

# Impact beyond energy

## PUTTING TECHNOLOGY AND DATA TO WORK

Global warming is causing more unpredictable and severe dry and rainy spells, with associated floods and droughts increasing losses for farmers. These challenges could be overcome, or at least alleviated, by applying technology and skillsets already in use at NGC and in the energy sector globally. Data captured by satellites, drones and airborne sensors could potentially be used in computer modelling and predictive analysis to help mobilise action ahead of these significant weather events. With enough input data, major instances of flooding, drought and even pests or diseases can be mapped and tracked year-on-year to create vulnerability models and better guide planting. Software and partnerships managed by NGC's Geospatial Information Services Department could help make such resources available to agricultural communities and stakeholders.

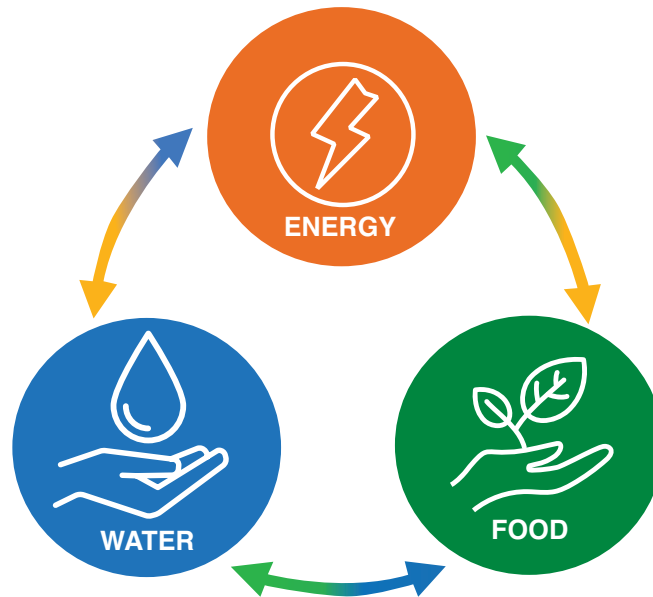
Irrigation can be another challenge due to the high incidence of leaks along local water supply lines. Here, there is an opportunity for NGC to share its expertise to support management of the water supply network. NGC has a robust asset integrity management framework in place, as well as a world-class supervisory control and data acquisition system to monitor pipelines in 'real time' to ensure integrity. Sharing technology and best practice with relevant stakeholders could lead to much-needed improvement in the national water grid. This will not only benefit agriculture but build water security for the wider public as well.

## REDUCING ENVIRONMENTAL IMPACT

Energy is an important input factor in agricultural production, and since most of that energy comes from fossil fuels in the local context, there is room for reducing the carbon impact of the agricultural sector by integrating cleaner fuels.

NGC CNG currently markets Compressed Natural Gas (CNG) as a cleaner and cheaper alternative to diesel and gasoline. Farmers can make use of incentives offered by NGC CNG to convert their vehicles to run on CNG, thereby reducing their GHG output and saving on costs. The same gains would be accrued further down the value chain if vans and refrigerated trucks that are used to transport goods to market are also converted.

*There is an overlooked nexus of energy, food and water security. They may seem an incongruous grouping and require a transformative and collaborative approach enabled by technology, innovation, partnerships and an overall drive for sustainability. NGC believes it can add value in several important ways to register an impact beyond energy.*



National Energy is also exploring applications for renewable sources of energy, including solar and wind, which could replace conventional fuel in powering certain farm equipment, generators, buildings, or even irrigation systems.

Of course, power generation and transportation are not the only sources of GHGs in agriculture. The sector is a major contributor of methane, which has a much higher warming potential than carbon dioxide. NGC and its subsidiaries have embarked on a campaign to address methane emissions, which involves knowledge sharing across sectors to raise awareness about and action against this potent GHG. NGC is open to engaging with agricultural stakeholders to bring attention to practices that help decrease methane output, such as better management of manure or the use of quality feeds.

## INNOVATION

Trinidad and Tobago's agricultural productivity, or value-added per worker per hectare, is among the lowest in the Caribbean, according to the Inter-American Development Bank (IDB).<sup>1</sup> Many factors contribute to this, such as small farm sizes that prevent economies of scale, a shrinking agricultural labour

force and issues related to changing climate.

Growing agriculture as an industry today requires research and innovation to help address these issues and raise productivity and competitiveness. NGC has been partnering with academia for many years and intends to work closely with research institutions to uncover modern and sustainable ways to enrich the sector and boost its revenue potential. The Company also proposes to establish a Research and Development work centre in collaboration with state partners to focus on energy innovation within the agricultural sector, to improve on core capabilities and explore new, disruptive solutions for advancement of the sector. The objective would be to facilitate idea generation and the realisation of concrete projects with measurable outcomes.

A third initiative being considered is the creation of an ideation platform to bring students and young inventors into the conversation, where early stage ideas can be developed, pilot tested and brought to fruition. This initiative would be particularly important to stimulate interest in agriculture among youth.

## INVESTMENT FACILITATION

One of the prerequisites for expansion of any industry is a downstream market. Local produce markets can only absorb so much, given the perishable nature of many fruits and vegetables. The existence of agro-processing industries in Trinidad and Tobago to serve as off-takers for produce would provide much-needed incentive for investment in agricultural development, especially for farmers of highly perishable goods like peppers, and specialist goods like cocoa.

In July 2020, the Government of Trinidad and Tobago opened the country's first Agro-Processing and Light-Industrial Park at Moruga. The park offers leaseable factory shells and lots for processing of pepper, fish, cocoa, root crops and fruit. Investors must be wooed to set up shop at the park and other estates, but Trinidad and Tobago has a poor ease-of-doing-business rating, which often deters investment. Attracting investors to take up residence at the park is an undertaking that will be supported by NGC's subsidiary National Energy through its TTEngage platform. This platform brings all major regulatory agencies involved in the approval process for new investments into a single portal, making the end-to-end process faster and more efficient. This will help more agro-processors launch new businesses, opening fresh market demand for local production.

## BRINGING STAKEHOLDERS TOGETHER

It is clear that NGC and its subsidiaries have a strong value proposition in terms of helping to develop the agriculture sector in Trinidad and Tobago. However, there are other entities with just as much to contribute to the sector, which need to be brought into the conversation. NGC therefore intends to push for greater cross-sectoral and inter-disciplinary collaboration, and has already proposed the formulation of a Steering Committee to oversee the process.

The Company will continue to advocate and work closely with all players to help build the sector, and create an overall greener economy.

**AT THE FOREFRONT OF** *Energy*

<sup>1</sup><https://publications.iadb.org/publications/english/document/Analysis-of-Agricultural-Policies-in-Trinidad-and-Tobago.pdf>