
# Honourable Minister
# of Planning and Development

# Carbon Capture and Storage Symposium

# Tuesday October 29, 2019

I am deeply honoured to have been afforded the opportunity to address you at this Carbon Capture and Storage Symposium, which forms part of the Carbon Emissions Road Map Project, a partnership project between our two premier learning and research institutions, the University of the West Indies (UWI) and the University of Trinidad and Tobago (UTT).

The Ministry of Planning and Development, which has been leading the charge from a governmental perspective on this global issue, is pleased to be part of this symposium which we anticipate, will shed light on the emerging opportunities available to explore the feasibility and practical implementation of carbon capture and storage technology in Trinidad and Tobago.

Though I am by no means a scientist, and cannot even lay claim to knowledge beyond the basics, it literally does not require the brain of a rocket scientist to be aware that the world is experiencing increasing averages in temperature, shifts in the seasons, an increasing frequency of extreme weather events and other climate change impacts, and the creeping onset of events such as sea level rise. I, along with the entire population, repeatedly watch in horror as short, sharp, sudden downpours dump enough rain in 30 minutes that would usually fall in a month. We swelter in crippling heat as temperatures soar and humidity increases, causing many to either run for the protection of the air conditioned offices, or refuse to leave our offices entirely.

Like all other countries in the Caribbean region, Trinidad and Tobago is designated as a Small Island Developing States (SIDS) and therefore particularly vulnerable to the impacts of climate change. Such a nomenclature does not however absolve us from the responsibility to do our part, along with the rest of the global community, to address climate change generally, and the mitigation of our greenhouse gas emissions in particular.

The recent Special Report on Global Warming by the Intergovernmental Panel on Climate Change (IPCC) stated that, at its current rate, global warming is likely to reach 1.5$^{o}$C between 2030 and 2052. The 1.5$^{o}$C goal is particularly important for SIDS, as warming beyond this means much greater climate impacts and in many cases, the very existence of some low-lying islands become threatened. The significance of such a threat becomes magnified when one observes that only recently, photographs have emerged of new islands being discovered because of the melting of the polar ice-caps and glaciers.

Globally, there remains an enormous and ever-widening gap between what we ought to be doing, and what we are actually doing to decrease the rate of climate change. According to the United Nations Environment Programme (UNEP) Annual Emissions Gap Report 2018, countries must triple their efforts in order to achieve the 2 °C climate target, and make five times the current effort if they are to achieve no more than a 1.5 °C increase in the global temperature. Although it is still possible to keep global warming to below 2 °C, the technical feasibility of bridging the 1.5 °C gap is dwindling. Transformative action by every single country in the world is therefore absolutely critical.

Trinidad and Tobago has long recognized its responsibility to implement actions designed not only to combat the deleterious effects of climate change, but more importantly, how it contributes to the global fight by establishing national targets known as Nationally Determined Contributions (NDCs). Indeed, Trinidad and Tobago was the first Caribbean country and second small island state to submit its international commitment to climate change, doing so as far back as August 2015. This commitment formally became the NDC of Trinidad and Tobago upon ratification of the Paris Agreement in February 2018. It is arguably, the most ambitious national target in the region.

In its NDC, Trinidad and Tobago aims to achieve a reduction in overall emissions from the three sectors by 15% by 2030, which in absolute terms is an equivalent of one hundred and three million tonnes (103,000,000) of CO2e. The estimated cost of meeting this objective is US$2 billion, which is expected to be met partly through domestic funding and internationally sourced financing including, but not limited to the Green Climate Fund. Trinidad and Tobago has also committed to unconditionally reduce its public transportation emissions by 30% or one million, seven hundred thousand tonnes (1,700,000) CO2e compared to 2013 levels by December 31, 2030. We are indeed hopeful that this goal could be achieved as we increase the number of CNG powered PTSC buses and Government vehicles in our fleet. Additional Governmental initiatives to ban the use of Styrofoam products and bottled water in Government buildings are all designed to dovetail with our other international commitments to treating with climate change.

Trinidad and Tobago has also set up an enabling framework to address climate change, the cornerstone of which is the National Climate Change Policy or NCCP, which seeks to address, *inter alia*, the impacts of climate change including sectoral vulnerability and mitigation potential in major emitting sectors; current and proposed legislation related to mitigation and adaptation, and the identification of gaps in the legislation. The National Climate Change Policy is currently being updated to include the latest scientific findings and international policy such as the Paris Agreement and the sustainable development goals.

Notwithstanding, the National Climate Change Policy addresses mitigation or reducing greenhouse gas emissions through the exploration of new and emerging technologies for carbon sequestration through cooperating with the international community to develop carbon capture and storage technology in geological formations utilizing the already abundant experience of Trinidad and Tobago in using carbon dioxide for enhanced oil recovery.

With this recognition, Trinidad and Tobago undertook preliminary feasibility studies into carbon capture and storage in 2013, and a pre-feasibility study for a carbon capture and storage project was also completed. This study included preliminary estimates of the $CO_2$ storage capacities and capabilities of the hydrocarbon (oil and gas) reservoirs of Trinidad and Tobago to allow for policy decisions. It was clear from this preliminary research that carbon capture and storage is possibly feasible in Trinidad and Tobago, and opportunities for project development in this field may indeed exist.

I do note however, the considerable costs associated with utilizing Carbon Capture Sequestration (CCS) for mitigating climate change in respect of not only the technology itself, but the costs associated with monitoring post-sequestration, if Trinidad and Tobago is to use this technology to meet its international commitments and reporting. The use of CCS in enhanced oil recovery has been suggested as a way of defraying costs, but in respect of achieving overall mitigation, the requisite carbon accounting for meeting those commitments would be expected to be part of the overall governance structure of any such project.

In this regard therefore, Trinidad and Tobago can benefit through the use of carbon capture and storage as a means of $CO_2$ emissions mitigation given our large heavy petrochemical sector as well as our history in enhanced oil recovery. The time is therefore ripe for us to conduct the necessary precise feasibility studies for CCS projects locally and for us to explore opportunities to leverage international support. The opportunities for technology transfer, and for Trinidad and Tobago to join the technology leaders in CCS and climate change mitigation is to be encouraged and supported.

In a very real sense though, Trinidad and Tobago is behind the proverbial eight ball where this research is concerned, which is why today's event is of such critical importance. The first dedicated research facility examining the multiple uses of Carbon Capture Sequestration technology opened in the United States some 30 years ago, and in the last decade the number of viable carbon capture technologies has grown dramatically. Moreover, huge developments in recent years have allowed carbon capture to be applied to a greater number of industries, from transportation to construction.

Recently pioneered utilization technologies have also allowed manufacturers to create a range of products – from trainers to mattresses to insulation foams – from captured CO2. This has transformed it into an asset, potentially offsetting game-changing levels of emissions. I am advised that in the plastics sector, for example, CO2 can actually be used as a raw material. Plastics are made from polymers, which are chains of repeating chemical groups akin to a string of beads. Typically, these chemical "beads" are made of petrochemicals like oil, so, if they were replaced with CO2, the required amount of petrochemical feedstock would reduce, while making use of captured CO2.

Other possible applications for CO2 include the facilitation of enhanced fuel recovery through its injection into oilfields, causing oil to flow better into production wells. The research indicates that it can also be used in fuel and chemical manufacture as well as in construction, as demonstrated by cement production technologies from companies like Carbon8 and Solidia. And this is by no means an exhaustive list. With further backing, the potential for carbon capture to be deployed across other sectors appears to be enormous.

I congratulate the University of Trinidad and Tobago and the University of the West Indies on this important initiative, as it is from you we expect this research to both flow and produce fruit. For this, I assure you today of the Government's continued support and action.

In closing, I wish to underscore that the Government of Trinidad and Tobago will continue to play its part by setting the policy framework and by supporting activities on carbon capture and storage in the context that I have outlined. Our commitment to working collaboratively with you in this regard will remain unwavering. As Minister of Planning and Development, I am confident that we are on the right road in respect of our climate change mitigation strategies. I am convinced that the fruits of this symposium will take us closer to where we need to be, and I give you the assurance that as long as you do your part, you will find in your Government both an open door and a willing partner.

May God bless your deliberations, and I await the results of your work.