the last ten years, governments have closed some of the most polluted landfills in the region, including sprawling facilities in Brazil, Mexico, and Nicaragua. The drive is part of an effort by countries to cut down on pollution and stem the flood of greenhouse gases.

According to the United Nations Environmental Programme (2020), currently, dumpsites receive 40% of the world's waste, particularly in developing countries. In Latin America and the Caribbean, approximately 145,000 tonnes of garbage arrive at dumpsites every day, where the decomposition and burning of waste generate powerful gases that pollute the atmosphere, make people sick, and contribute to climate change.

⁶ https://openknowledge.worldbank.org/ handle/10986/17972?show=full IN 2020, TRINIDAD AND TOBAGO HAD A FORECAST ESTIMATE OF 1.56 MILLION TONNES OF SOLID WASTE GENERATED PER ANNUM.

The COVID-19 pandemic has shown how essential it is to manage waste to minimise long-term risks to human and environmental health. In response to COVID-19, there has been a significant increase in the amount of medical waste that could be contaminated with the virus. Finding innovative solutions to reduce waste, dispose of it properly, reuse it, and recycle it under a circular economy perspective is key in post-COVID-19 recovery plans in Latin America and the Caribbean, where only about 10% of waste is recycled.7

Exploration of the Use of Landfill Gas for Energy in Trinidad and Tobago

In Trinidad and Tobago, most municipal solid waste is disposed of in four main landfills: Beetham Landfill, Forres Park Landfill, Guanapo Landfill and Studley Park Landfill, which are either close to capacity or are at capacity and still collecting waste. 55% of Trinidad's MSW goes to Beetham, 16% to Guanapo, and 29% to Forres Park, with 100% of Tobago's waste going to Studley Park.

According to the Waste Management Report presented before the Joint

⁷ https://www.unep.org/news-and-stories/ story/latin-america-and-caribbeanclosure-ageing-dumps-helping-clear-air Select Committee of the Parliament in 2019, the average person in Trinidad and Tobago generates approximately 1.5 kilograms of waste per day, which amounts to approximately 2,000 tonnes of waste that reaches the landfill sites per day. This figure does not include the large quantities of waste that are improperly disposed of, polluting our streets, drains, rivers, beaches, and other environs.⁸ In 2020, Trinidad and Tobago had a forecast estimate of 1.56 million tonnes of solid waste generated per annum.

When we consider that decomposition of this waste generates a potential energy source, it makes commercial and environmental sense to explore options for mobilising and utilising this resource. From another perspective, since all our landfills generate significant quantities of Green House Gas (GHG) emissions, putting LFG to productive use can also help reduce our country's growing carbon footprint.

Cognisant of the value-added potential of LFG to Trinidad and Tobago's economy, on September 13th, 2021, a Memorandum of Understanding (MOU) was signed

⁸ https://www.swmcol.co.tt/index.php/ education/7-waste-management-topics



FROM L-R: President, National Energy, Dr. Vernon Paltoo; President, NGC, Mr. Mark Loquan; Chairman, The NGC Group, Mr. Conrad Enill; CEO, SWMCOL, Mr. Kevin Thompson; Hon. Minister of Energy and Energy Industries, Mr. Stuart Young; Hon. Minister of Public Utilities, Mr. Marvin Gonzales; Chairman, SWMCOL, Mr. Ronald Milford; President, NGC CNG, Mr. Curtis Mohammed

among The National Gas Company of Trinidad and Tobago Limited (NGC), NGC CNG Company of Trinidad and Tobago Limited (NGC CNG), National Energy Corporation of Trinidad and Tobago Limited (National Energy), and the Trinidad and Tobago Solid Waste Management Company Limited (SWMCOL), to explore opportunities to capture and commercialise landfill gas for uses such as the provision of carbonnegative, renewable compressed natural gas.

Through this MOU, the parties will identify and quantify landfill gas emissions for existing MSW landfills, explore existing and new infrastructure requirements to facilitate transportation and commercialisation of extracted landfill gas volumes, and explore opportunities for utilisation of the derived renewable compressed natural gas as an alternative transportation fuel for vehicles. This initiative will contribute to Trinidad and Tobago's energy transition journey and create new revenue streams for the country.

As part of its Green Agenda, The NGC Group continues to explore several opportunities to reduce Trinidad and Tobago's reliance on fossil fuels and transition the

country into a decarbonised, safer, and healthier environment. With its focus on reducing its corporate carbon footprint while simultaneously supporting Trinidad and Tobago in meeting its Nationally Determined Contributions (NDC) emissions reduction target, The NGC Group is committed to driving the local energy transformation to a zero-carbon energy future. This collaboration with SWMCOL is just one of several partnerships The NGC Group is embracing to address the rapidly changing energy and economic landscape and mitigate the threat of climate change.

Now more than ever, renewable energy and energy efficiency initiatives are needed if we are to create a circular economy and achieve our sustainable energy future. Therefore, harnessing the power of Landfill Gas is a step in the right direction.

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GASCONEWS | DECEMBER 2021



ENERGY EFFICIENCY -



THE UNTAPPED RESOURCE





PIVOTING THE BUSINESS

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National Energy recognises the key role for EE in our country's transition towards developing the platform for alternative energy to be fully integrated into this country's energy mix. A societal paradigm shift is required if our hydrocarbon economy is to move towards a 'greener' Trinidad and Tobago. As we pursue our renewable energy power generation ambitions, it is understood that renewables will require the appropriate legislative framework to support implementation, regulation, and standardisation for accelerated national uptake.

Additionally, commercial, and domestic applications need suitable infrastructure to facilitate energy capture, storage and distribution. These changes will undoubtedly challenge some of our cultural norms, as citizens and firms will be forced to adopt a more responsible approach to energy usage.

According to DNV GL's *Energy Transition Outlook 2021*, global warming is likely to reach 2.3°C by the end of the century in the absence of any immediate and substantial interventions. However, DNV states that there is a small window of opportunity to close this gap through energy efficiency (EE), which remains the greatest untapped resource against climate change. With these factors in mind and aligned with UN Sustainable Development Goal # 7 - to ensure access to affordable, reliable, sustainable, and modern energy for all - National Energy recognises the key role for EE in our country's transition towards developing the platform for alternative energy to be fully integrated into this country's energy mix.

Benefits of Energy Efficiency

Based on National Energy's continuous research and findings, the benefits of energy efficiency to the local market are extensive (See Figure 1).

EE initiatives are the faster and less expensive option compared with renewable energy systems, for reducing energy costs. According to the International Energy Agency (IEA), EE is a low-hanging fruit in that it can require relatively little upfront capital outlay in domestic and small business applications, and what is expended can be amortised with savings from energy consumption. However, keep in mind that while energy efficiency technologies tend to be more costcompetitive than renewable energy options, both are required to realise long-term climate change mitigation goals.



Environmental & Social

- Reduce greenhouse gas (GHG) emissions and other pollutants
- Lead to decreased water usage
- Improve comfort/ well-being



- Lower individual utility bills
- Create jobs
- Improved efficiency reduces total energy demand, allowing the share of renewables in the energy mix to grow faster

Utility Systems

• Over the long term, can lower overall electricity demand and potentially limit investment in new electricity generation & transmission infrastructure

Risk Management



- Aids diversification of utility resource portfolios
- Used as a hedge against uncertainty associated with rate increases

FIGURE 1: BENEFITS OF ENERGY EFFICIENCY

SOURCE: ADAPTED FROM US EPA - LOCAL ENERGY EFFICIENCY BENEFITS AND OPPORTUNITIES

Energy Efficiency and Renewable Energy (RE) Synergies

Energy efficiency and renewable energy will bolster the broader transition needed in Trinidad and Tobago's energy sector. RE and EE work in synergy and if pursued together, can bring faster reductions in energy intensity and lower energy costs, according to a working paper from the International Renewable Energy Agency (IRENA), Synergies between renewable energy and energy efficiency. If governments around the world were to build this synergy into policy and decision making, global energy-related CO emissions could be reduced by 70% by 2050 (IRENA, 2017).

Bringing into focus the benefit of job creation, many measures taken to improve the efficiency of cities, industrial plants, commercial buildings, and transport systems are labour intensive. Energy efficiency investments create opportunities for workers and the energy bill savings that stem from the initial investment frees up funds to support additional employment throughout the economy. Additionally, according to IRENA (2018), energy efficiency will employ approximately 2% more people than renewable energy by 2030 in the global energy sector. Harnessing this win-win in Trinidad and Tobago is an effective way to rise to both challenges, while ensuring energy security (with depleting gas reserves) and local employment.

National Energy's Role in Driving Energy Efficiency

National Energy has been driving energy efficiency initiatives for several years and continues to deepen our commitment in this area. In 2019, National Energy, with support from IDB Invest, undertook a market study on the viability of establishing an energy services financing mechanism for local Energy FIGURE 2: JOBS CREATED DIRECTLY AND INDIRECTLY BY INVESTING IN CLEAN ENERGY VS FOSSIL FUELS (PER US\$10 MILLION IN SPENDING)



SOURCE: Heidi Garrett-Peltier, "Green versus brown: Comparing the employment impacts of energy efficiency, renewable energy and fossil fuels using an input-output model," Economic Modelling, 2017 in The Recover Better With Sustainable Energy Guide For Caribbean Countries produced by Sustainable Energy for All (SEforALL) 2020

Services Companies (ESCOs). Results showed promise, even within the current low tariff environment. For example, with a 20% participation rate across public and commercial sectors, the reduction in power consumption can lead to natural gas savings equal to circa 2.25 bcf annually. Similarly, energy upgrades to customers in the medium to large industrial classes would lead to both increased natural gas efficiencies and electricity efficiency improvements. The value of additional volumes will redound to the overall benefit of the country.

drives creation of an ESCO

industry by lowering transaction

An ESCO is an organisation that:

- conducts energy audits
- enters into energy performance contracting
- recommends energy efficiency solutions
- installs energy efficiency systems and

What is an ESCO?

 monitors and verifies these systems to determine the savings realised in terms of both energy and cost



A Super ESCO:

FIGURE 3: GET TO KNOW: ESCO AND SUPER ESCO



It is well known that in a low-cost electricity environment like Trinidad and Tobago, energy efficiency would be difficult. Despite this challenge, National Energy firmly believes that the value is too significant to ignore. Whilst local energy service companies (ESCOs) are operating, the uptake is slow with only pockets of activity taking place in the EE space. Issues of financing, a lack of interest or know-how in the pursuit of EE gains as well as the ability to make the economics work and adopt energy-savings performance contracting (EPC), continue to present a fair share of challenges. We are actively developing a framework under which EE can take off locally.

This is where the concept of a government-backed 'super energy savings company' (Super ESCO) comes in. Following discussions with regional counterparts as well as international experts in the EE space, plans are being finalised for implementation of a Super ESCO to serve as a coordinated ESCO Model to advance energy efficiency programmes locally.

Super ESCOs

Super ESCOs are typically governmental entities created to serve the public sector, develop the capacity of private energy service companies (ESCOs) and facilitate



BOX 1: HOW ENERGY-SAVINGS PERFORMANCE CONTRACTING WORKS

project financing. Super ESCOs address multiple factors that increase the appeal of ESCO projects for external financiers. ESCO projects must be large while minimising transaction and development costs. Super ESCOs:

- Help aggregate projects and drive down transaction costs through standardisation.
- Provide necessary training and monitoring support.
- Leverage its technical capacities to help overcome barriers in

launching tenders for projects under the EPC approach within the public sector and negotiate agreements for the implementation of EE projects on a sole-source basis using the EPC concept on the client's behalf.

- Ease access to external financing and other technical support.
- Increase EE project implementation rate (SRC 2010, cited in IEA, 20181).

¹ IEA (2018), Energy Service Companies (ESCOs), IEA, Paris https://www.iea.org/ reports/energy-service-companies-escos-2

Cognisant of the supply challenges facing the energy sector and the myriad of hurdles that inhibit the uptake of EE locally, a Super ESCO brings benefits that include:



Providing a mechanism for reducing the volume of natural gas that goes towards electricity generation



Spurring entrepreneurial activity in this emerging sector



Supporting the state's desire to derive the benefits from energy efficiency



Reducing wastages in the consumption of energy



Contributing to national climate change goals





From previous assessments locally, public buildings, including hospitals, schools, government buildings and other public facilities, have been identified as having an average 20-30% energy saving potential, but the implementation of energy savings programmes is complicated by numerous factors. Using the conceptual model in Figure 4, the Super ESCO provides projects to the private ESCO market who in turn provide technical guarantees based on the upgrades completed.

Here, the Super ESCO may also provide financing for the private ESCOs to execute the upgrades. The state (or other financing bodies) provides seed capital and is repaid by the Super ESCO. With public sector bodies, the Super ESCO is retained to execute energy efficiency upgrades and coordinates all stages from procurement to the monitoring of the savings derived from upgrade programmes.

A Super ESCO is also a market enabler and contributes to the creation of jobs in this new clean energy space. According to Canadian

energy efficiency consultancy Econoler, Super ESCOs reinforce capacity-building and project development in existing privatesector ESCOs and help in setting up new ESCOs. A Super ESCO may, for example, absorb the commercial risk and secure the necessary financing if required while leaving the technical risks with private ESCOs, thereby enabling smaller ESCOs who lack financing but have the technical capabilities to participate in projects they would otherwise be excluded from. Thus, the presence of a Super ESCO to coordinate EE locally assists in the development of new service providers who can eventually export their services - and in turn derive jobs that generate US dollars.

Super ESCOs can prove vital in the coordination of an efficiency programme across state buildings by having the responsibility and knowhow in one central location, allowing the state to benefit from savings on account of bundled procurement activities and providing the best recommendations and insight to specific locations. In the public sector setting, the Super ESCO is not crowding out the private sector from the market but more so creating sustained activity that will provide confidence to the private ESCOs to secure capital equipment necessary to complete projects.

This coordinated approach and its ability to efficiently provide the critical resources that would otherwise not be accessible to a single entity, is one of the many reasons why National Energy believes that the Super ESCO programme currently being developed is critical to unlocking the full potential of energy efficiency in enterprises locally.

In 2022, we will embark on the pilot phase of our Super ESCO programme and seek to engage a wide crosssection of stakeholders such as the financing sector, government, and private energy service companies. Here, our vision is to create an energy efficient Trinidad and Tobago – a recommended precursor to the large-scale adoption of significant renewable energy capacity.



PIVOTING CSR

TRANSFORMING SPORT DEVELOPMENT IN THE DIGITAL AGE

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PIVOTING CSR



HASELY CRAWFORD'S HISTORIC WIN MARKED A TURNING POINT FOR SPORT IN TRINIDAD AND TOBAGO.

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NGC has supported sporting activity for decades. However, 1999 marked the genesis of the Company's deepened involvement in the developmental aspects of sport with the launch of the NGC Right on Track (ROT) programme. One hundred metres. Only 100 metres now stood between what had been up to that point, an elusive dream, and glory. This was the moment. Eight men, all champions, took their marks. The starting gun went off and a small nation held its collective breath while praying to the sprinting gods to help make our collective dream come true. Ten seconds later, Hasely Crawford crossed the finish line that became a golden threshold into a new era of sport in Trinidad and Tobago.

With every stride of his momentous dash in Montreal, 1976, Hasely Crawford carried the aspirations of his people with him. And when he crossed the line in first place, we shared in his triumph. He showed that a small nation could do big things on the world stage. The young Brian Laras, Dwight Yorkes, Ato Boldons and Kershorn Walcotts now had irrefutable evidence that one person from Trinidad and Tobago could make a difference. Such is the power of sport to inspire and unite. That is one of the many reasons The National Gas Company of Trinidad and Tobago Limited (NGC) has been an active proponent of sport development for decades.

A legacy of sport development

NGC has supported sporting activity for decades. However, 1999 marked the genesis of the Company's deepened involvement in the developmental aspects of sport with the launch of the NGC Right on Track (ROT) programme. With the guidance of Olympic trailblazer and sporting authority Hasely Crawford TC, the NGC ROT programme was formulated to teach track and field skills to young people aged five to 18. NGC worked closely with regional athletics body, the North American, Central American and Caribbean Athletics Association (NACAC) in developing the programme content. Following the initial success of ROT, NGC collaborated with the Basketball Federation of Trinidad and Tobago to add basketball to the initiative.

Until early 2020, ROT was delivered via a roving caravan in which trained coaches held weekend sessions in communities throughout Trinidad and Tobago. NGC assesses the community in advance to determine whether there is a suitable facility for hosting the session, such as a levelled and cut recreational ground. Discussions are also held with Physical Education (PE) teachers and clubs to ascertain the level of interest in having a ROT workshop in the area. Generally, ROT aims to conduct a series of four practical workshops on consecutive Saturdays in each community. The Company provides the coaches and all requisite equipment for the workshops and ensures that participants are provided with meals during the day. Participation in the weekend workshops is open to anyone within the age group, including members of athletic clubs.

Transforming Sport Development in the Digital Age | CONTINUED

Teaching is focused on the fundamental skills of running, jumping and throwing - the foundation of all physical sports. Workshops are conducted in a circuit of 45-minute intervals in which participants are grouped according to age and taught the rudiments of seven sports - running, high jump, long jump, hurdles, discus, javelin and shot put. More advanced students receive guidance to improve skills specific to their respective sports. Coaches and PE teachers are also trained to expand their knowledge and improve their coaching capacity.

Since its inception, over 20,000 young people and 100 coaches have benefited from the NGC ROT initiative which has been hosted in 105 communities. The model was also replicated in four Caribbean countries – St. Lucia, St. Vincent, Grenada and Dominica.

The Company has leveraged its longstanding partnership with the National Association of Athletics Administrations of Trinidad and Tobago (NAAATT) to support young sportsmen and women with potential to compete at the local, regional and international levels in various age groups. NGC supports the Kids Athletics Programme (KAP) which was developed by the International Association of Athletics Federations (IAAF) – now World Athletics – for integration by all athletics federations into their development programmes. KAP introduces primary school students and PE teachers/coaches to the foundational skills required for running, jumping and throwing. KAP also seeks to incorporate physical activity as a regular part of school life with the concomitant benefits to students' physical, mental, emotional and social wellbeing. As an extension of KAP, NGC sponsors primary school games in the Moruga Zone as well as St. Patrick and Caroni Educational Districts.

NGC's commitment to support the nation's sporting talent reaches beyond the pre-competitive level.



Through the Youth Elite Programme (YEP), selected athletes receive assistance for coaching, medical services, nutrition, mental health, as well as involvement in competitions. NGC is justly proud of the YEP athletes, most of whom have gone on to pursue studies and sport-related career paths. In 2021, two YEP athletes - Kelsey Daniel and Tyrig Horsford - made history, becoming the country's first medallists at the inaugural Junior Pan American Games held in Cali, Colombia. Tyriq Horsford bagged a bronze medal with a javelin throw of 71.33 metres, while Kelsey Daniel took silver in the men's long jump, touching down at 7.90 metres.

Integrating and digitising for the future

During the local primary school games put on by the Ministry of Education, areas of potential alignment and integration with NGC's ROT and KAP programmes were identified. Following in-depth discussions between the Company and the Ministry in 2019, approval was granted for integration of the ROT and KAP content into the ministry's P.E. curriculum for the nation's primary schools. Implementation of the integration plan was however stymied by the onset of the COVID-19 pandemic in March 2020 when in-person classes were halted.

As the months went by, it became increasingly evident that a return to familiar ways of operating would not be possible in the short term. NGC moved efficiently to reconfigure how its business operations were conducted, utilising technology to empower its employees to work from home and adopting new technology for its field operations. Given its commitment to delivering service to its stakeholders, the challenges posed by the pandemic were viewed as an opportunity for reimagining and transforming our Corporate Social Responsibility (CSR) systems.



PIVOTING CSR

The Company implemented an approach that is aligned to the UNDP's Digital Transformation Pathway 1, which focuses on using digital technologies to improve our partner experience and solve development challenges. The aim is to achieve innovation in delivery, cocreation, collaboration, and advocacy with our partners (UNDP, 2021). A strategy was developed for delivery of digital coaching and capacity building training for our NAAATT partner coaches and PE teachers.

Discussions were held with multiple stakeholders including NAAATT and the Ministry of Education, to obtain buy-in for the concept of digital coaching. NGC also engaged Sport for Life of Canada for delivery of digital coaching resources on their specialised digital coaching platform — PLAYBuilder. Before participants could be trained to use the platform, it was necessary to introduce them to concepts related to working in the digital space.

Therefore, in Phase 1 of the implementation process, NGC engaged the services of Youth Training and Employment Partnership Programme (YTEPP), which had provided similar training for the Company's sponsored Police Youth Clubs, to train the coaches and teachers in the use of digital platforms. Over the course of seven 2-hour sessions, participants learned about online facilitation platforms: facilitating online platforms and training; designing content for online learning; and managing online classrooms. The course was intensive and those who completed the programme emerged equipped to begin developing and delivering online coaching and training material.

Phase 2 will involve digitisation and uploading of content on the



A SNAPSHOT OF THE PLAYBUILDER PLATFORM

PLAYBuilder platform. In addition to the PLAYBuilder content pack which includes a plethora of sport and age-specific lesson plans, demos and report templates, a series of fun videos produced by the NAAATT as well as NGC's ROT and KAP content pack will be included in 2022.

To date, 44 coaches and teachers have attended eLearning sessions hosted by Sport for Life, which introduced the key concepts of physical literacy and long-term development in sport and physical activity. A total of 49 persons participated in two workshops focused on the introduction to virtual coaching and how to get started with physical literacy. There are currently 31 coaches, teachers and administrators registered on the platform, which is licenced for a total of 60 persons in the first instance.

Thinking long-term

NGC has embraced the concept of sustainability which inevitably requires that the Company adopt a long-term perspective in how it thinks and acts. In the coming years, we envision that there will be an overall improvement in the performance of our student athletes at local and regional competitions. We also anticipate that the country's standard of coaching would be transformed as persons not only utilise information on the platform. but also build a community within which their individual and collective experience can be shared. Despite the current physical limitations, increased knowledge of physical literacy would allow for the creation of fun, engaging and safe physical activities for the nation's children. When it comes to our investment in the transformation of sport development, NGC is looking forward with anticipation to see the benefits that will surely accrue in the future.

In alignment with Sustainable Development Goal #3, we are happy to do our part to improve the health and wellbeing of our nation — one child, one partner, one community at a time.

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TO REFLECT ON THE BEAUTY THAT SURROUNDS US HERE IN TRINIDAD AND TOBAGO



Woodland waterfall at Brasso Seco. Photo by Logging Tape Media.











- THE NGC GROUP OF COMPANIES -