Guyana Energy Agency

2019

ANNUAL REPORT









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EXECUTIVE SUMMARY

Petroleum Products

6,313,740 barrels of petroleum-based products were imported in 2019 representing about 17,298 barrels per day, an 8.99% increase when compared to 2018. Petroleum imports for 2019 were acquired at a cost, insurance and freight (CIF) value of US$523,981,885, representing an increase of 2.14% from the acquisition cost in 2018.

The average cost per barrel of petroleum-based imports decreased from US$88.56 in 2018 to US$82.99 in 2019, a decrease of 6.29%. This downward trend also continued for the average unit CIF value for each petroleum product. There were decreases of 7.19%, 5.51% and 6.08% in the average unit CIF value (US$/bbl) for Mogas (gasoline), Gasoil (diesel) and Jet fuel/Kerosene respectively. In addition, the average unit CIF value for Fuel oil, Aviation Gasoline (avgas), LPG (cooking gas) and LNG also decreased by 8.86%, 3.42%, 19.44% and 17.30% respectively.

Retail prices for Mogas (gasoline), Gasoil (diesel) and Kerosene increased during 2019 by an average of 2.69%. Specifically, average retail price for gasoline decreased by 2.37% and diesel increased by 1.08%. Also, the average retail price for domestic kerosene rose by 13.53% while the average retail price for cooking gas (LPG) increased by 6.24%.

Solar Energy

In 2019, contracts were awarded for an additional 80 buildings with installed capacity of 1.3 MWp of solar PV systems; resulting solar energy generation of 2,144.90 MWh, cost savings of about G$126.18 million and avoided carbon dioxide emissions of approximately 1,557 tonnes. Over the seven-year period (2012 – 2019) a total of 287 buildings were outfitted with 4.753 MWp of roof-top solar PV capacity and an electricity generation potential of 7,831.07MWh annually.

A Contract was awarded for the installation of a 72kWp solar micro grid in Moraikobai, Region 5, which will provide electricity from a renewable energy source to supply approximately 270 households (approximately 1,000 persons). The project will allow an increase in the duration of daily electricity supply from 4 hours to 12 hours, avoid annual CO_2 Emissions of 70,199.57 kg and will generate about 97.36 MWh of energy annually. The system will be operational by the second quarter of 2020.

As the Implementing Agency for the Project for the Introduction of Renewable Energy and the Improvement of Power Systems in Guyana (Grant Agreement No. 1860260), GEA provided support towards the technical loss reduction for GPL and the installation of a 400 kWp solar PV power generation system at the CARICOM Secretariat. Some materials were already provided to GPL and other materials have been shipped. The project is expected to be completed by the third quarter of 2020.

GEA is also the implementing Agency for two Components of the Energy Matrix Diversification and Strengthening of the Department of Energy (EMISDE) project financed by a loan from the Inter-American Development Bank (IDB). One of the major components is the Renewable Energy Solutions for the Hinterland which involves the installation of three Photovoltaic-tied mini-grid systems in Bartica, Lethem, and Mahdia, totalling approximately 3.15 Megawatts and implementation of a storage capacity to manage intermittence of these sources. The tender process commenced for the solar farms at Bartica and Lethem with the bids scheduled for opening on January 7, 2020. Contracts are expected to be awarded during the second quarter of 2020 for Bartica and Lethem, whereas Mahdia will be tendered separately during the third quarter of 2020.

462 Integrated stand-alone 80W solar streetlights were installed across the 10 administrative Regions. GEA's engineers also assisted NAREI with the Procurement and installation of twenty-two (22) integrated 80W stand-alone solar powered LED lights. GEA had applied and received grant funding of G$2,450,000 from the Canada Fund for Local Initiatives which resulted in the installation of 7 complete stand-alone solar powered LED lights rated at 80 Watts in the National Park

In addition to the above, GEA's Engineers provided technical and procurement support, monitoring and supervision for a number of other installations at the Ministry of Public Infrastructure, Office of Climate Change, Georgetown Public Hospital Corporation, Boerasirie Conservancy, Student Loan Agency, Guyana Elections Commission, Iwokrama River Lodge and Research Centre, Guyana Livestock and Development Authority, Kamarang, Hospital, National Parks Commission, Hinterland Electrification Company Inc, Baganara Island Resort, Basic Needs Trust Fund, East Berbice Fisherman's Association and the Aishalton Health Centre.

Hydropower

GEA provided technical support to the Ministry of Finance and worked with representatives of the Islamic Development Bank (IsDB) to advance financing for the rehabilitation of the Moco-Moco Hydropower Station (0.7MW, Region 9) and the construction of two new hydropower stations at Kumu (1.5MW, Region 9) and Ikuribisi (1MW, Region 7). Guyana received approval from the IsDB Board of Directors in December 2019 for the Loan.

GEA's Hydropower Engineers supported the Hinterland Electrification Company Inc (HECI) with the advancement of the 150kW Kato Hydropower Project. Construction is set to commence in 2020.

GEA's Hydropower Support Engineers advanced the Construction of a 20kW Pico HydroPlant at Hosororo mainly for training and capacity building. A dry spell in the Region delayed commissioning in 2019 and a leak was subsequently observed at the inlet to the power house. Commissioning was delayed to allow a hoist to be procured to address the leak.

In continuing efforts to collect data on potential hydropower sites for future development, hydrological date collection continued at Paruima, Region 7. A technical assessment was conducted at Chenapau, Region 8 to explore the possibility of developing a pico hydro site. A pre-feasibility study was drafted and reviewed by the GEA engineers for a possible Eclipse falls hydropower project. The study predicts a 5MW development with future load centers being the towns of Port Kaituma, Mabaruma and the village of Mathews Ridge.

Wind Energy

GEA identified 7 potential locations/sites along Guyana's Coast to conduct detailed wind resource assessment and consequently the development of utility scale (grid connected) wind farms. GEA has since advanced efforts in having these areas zoned for Wind Farm Development.

GEA has concluded wind speed measurement at: Orealla, Jawalla, Mahdia, Yupukari, Kumu, UG Turkeyen, Port Mourant and the Georgetown Sea Wall. GEA is currently conducting wind speed measurements at Kato (Region 8) and Quarrie (Region 9).

GEA's Engineer designed and installed one wind powered street light where wind energy is utilized as an alternative to conventional street lighting powered by electricity from the public utility. The first unit installed by the GEA, cost G$247,553 with an estimated simple payback of about 4 years.

Energy Efficiency

GEA has commenced the Hinterland LED Lighting Programme which is intended to replace approximately 24,177 inefficient lights with energy efficient LED lamps and benefit approximately 3,490 households & businesses within 6 Hinterland Communities. The programme's cost is $165,762,988 and based on the energy efficiency savings, has an estimated payback of 0.67 years. During 2019, household level surveys and sensitization programmes were conducted and with the support of HECI and GEI, electricians were trained and certified. Procurement of the lamps was completed and delivery has commenced. Installations will commence in the first quarter of 2020.

Licensing Activities

The Agency issued a total of 1,406 licences for 2019, for the majority of categories of licences (Importing/Importing Wholesale/Wholesale, Retail, Consumer Installation, Bulk Transportation Carriers, Storage). This represents a 10% increase compared to 2018.

Fuel Marking Programme

Under the Fuel Marking Programme, of the 11,438 total site visits conducted during the year, 1,551 sites were sampled at least once.

There were 9 joint operations with Guyana Police Force (GPF), the Guyana Defence Force (GDF) and the Guyana Revenue Authority (GRA).

10 (0.6%) of the sites sampled at least once were found with *significant dilution (defined as more than 50%)* in at least one tank. The percentage of sites found with significant dilution in at least one tank has progressively decreased from 34% in 2006 to 0.6% in 2019.

The Fuel Marking Programme completed 21 investigations, received approval of $1,040,000 in compensation under *Section 33A Guyana Energy Agency Act;* the additional sum of $130,000 was pending approval at the end of 2019. A revised *Petroleum and Petroleum Products Regulations* was submitted to the Hon. Minister for review.

Information Dissemination

GEA participated and facilitated many information dissemination and awareness activities which enabled interaction with members of the public, students and various organizations to provide lectures, seminars, information brochures, press releases, newspaper pull-outs, radio and TV infomercials with energy conservation tips. During 2019, GEA's Public Communications Officer conducted forty-five (45) presentation to schools across Guyana. GEA conducted 7 Presentations to Ministries, Agencies, Private Sector and NGOs, 2 Seminars and 4 Workshops on Sustainable Energy; broadcast 1,267 Radio Advertisements, 257 Television adverts, 160 infomercials and 120 documentaries; published 139 print advertisements; and distributed 11,000 brochures, 1,060 booklets, and 205 posters.

Administration

The staff of the Agency benefited from training and workshops in several areas, through the conduct of 28 training programmes benefitting 72 Officers.

1.0 Energy & Energy Statistics Division

1.1 Petroleum-Based Imports

For the year 2019, the Division facilitated the importation of one hundred and seventy-seven (177) shipments of petroleum-based products on behalf of the oil companies, a minor decrease from one hundred and seventy-nine (179) shipments in the previous year. About thirty-nine percent of the shipments in 2019 were lifted from Trinidad and Tobago, thirty-four percent of the shipments were sourced via third parties based in USA, Europe, Jamaica, Antigua, St. Lucia and St. Eustatius, and the remaining twenty-seven percent was lifted from Suriname[1].

TOTAL IMPORTS (BBLS)

January-December	Product	2018	2019	% change
	Mogas	1,317,450	1,375,211	4.38%
	Gasoil	2,572,503	3,013,280	17.13%
	Kero	76,488	77,976	1.95%
	Avjet	149,660	160,106	6.98%
	Fuel oil	1,458,369	1,450,255	-0.56%
	LPG	209,844	225,570	7.49%
	LNG	333	2,538	661.33%
	Avgas	8,209	8,805	7.26%
	Total	**5,792,857**	**6,313,740**	**8.99%**

TOTAL IMPORTS - OIL COMPANIES (BBLS)

January-December	Product	2018	2019	% change
	Mogas	1,317,450	1,375,211	4.38%
	Gasoil	2,281,429	2,619,530	14.82%
	Kero	76,488	77,976	1.95%
	Avjet	149,518	160,106	7.08%
	Fuel oil	111,410	141,465	26.98%
	LPG	197,130	212,141	7.61%
	Avgas	2,397	2,249	-6.18%
	Total	**4,135,822**	**4,588,678**	**10.95%**

The total petroleum imports recorded an overall increase of 8.99% in 2019 with a total of 6,313,740 barrels of petroleum-based products imported and an average of approximately 17,298 barrels per day. There were increases in the imports of Gasoil (diesel), LPG (cooking gas), Mogas (gasoline), Kerosene, Avjet (Jet Fuel), Avgas (aviation gas) and liquid natural gas (LNG) while imports for Fuel oil decreased slightly during this period.

[1] Shipments relate solely to Mogas, Gasoil, Avjet/Kerosene, LPG and Fuel oil.

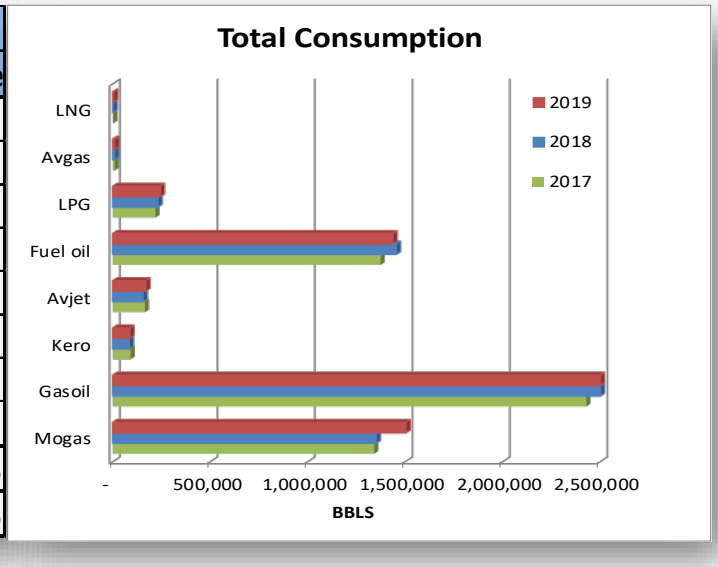
Imports for the oil companies rose by 10.95% in 2019 with a total of 4,588,678 barrels of petroleum-based products imported and an average of approximately 12,572 barrels per day. There were increases in the imports of Gasoil, Fuel oil, LPG, Mogas, Kerosene and Avjet while imports for Avgas declined during this period.

1.2 Consumption of Petroleum Products

Consumption of petroleum products was generally calculated based on opening stock, closing stock and import volumes for the year.

Consumption = Opening stock + Import volumes – Closing Stock

TOTAL CONSUMPTION (BBLS)					
January - December		2017	2018	2019	% change
	Mogas	1,340,712	1,349,687	1,503,160	11.37%
	Gasoil	2,428,990	2,578,600	3,016,283	16.97%
	Kero	91,009	83,581	86,221	3.16%
	Avjet	164,564	154,992	168,921	8.99%
	Fuel oil	1,373,781	1,453,668	1,435,560	-1.25%
	LPG	218,665	230,612	242,878	5.32%
	Avgas	9,499	8,250	8,747	6.02%
	LNG	3,082	333	2,538	661.33%
	Total	**5,612,475**	**5,859,724**	**6,464,307**	**10.32%**
	Bpd	**15,335**	**16,054**	**17,710**	**10.32%**



Sales data received from Guyoil, Rubis and SOL as well as consumption data from the Guyana Power and Light Inc. and Bosai Minerals Group (Guyana) Inc. (BOSAI) were also incorporated in the calculation of total consumption. A total of 6,464,307 barrels of petroleum-based products were consumed in 2019 with an average of 17,710 barrels per day. This represents a 10.32%

increase when compared to 2018[2]. There were also increases in the consumption of all products except for fuel oil.

The increase in gasoline consumption for 2019 can be attributed to an increase in motor vehicle registration and the relatively larger increase in LPG consumption suggests greater use of cooking gas over kerosene. In addition, there was a decrease in overall fuel oil consumption which may be attributed to contraction in bauxite production and manufacturing, despite higher HFO consumption by GPL. Also, the increase in jet fuel consumption can be attributed to increased flight travel at international airline carriers.

Notwithstanding a decrease in diesel fuel use from Trawlers' Association, there was an overall increase in diesel consumption with increases from the oil companies, GPL and newer importers (including United Petroleum Inc., Atlantic Fuels, China Zhonghao Inc., SBF Petroleum and KB Enterprise). The increase in diesel volumes can be attributed to improvements in the rice, forestry, gold mining industries, an expansion of the service sector due to oil and gas activities, and LFO consumption by GPL. Avgas consumption have also increased indicating more domestic travel. A relatively larger volume of liquefied natural gas (LNG) was used by a local beverage company as part of their continued fuel diversification efforts in 2019.

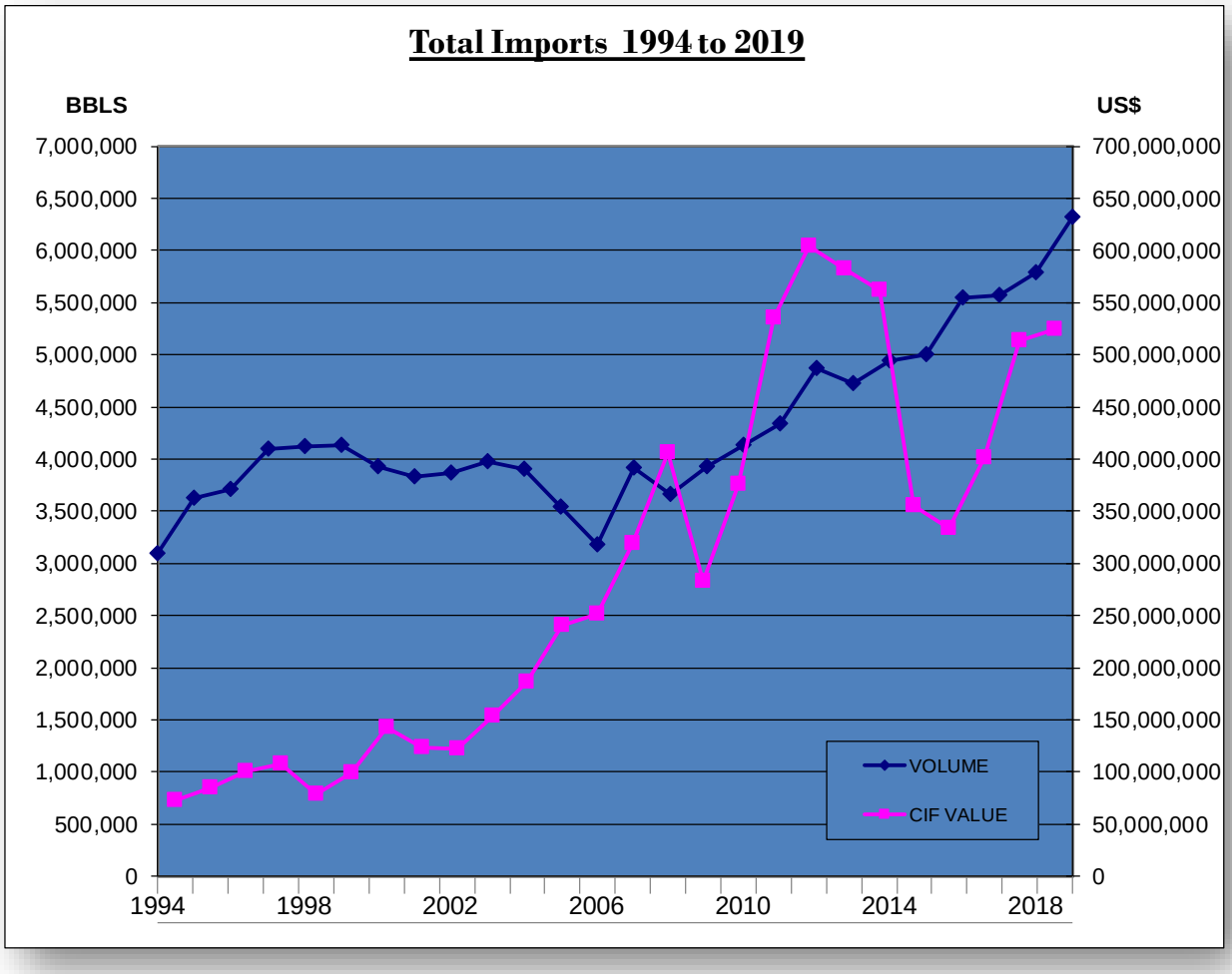
1.3 Acquisition Cost and Retail Prices

Petroleum imports for 2019, which amounted to 6,313,740 barrels, were acquired at a cost, insurance and freight (CIF) value of US$523,981,885, representing an increase of 2.14% from the acquisition cost in 2018.

[2] Gasoil and Fuel oil purchased locally by GPL from the oil companies were discounted to avoid double counting.

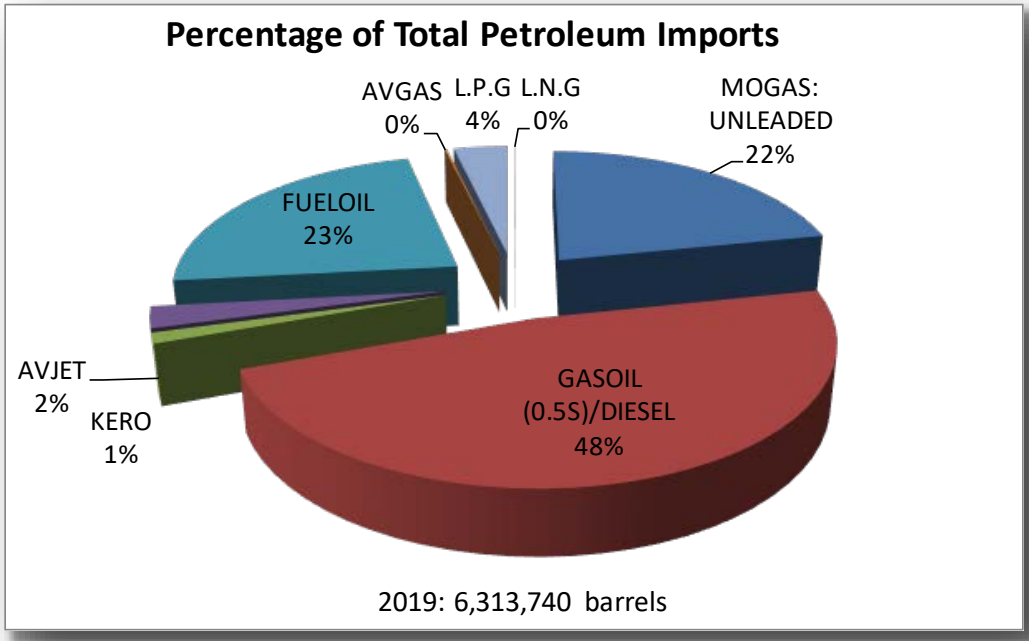
TOTAL IMPORTS OF PETROLEUM PRODUCTS FOR PERIOD 1994 TO 2019

	VOLUME		CIF VALUE
	BBLS	LTRS	US$
1994	3,095,728	492,181,436	72,067,912
1995	3,624,053	576,178,402	85,161,130
1996	3,711,893	590,143,846	100,696,609
1997	4,093,677	650,842,653	107,727,233
1998	4,125,765	655,944,238	78,539,499
1999	4,137,266	657,772,751	99,704,391
2000	3,924,614	623,963,783	143,277,974
2001	3,834,651	609,660,809	123,373,521
2002	3,865,505	614,566,203	122,643,684
2003	3,980,199	632,801,092	153,193,966
2004	3,901,760	620,330,288	185,702,255
2005	3,546,069	563,779,936	240,663,147
2006	3,179,925	505,567,690	251,594,083
2007	3,910,234	621,677,546	319,122,554
2008	3,660,583	581,986,208	405,960,936
2009	3,924,723	623,981,072	282,909,993
2010	4,137,931	657,878,518	375,951,700
2011	4,341,345	690,218,765	534,982,446
2012	4,867,748	773,910,151	604,000,602
2013	4,726,150	751,397,875	582,281,795
2014	4,938,855	785,215,261	561,633,697
2015	5,001,497	795,174,539	355,201,732
2016	5,547,048	881,910,233	333,248,345
2017	5,563,733	884,562,863	401,521,446
2018	5,792,857	920,990,646	513,020,563
2019	6,313,740	1,003,804,534	523,981,885
TOTAL	**111,747,551**	**17,766,441,337**	**7,558,163,099**

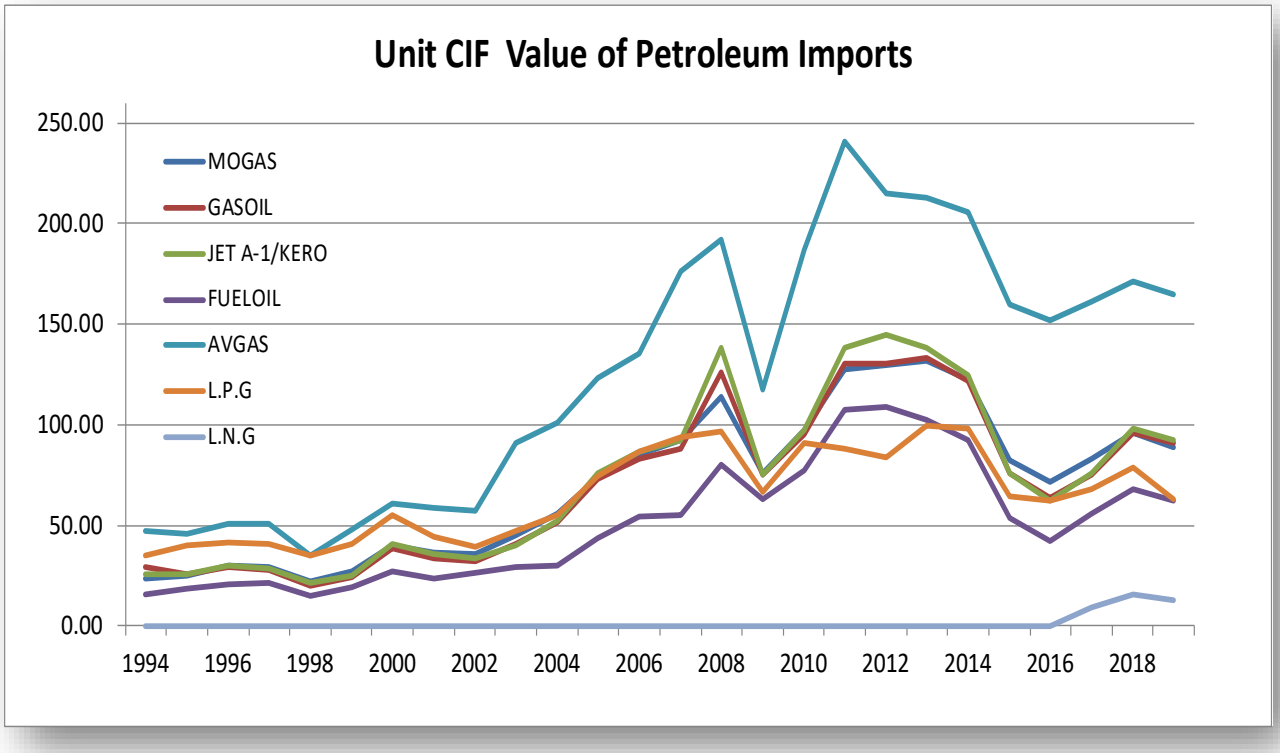

Total Imports 1994 to 2019
BBLS
US$
7,000,000
6,500,000
6,000,000
5,500,000
5,000,000
4,500,000
4,000,000
3,500,000
3,000,000
2,500,000
2,000,000
1,500,000
1,000,000
500,000
0
700,000,000
650,000,000
600,000,000
550,000,000
500,000,000
450,000,000
400,000,000
350,000,000
300,000,000
250,000,000
200,000,000
150,000,000
100,000,000
50,000,000
0
1994
1998
2002
2006
2010
2014
2018
VOLUME
CIF VALUE

TOTAL IMPORTS BY PRODUCTS FOR THE YEAR 2019

PRODUCTS	VOLUME		C.I.F VALUE
	LTRS	BBLS	US$
MOGAS: UNLEADED	218,641,111	1,375,211	122,551,622
GASOIL (0.5S)/DIESEL	479,073,206	3,013,280	273,222,008
KERO	12,397,194	77,976	7,117,057
AVJET	25,454,821	160,106	14,812,414
FUELOIL	230,572,135	1,450,255	90,232,728
AVGAS	1,399,864	8,805	1,453,704
L.P.G	35,862,697	225,570	14,263,331
L.N.G	403,506	2,538	329,021
TOTAL	**1,003,804,534**	**6,313,740**	**523,981,885**



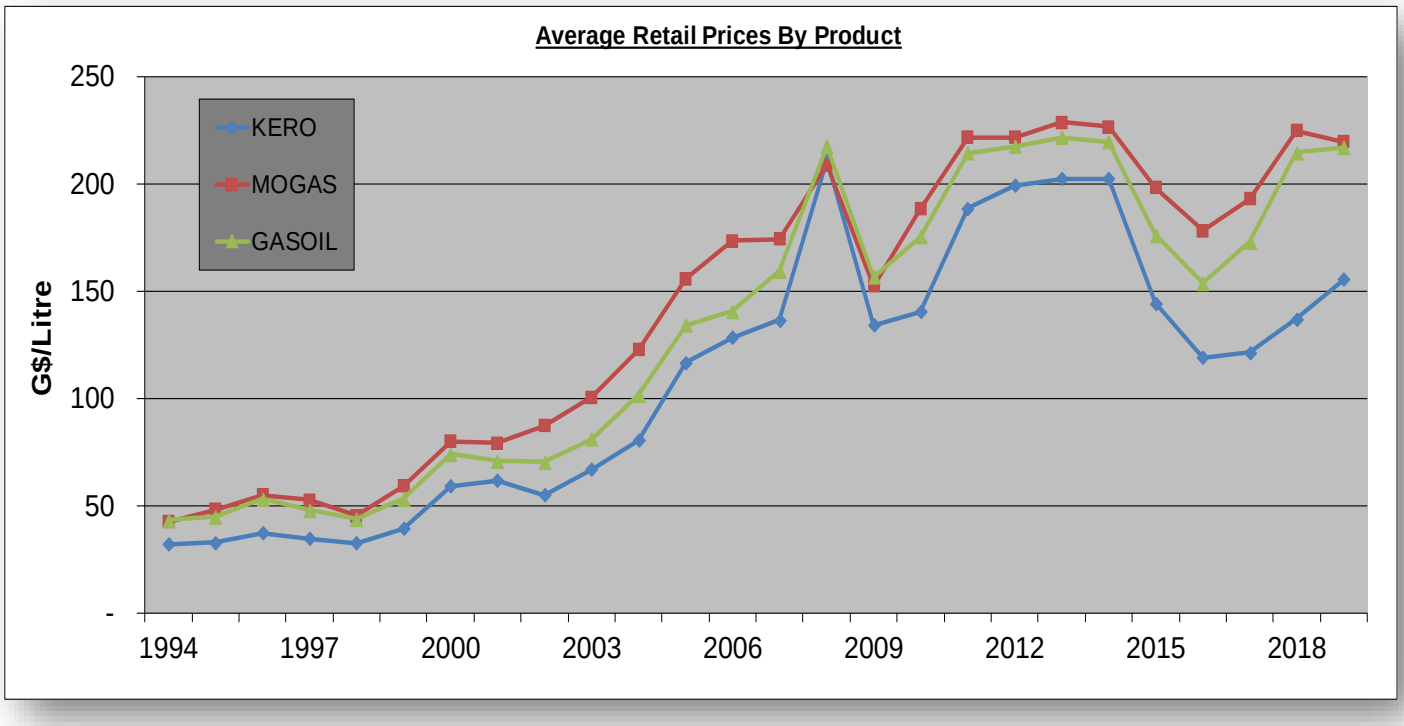
For 2019, Gasoil was the most imported product representing 48% of total imports and a CIF value amounting to 52% of total acquisition expense[3]. Fuel oil and Mogas reflected 23% and 22% of total imports respectively with corresponding CIF values amounting to 17% and 23% of total acquisition costs, respectively. The remaining products (Kerosene, Avjet, LPG, LNG and Avgas) constituted no more than 7% of total imports and 7% of total acquisition costs.



The average cost per barrel of petroleum-based imports decreased from US$88.56 in 2018 to US$82.99 in 2019, a decrease of 6.29%. This downward trend also continued for the average unit CIF value for each petroleum product. There were decreases of 7.19%, 5.51% and 6.08% in the average unit CIF value (US$/bbl) for Mogas (gasoline), Gasoil (diesel) and Jet fuel/Kerosene

[3] Gasoil CIF value was estimated for volumes used by the Trawler Association, United Petroleum Inc., China Zhonghao Inc., Atlantic Fuels Inc., SBF Petroleum, and KB Enterprise in 2019.

respectively. In addition, the average unit CIF value for Fuel oil, Aviation Gasoline (avgas), LPG (cooking gas) and LNG also decreased by 8.86%, 3.42%, 19.44% and 17.30% respectively.



Average retail price for gasoline decreased by 2.37% and diesel increased by 1.08%. Also, the average retail price for domestic kerosene rose by 13.53% while the average retail price for cooking gas (LPG) increased by 6.24%.


LPG: Average Retail Prices
G$/20lb. Tank
4,000
3,500
3,000
2,500
2,000
1,500
1,000
500
-
1994
1997
2000
2003
2006
2009
2012
2015
2018

1.4 Solar Energy

1.4.1 Solar PV Systems for Public Buildings

Following the first demonstration installation at the GEA building in 2012, solar rooftop installations on Government buildings commenced with the installation of 0.023 MWp of solar PV systems at 8 buildings by the end of 2016; resulting in solar energy generation of 37.88 MWh, cost savings of about G$2.23 million and avoided carbon dioxide emissions of approximately 27 tonnes.

Ministry of Education, Region 3, 33.32kWp Solar PV System

In 2017, an additional 1.092 MWp of solar PV systems at 90 buildings were installed; resulting solar energy generation of 1,801.84 MWh, cost savings of about G$ 106.0 million and avoided carbon dioxide emissions of approximately 1,308 tonnes.

National Insurance Scheme, Anna Regina, Region 2, 11kWp Solar Photovoltaic System

In 2018, an additional 2.336 MWp of solar PV systems at 109 buildings were installed; resulting solar energy generation of 3,846.45 MWh, cost savings of about G$226.29 million and avoided carbon dioxide emissions of approximately 2,793 tonnes.

In 2019, contracts were awarded for an additional 80 buildings with installed capacity of 1.3 MWp of solar PV systems; resulting solar energy generation of 2,144.90 MWh, cost savings of about G$126.18 million and avoided carbon dioxide emissions of approximately 1,557 tonnes.

Over the seven-year period (2012 – 2019) a total of 287 buildings were outfitted with 4.753 MWp of roof-top solar PV capacity and an electricity generation potential of 7,831.07MWh annually.

Year	Number of Government Buildings	Installed Solar PV Capacity (MWp)	Solar Energy Generation (MWh)
2012 to 2016	8	0.023	37.88

2017	90	1.092	1801.84
2018	109	2.336	3846.45
2019	80	1.302	2144.90
Total	**287**	**4.753**	**7831.07**

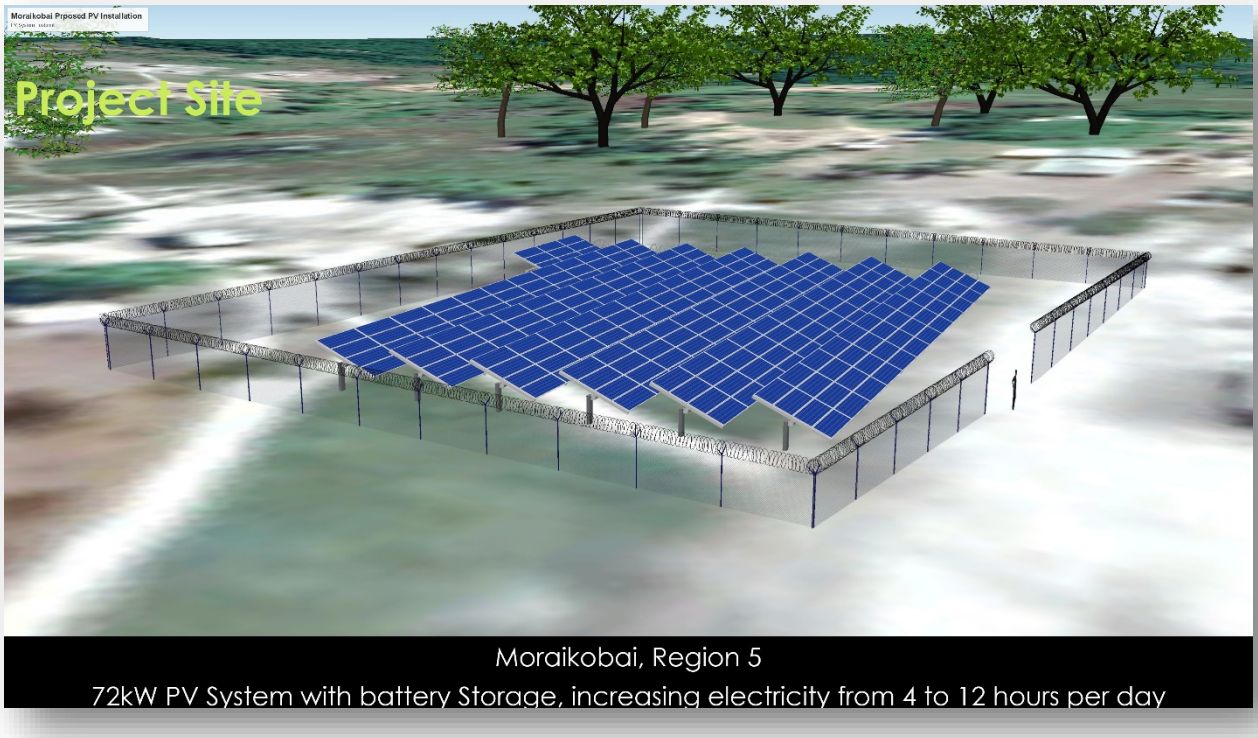
Roof-top Solar PV System Installations 2012-2019

The buildings with grid-tied systems are able to offset some of their electricity consumption from the electric grid with electricity generated from the solar PV systems. Also, the stand-alone solar PV systems are critical for buildings in the Hinterland communities in Regions 1, 2, 7, 8, and 9 where the existing electricity supply is limited. The benefits to these regions include improved health and educational services through the supply of electricity to power equipment such as refrigerators, laboratory equipment, and information and communications technology (ICT); resulting in an improvement in the standard of living. Further benefits include a reduction in the energy costs for all buildings and the initiative serves to demonstrate the applicability of solar PV system operation and its energy contribution to Guyana. It is also expected to contribute towards Guyana's efforts to reduce reliance on fossil fuels through the proliferation of renewable energy technologies.

Accounting for similar initiatives by the Hinterland Electrification Company Inc., over the last 7 years, more than 5 MW of new solar panels were installed on the roofs of 291 Government buildings resulting in annual savings of G$488 million and the avoidance of 6,023 tons of carbon dioxide emissions annually.

1.4.2 Solar Micro-Grid

A Contract was awarded for the installation of a 72kWp solar micro grid in Moraikobai, Region 5, which will provide electricity from a renewable energy source to supply approximately 270 households (approximately 1,000 persons). The project will allow an increase in the duration of daily electricity supply from 4 hours to 12 hours, avoid annual CO_2 Emissions of 70,199.57 kg and will generate about 97.36 MWh of energy annually. The system will be operational by the second quarter of 2020.



Moraikobai, Region 5
72kW PV System with battery Storage, increasing electricity from 4 to 12 hours per day

1.4.3 Technical Support

GEA's Engineers provided technical support to a number of entities throughout the year:

- Ministry of Public Infrastructure (MoPI) – Pedestrian overpass solar PV systems & Document Center: Design and oversight of the installation of AC coupled systems for backup.

- Office of Climate Change/United Nations Development Programme/Japan Caribbean Climate Change Partnership pilot project at Three Miles Secondary School in Bartica: Design and oversight of the installation of a 23.1kWp AC coupled PV system, training of 5 electricians from Bartica on PV maintenance.

- Georgetown Public Hospital Corporation: Energy Efficiency and Solar PV recommendations.
- Boerasirie Conservancy: Off-grid PV System design.
- Student Loan Agency: Energy Efficiency and Solar PV recommendations.
- Guyana Elections Commission (GECOM): Solar PV Installations at interior locations.
- Iwokrama River Lodge and Research Center: Efficiency and Solar PV recommendations.
- Guyana Livestock and Development Authority: Energy Efficiency and Solar PV recommendations.
- Kamarang Hospital: Energy Efficiency and Solar PV recommendations.
- National Parks Commission: Supply, Installation and Commissioning of Integrated Stand-Alone Solar Powered 80W LED Street Lights for the Botanical Gardens
- Hinterland Electrification Company Inc (HECI): review of the solar PV Farm at Mabaruma.
- Baganara Island Resort: Energy Efficiency and Solar PV recommendations.
- Karaburi Region 1: Assessment for solar mini-grid.
- Basic Needs Trust Fund: Primary and Nursery Schools: Readiness for RE systems installation.
- East Berbice Fisherman's Association: Energy Efficiency and Solar PV recommendations.

- Aishalton Health Centre: Assessment of batteries and PV system.

1.4.4 Repairs to Existing Solar PV Installations

GEA's Engineers and Electricians repaired the following solar PV systems in 2019:

- President's College Dormitory, Region 4
- Dredge Creek Primary School, Pomeroon, Region 2
- Hackney Creek Primary School, Pomeroon, Region 2
- 58 Miles Primary School, Region 10
- St. Ignatius Primary School, Region 9
- La Harmonie Primary School, Region 3
- Long Creek Primary School, Region 4

1.4.5 Project for the Introduction of Renewable Energy and the Improvement of Power Systems in Guyana (Grant Agreement No. 1860260)

The project is comprised of two components, namely:

a) The Technical loss reduction component aimed at enhancing the power supply reliability and reducing technical loss through the installation of a 10MVAr reactive power compensator at the Canefield substation and the upgrade of four 13.8kV distribution feeders. The materials will be provided to GPL to upgrade the feeders.
b) The installation of a 400 kWp solar PV power generation system with battery storage and a Building Energy Management System (BEMS) to control electricity usage at the CARICOM Secretariat.

The project is funded with a Grant from the Government of Japan in the amount of JPY 1.848 billion based on an Exchange of Notes and Grant Agreement signed on June 27, 2018. An agreement for the provision of consultancy services for implementation of the project was signed on August 29, 2018 with the firm Kansai Electric Power Inc. JV NEWJEC Inc. for the sum

of JPY 153 million. Contracts for the two components were subsequently awarded to the Consortium of Mitsubishi Corporation and Takaoka Engineering Co. Ltd. on February 28, 2019 for the sum of JPY 741.3 million (GPL) and JPY695 million (CARICOM), respectively. The completion dates are June 30, 2020 and September 30, 2020. The GEA is the implementing Agency for the Project.

A kick-off meeting for the GPL component was held on October 3, 2019 with representatives of GPL, GEA, the Contractor and Consultant. Preparatory and pile driving works by the contractor at the Canefield site commenced on October 7, 2019 and is ongoing. The reactive power compensator equipment departed Japan on December 26, 2029 and is expected to arrive in Guyana on February 25, 2020 with installation expected to commence shortly after. A three-person team from the contracting firm along with the local subcontractor, Home Designs & Engineering Associates, is carrying out the works.

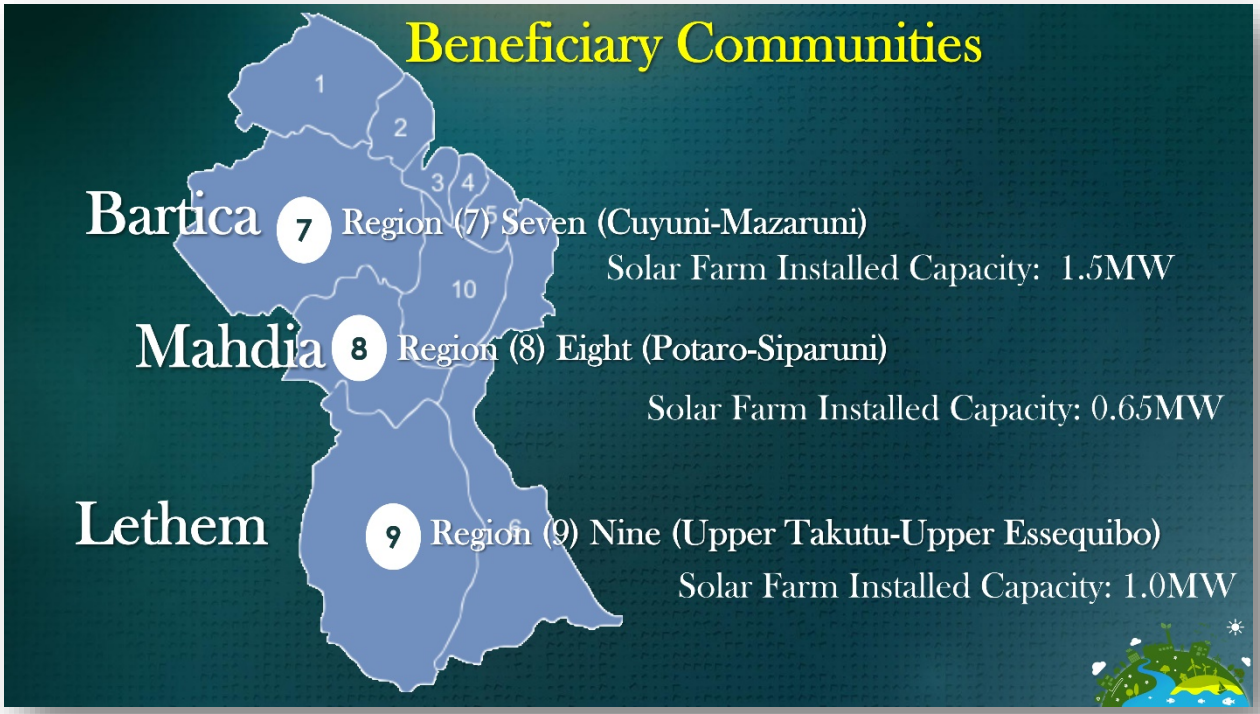
The materials for upgrading the four distribution feeders, namely 298 km of Cosmos wire, 4 sets of power factor compensators and 48 - single phase, 2 wire distribution transformers were handed over to GPL in November 2019 for scheduled installation during 2020.

The kick-off meeting for the CARICOM component of the project is scheduled for January 20, 2020. Thereafter site preparation, foundation and installation works will commence by the contractor and local subcontractor Home Designs & Engineering Associates. The first shipment of materials departed Japan on December 15, 2019; ETA Guyana is February 2020. The remaining two shipments will be completed in February and March 2020.

1.4.6 **Energy Matrix Diversification and Strengthening of the Department of Energy (EMISDE)**

The Government of Guyana has received financing in the amount equivalent to US$21,160,000 from the Inter-American Development Bank (IDB), toward the cost of the Energy Matrix Diversification and Strengthening of the Department of Energy (EMISDE). The EMISDE project was formally launched on February 11, 2019 following the signing of loan Contract agreement.

One of the major components of this project is the Renewable Energy Solutions for the Hinterland at an estimated budget of US$8,600,000, which involves the installation of three Photovoltaic-tied mini-grid systems in Bartica, Lethem, and Mahdia, totalling approximately 3.15 Megawatts and implementation of a storage capacity to manage intermittence of these sources. For its proper execution, certain compliance with the general and special conditions of



the loan as required by the funding agency (IDB) were put in place such as: the formation of the Project coordinating unit, procurement of office furniture and equipment for the projecting coordinating unit, opening of local and foreign currency bank accounts, and assignment of authorized signatories to the bank accounts.

The tender process for Bartica and Lethem commenced with the preparation of bid documents, submitted to IDB for No Objection. Following IDB's No objection granted on 11th September 2019 and subsequent NPTAB approval, the Specific Procurement Notice (SPN) was published in the four major local newspapers, and also online on the United Nations Development Business website. In addition, CD copies were also made available to local bidders. Following an addendum issued on November 15, 2019 the deadline for submission and opening of bids was amended from November 26, 2019 for January 7, 2020.

Contracts are expected to be awarded during the second quarter of 2020 for Bartica and Lethem, whereas Mahdia will be tendered separately during the third quarter of 2020. The delay for Mahdia was due to issues relating to land identification. As part of stakeholder management, several rounds of public meetings would have been held in Lethem, Mahdia and Bartica to update, consult and inform the communities and beneficiaries on the progress of the project. Also, a pre-bid conference was held on October 21, 2019 to provide an opportunity for bidders to interact with the contracting agency and have their concerns addressed. Further, the staff of the PCU have been

undergoing several training programmes relevant to improving their skills in managing the project.

1.4.7 Solar-Powered Street Lights

462 Integrated stand-alone 80W solar streetlights were installed across the 10 administrative Regions. The lights cost G$63,949,600 and are expected to have a lifespan of approximately 5 years.

GEA's engineers also assisted NAREI with the Procurement and installation of twenty-two (22) integrated 80W stand-alone solar powered LED lights.

GEA had applied and received grant funding of G$2,450,000 from the Canada Fund for Local Initiatives which resulted in the installation of 7 complete stand-alone solar powered LED lights rated at 80 Watts in the National Park.

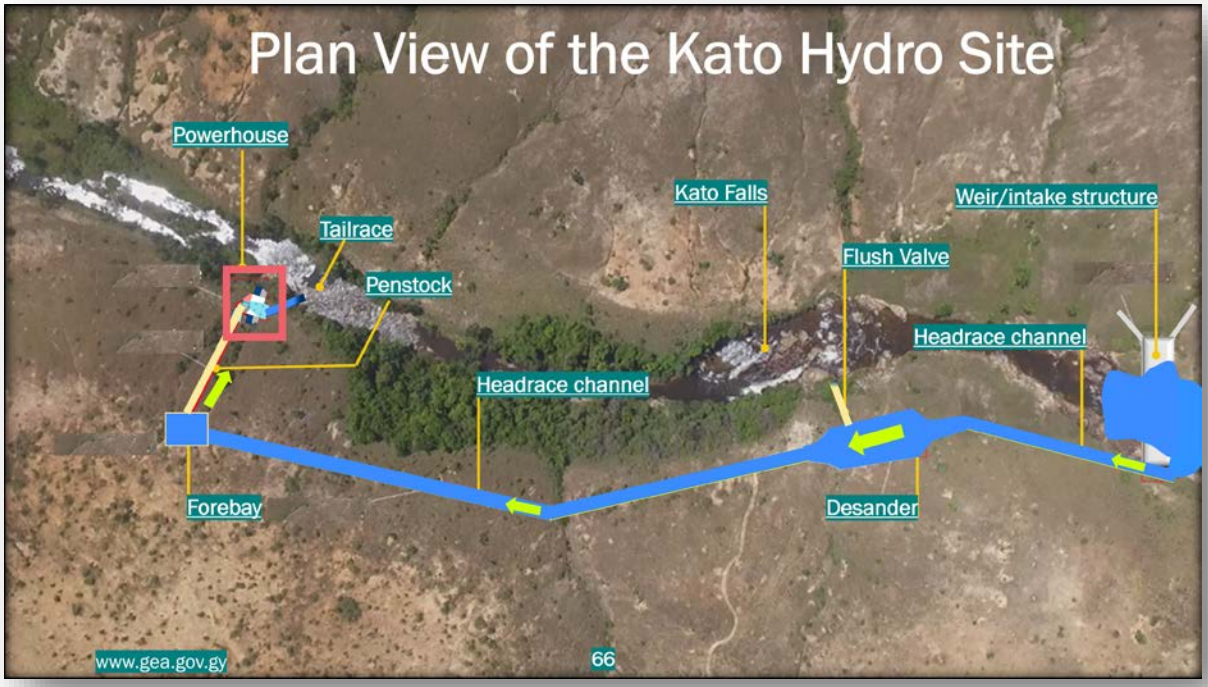
During the period 2017 to 2019, GEA has provided support towards the installation of 602 integrated solar powered street lights at the following locations:

Year	Description	Qty	Unit Cost	Total Cost
2017	Agatash, Bartica, Region 7	20	$198,500	$3,970,000
2017	Stabroek Market Square **inclusive of galvanized poles and foundation**	12	$625,000	$7,500,000
2018	Guyana National Park, Grant: UK's Prosperity Fund	45	$178,500	$8,032,500
2018	Hope High Level Sluice (NDIA) **inclusive of galvanized poles and foundation**	7	$641,374	$4,489,620
2019	NAREI	22	$178,455	$3,926,000
2019	Guyana National Park, Grant: Canada Fund for Local Initiatives (CFLI) Project - **Inclusive of 7 poles**	9	$273,889	$2,465,000
2019	Botanical Gardens **inclusive of galvanized poles**	25	$272,000	$6,800,000
2019	Ten Administrative Regions	462	$143,438	$66,268,360

1.5 Hydropower

GEA provided technical support to the Ministry of Finance and worked with representatives of the Islamic Development Bank (IsDB) to advance financing for the rehabilitation of the Moco-Moco Hydropower Station (0.7MW, Region 9) and the construction of two new hydropower stations at Kumu (1.5MW, Region 9) and Ikuribisi (1MW, Region 7). Guyana received approval from the IsDB Board of Directors in December 2019 for the Loan.

GEA's Hydropower Engineers supported the Hinterland Electrification Company Inc (HECI) with the advancement of the 150kW Kato Hydropower Project. Construction is set to commence in 2020.



GEA's Hydropower Support Engineers advanced the Construction of a 20kW Pico HydroPlant at Hosororo mainly for training and capacity building. A dry spell in the Region delayed commissioning in 2019 and a leak was subsequently observed at the inlet to the power house. Commissioning was delayed to allow a hoist to be procured to address the leak.

In continuing efforts to collect data on potential hydropower sites for future development, hydrological date collection continued at Paruima, Region 7.

A technical assessment was conducted at Chenapau, Region 8 to explore the possibility of developing a pico hydro site.

A pre-feasibility study was drafted and reviewed by the GEA engineers for a possible Eclipse falls hydropower project. The study predicts a 5MW development with future load centers being the towns of Port Kaituma, Mabaruma and the village of Mathews Ridge.

The table below summarizes the small hydropower initiatives advanced by the GEA:

Site	Size (kW)	Cost (US$)	Status
Hosororo, Region 1	20	154,509	Construction Completed in 2018. Transmission Line completed in 2019.
Kato, Region 8	150	2,251,880	Construction Contract Signed. Completion expected Q1, 2021
Moco-Moco, Region 9	700		Expected to be tendered in 2020
Kumu, Region 9	1,500		Expected to be tendered in 2020
Ikuribisi, Region 7	1,000		Expected to be tendered in 2020
Tumatumari	2,200		Private Developer. To secure financing.

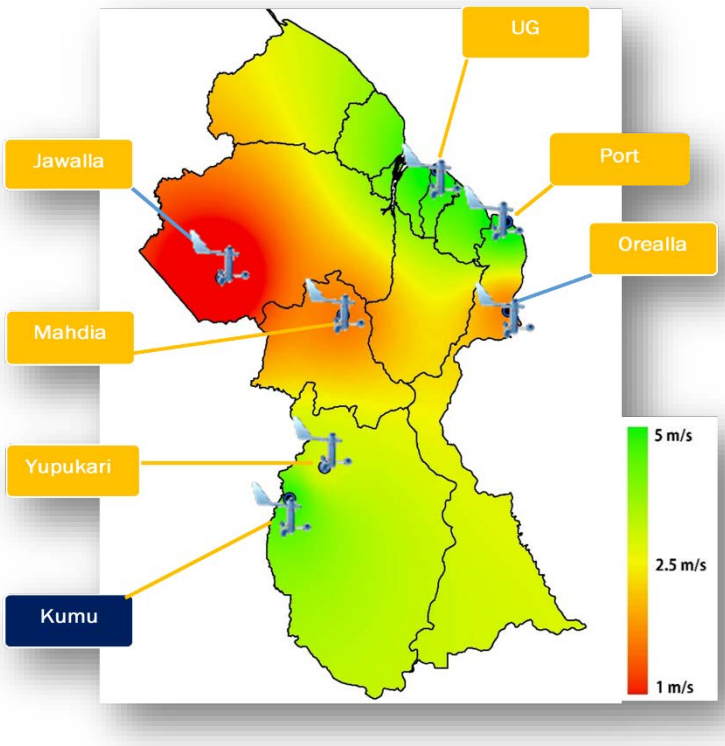
The table below summarizes other hydropower initiatives in the assessment phase:

Site	Estimated Size (kW)
Ilubia, Paruima, Region 7	2,148
Waramadong, Region 7	Unknown
Monkey Mountain, Region 8	Unknown
Chenapau, Region 8	100
Eclipse Falls, Region 1	1,600
Tiger Hill, Region 10	12,000
Imbaimadai, Region 7	Unknown

1.6 Wind Energy

1.6.1 Wind Sites Prospecting

GEA identified 7 potential locations/sites along Guyana's Coast to conduct detailed wind resource assessment and consequently the development of utility scale (grid connected) wind farms. GEA has since advanced efforts in having these areas zoned for Wind Farm Development.



GEA has concluded wind speed measurement at: Orealla, Jawalla, Mahdia, Yupukari, Kumu, UG Turkeyen, Port Mourant and the Georgetown Sea Wall.

GEA is:

- currently conducting wind speed measurements at Kato (Region 8) and Quarrie (Region 9).
- assisting the HECI in siting and wind speed assessments at Onverwagt, Port Mourant, Mahaicony & Leguan
- will soon be conducting wind speed assessments at Kurukubaru (Region 8), Chenapao (Region 8) and Annai (Region 9)

GEA's Engineer designed and installed one wind powered street light. Wind energy is utilized as an alternative to conventional street lighting powered by electricity from the public utility. The first unit installed by the GEA, cost G$247,553 with an estimated simple payback of about 4 years.

1.7 Energy Efficiency Interventions

1.7.1 **2019 Energy Efficiency Programme**

GEA has commenced the Hinterland LED Lighting Programme which is intended to replace approximately 24,177 inefficient lights with energy efficient LED lamps and benefit approximately 3,490 households & businesses within 6 Hinterland Communities. The programme's cost is $165,762,988 and based on the energy efficiency savings, has an estimated payback of 0.67 years. During 2019, household level surveys and sensitization programmes were conducted and with the support of HECI and GEI, electricians were trained and certified. Procurement of the lamps was completed and delivery has commenced. Installations will commence in the first quarter of 2020.

Location	**Targeted replacements of fluorescent tubes**	**Targeted replacements of Incandescent & CFL bulbs**

Mabaruma	648	3,729
Matthew's Ridge	402	1,113
Port Kaituma	492	2,897
Mahdia	648	3,703
Lethem	840	3,501
Kwakwani	684	5,520
Total	**3,714**	**20,463**

1.7.2 Energy Assessments

During 2019, GEA's Engineers conducted energy audits/assessments and prepared Energy Assessments reports for the following 13 Buildings:

1	United Nations International Children's Education Fund
2	National Insurance Scheme (Pouderoyen)
3	National Insurance Scheme (Brickdam & Winter Place)
4	National Insurance Scheme (Port Mourant)
5	National Insurance Scheme (Linden)
6	National Insurance Scheme (Mahaicony)

7	National Insurance Scheme (Melanie)
8	National Insurance Scheme (Camp & Bent Street)
9	Guyana Livestock & Development Authority
10	Guyana School of Agriculture
11	Action Coach Guyana
12	Dependents Pension Fund
13	Guyana Responsible Parenthood Association

Over the last 8 years GEA's Engineers have completed 146 Energy Assessments.

1.8 Caricom Energy Month

The Guyana Energy Agency (GEA), in the exercise of its mandate, continues to promote energy efficiency, energy conservation and the development and utilisation of alternative sources of energy. CARICOM Energy Month (CEM) serves as an annual feature to fulfill part of its mandate by disseminating information essential to improving public awareness on sustainable energy, energy conservation, overall efficiency and other energy related issues.

In keeping with the promotion of sustainable energy development, this year's month of activities, like the previous years, focused on renewable energy, energy efficiency and conservation. Additionally, the planned and executed activities were geared towards highlighting the fact that the efficient and effective use of existing resources and continuous research to find better ways to harness renewable energy sources is absolutely vital. Further, the activities brought into focus the fact that global concerns about climate change and its effects necessitate the exploration of innovative and sustainable solutions to our energy needs, the practice of energy efficiency and conservation and the utilisation of renewable energy sources.

This year CEM was observed under the theme 'Empowering People, Building Resilience' from November 1-30. The following pages contain a list of the activities that the GEA planned and executed to commemorate CEM 2019.

SCHOOL PRESENTATIONS

For CARICOM Energy Month 2019 GEA facilitated sixteen (16) school presentations in Regions 4 and 7. The recipients of the presentations were Region 7: Bartica and Three Miles Secondary, Agatash Primary, St Anthony's Primary, St John Primary, Potaro Primary, Kartabo Primary, Two Miles and Holy Name Primary; Region 4: Winfer Gardens Primary, St Joseph High, St Roses High, Brickdam Secondary, New Central High, Freeburg and East Ruimveldt Secondary.

The aim of the presentations was to bring awareness of energy issues to students and to encourage them to practice behavioral changes that will empower Guyana's Sustainable Development. Students had an opportunity to interact with Officials of the Guyana Energy Agency and were encouraged to form 'Energy Champion' clubs and meet regularly to discuss the implementation of energy conservation measures in school and at home. The session closed off with a question and answer segment which saw students who gave correct answers receiving tokens (CFL bulbs and Energy Champion themed T'Shirts). The theme for CEM 2019 was also discussed and GEA's plans to commemorate CEW were highlighted.

School presentations continue to be an ongoing part of GEA's strategic plan to disseminate information, during energy week the Agency seeks to deliver said presentations to schools located in outlying areas.


GEA
GUYANA
2019
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ENERGY
CHAMP


GEA
Reliable Energy-Economically, Environmentally and Socially Sustainable- for all in Guyana
GEA
GUYANA ENERGY AGENCY


ENERGY
CHAMP


GEA

On Friday November 22nd at Auditorium of Queen's College GEA hosted a Prize Giving Ceremony for its 2019 Art Competition. The art competition was launched in July with the aim of sensitizing youth about energy use, environmental issues and sustainable development and their inextricable links, not only to energy security at a national level, but also its impact on nature and the environment. It also aimed to facilitate discussions on such topics among students and teachers with encouraged learning throughout the process.

Additionally, the Agency has sought to acquire innovative designs that may be used to further promote its cause and educate the general Guyanese public about alternative energy, energy conservation and efficiency. Hence, in addition to the first, second and third place winning entrees ten (10) additional entrees were chosen to be included in GEA's 2020 Calendar.

The prize giving ceremony was organized as one of the activities to commemorate CEM 2019. The theme for the competition was built on the premise that while sustainable/renewable energy is one of the solutions to ensuring energy security, the reduction of carbon footprint, as well as climate change mitigation, it is also linked to/has an impact on biodiversity/nature. Hence, this year's theme 'Renewable Energy and Guyana's Biodiversity' was chosen to bring awareness to this.

The judging panel of the competition was made up of representatives of GEA, Burrowes School of Art, the Allied Arts, the Environmental Protection Agency and Office of Climate Change.

The first Place entrée was submitted by Bhamini Singh of Queens College, second Place Alicialall Hiralall of Queen's College while Rehannah Reid copped the third place. They received $75,000, $55,000 and $30,000 and a trophy respectively. Ten additional trophies were conferred to Michelle Su, Arayan Sankar, Swastika Nauth of Queen's College, Mariel Hopkinson and Teana Mentore of St. Joseph High, Dhanraj Thakurdin of Christ Church Secondary, Amir Mohamed and Kishain Balkissoon of Hope Secondary, Falisha Bassant and Trisante Hutson whose pieces were selected for inclusion in the GEA's 2020 Calendar.

The Agency will continue to facilitate and promote such activities as it among youth and by extension the general public as it continues to utilize various platforms to bring awareness to energy and energy related issues in the fulfillment of its vision to provide reliable energy in an economically, environmentally and socially sustainable framework for all Guyanese.

First Place winner Bhamini Singh

1st, 2nd, and 3rd place winners with GEA Officers

A Section of the Audience

Express Your Energy

On November 26, 2019 GEA hosted the 'Express Your Energy' Activity for Primary school pupils in Bartica Region 7. Seventy (70) Primary School Students from seven (7) schools participated in the activity. Planned as one of the activities for Primary aged pupils 'Express your Energy' was attended by students, between the ages of nine to eleven (9-11) of grade six (6), from Agatash Primary, St Anthony's Primary, St John Primary, Potaro Primary, Kartabo Primary, Two Miles and Holy Name primary. The activity was held in the auditorium of Bartica Secondary school and involved students being encouraged, at different stations, to convey their interpretation and knowledge of energy sources, sustainability, energy conservation and energy efficiency through artwork/pictorial illustrations, word search and conservation tips.

Prior to the activity each school was engaged by the GEA through discussions, showing of age energy themed infomercials with a focus on bringing awareness of energy, sustainable energy, energy conservation, global warming and climate change.

Planned as an indoor relay the activity involved the students completing energy-based activities at their respective stations before expressing their energy by jumping, bunny hopping, running and walking to the next station as their fellow team members loudly showed support.

The teachers present also joined in the fun, coaching the students as they offered energy efficient tips and illustrated energy sources. The activity was non-competitive; therefore, students were not judged or ranked based on their illustrations. Rather, each student and teacher was awarded a token of appreciation as an honorary 'Energy Champion'. Students and teachers were also treated to energy conservation videos as they interacted in a lively discussion and quiz on their learning from the activity.

Amidst the enthusiasm and exuberance through the cheering and delight in participation, the children clearly demonstrated a sound understanding of energy efficiency and conservation

through accuracy in answering questions and explaining their illustrations of the theme *'Guyana Powered by Renewable Energy'*.

'Booklet and Brochure Distribution

As part of CEM 2019 activities the GEA distributed a quantity of 'What is Energy?' activity booklet for children between the ages of 9-12 as well as the 'Guideline to Energy Efficient Homes' booklet along with all eight of the Agency's brochures.

The booklets were handed over to the Regional Education Office of Region 7 and the Linden Electricity Company Inc. Region 10. This activity was made possible by the CARICOM Secretariat and the Deutshe Gesellschaft fur Internationale Zusammenarbeit (GIZ) through sponsorship of 520 'Guideline for an Energy Efficient Home' booklets. Six hundred booklets (600) and three thousand brochures (3,000) were distributed by GEA during CEM 2019.

Primary Education Officer of Region 7 receiving the booklets from GEA's Public Communications Officer

REDUCING YOUR CARBON FOOT PRINT SEMINAR

The Guyana Energy Agency (GEA), in collaboration with the Mayor and Municipality of Linden, hosted a public seminar titled 'Reducing Your Carbon Footprint' for residents of the town of Bartica on Friday November 29, 2019 at the Bartica Community Centre.

Specifically targeting residents of the community, the seminar's main objectives were:

- To provide residents with information related to global warming and climate change and its impact.
- To sensitize residents of the community of Bartica of the importance of energy conservation and efficiency as a means of climate change mitigation.
- To provide residents with knowledge of energy and energy related issues and encourage behavioral changes, in relation to same.

The seminar was attended by over fifty (50) residents and presentations were facilitated by Mr. Olson Abrams,

Senior Energy Engineer-GEA, and Taiwo Wilson-Williams, Public Communications Officer.

Attendees of the seminar were asked trivia type questions at the end of each presentation. Those who answered correctly were given Energy Champion T-shirts and LED bulbs as prizes.

The Guyana Energy Agency will continue to host/facilitate such seminars at the community level in seeking to fulfill part of its mandate by disseminating information essential to improving public awareness on sustainable energy, the importance of energy conservation and overall energy efficiency.

Information Dissemination through Print, Broadcast and Televised Adverts

During Energy Month information on sustainable energy, renewable energy technologies, and energy conservation and efficiency measures were broadcasted via newspapers (36) and radio (294) in the form of adverts, infomercial and/or notifications.

1.9 Information Dissemination and Awareness Activities

GEA participated and facilitated many information dissemination and awareness activities in 2019:

- Conducted 45 Sustainable Energy presentations to schools.
- Conducted 7 Presentations to Ministries, Agencies, Private Sector and NGOs.
- Conducted 2 Seminars and 4 Workshops on Sustainable Energy
- Broadcast 1,267 Radio Advertisements
- Broadcast 257 Television adverts, 160 infomercials and 120 documentaries
- Published 139 print advertisements
- Distributed 11,000 brochures, 1,060 booklets and 205 posters.

Mr. Patrick Dublin, General Manager, LECI and Ms. Shevon Wood, Head, Energy and Energy Statistics Division, GEA during handover meeting.

2.0 Legal & Licensing Division

The Legal & Licensing Division serves to execute a primary function of the GEA through 'monitoring the performance of the energy sector in Guyana, including the production, importation, distribution and utilisation of petroleum and petroleum products' (**s. 5(2)(c) GEA Act cap 56:05**). This is exercised through the corroboration of the **Petroleum and Petroleum Products Regulations 2014** permitting the issuance of licences of the various categories (*import, wholesale, retail, bulk transportation carrier, storage, export, consumer installation*) and site and vehicle inspections to ensure safety and environmental compliance.

The Licensing Division issued at total of 1,406 licences in 2019. This represents a 10% increase compared to 2018.

Licences Issued		2019													2018	Total
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	YTD	YTD	Growth
Importing Wholesale		0	1	4	3	4	5	3	4	7	3	4	2	40	34	18%
	Export	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-
Wholesale		0	0	2	1	6	2	2	1	0	0	0	0	14	13	8%
Retail	Petrol Filling Stations	2	2	7	8	12	12	2	6	1	8	3	5	68	78	-13%
	Others	30	48	51	41	34	47	43	69	50	61	31	16	521	473	10%
	Storage	0	0	0	0	0	0	0	1	0	0	0	0	1	0	-
Consumer Installation		22	3	7	15	65	13	7	10	8	6	7	2	165	128	29%
Bulk Transportation Carrier	Road Tanker Wagons	9	18	17	15	25	11	14	25	17	19	19	15	204	180	13%
	Trucks	32	34	25	27	26	22	28	22	26	25	38	16	321	323	-1%
	Fuel Barges	0	3	0	0	0	0	0	0	0	1	2	0	6	1	500%
	Boats	8	9	11	7	8	3	6	7	1	1	3	2	66	49	35%
Total		**103**	**118**	**124**	**117**	**180**	**115**	**105**	**145**	**110**	**124**	**107**	**58**	**1406**	**1279**	**10%**

Table Showing Licences Issued in 2019

In addition to the 1406 licences issued in 2019, there are an additional 187 multiple year licences issued by the Division in various years, all valid of which were still valid in 2019.

Category of Licences		Multiple Years to 2020
	Importing Wholesale	8
	Export	1
	Wholesale	2
Retail	Petrol Filling Stations	64
	Others	23
	Consumer Installation	52
Bulk Transportation Carrier		37
	Total	187

The Division recorded an 18% decrease in the number of sites inspected from 837 in 2018 to 684 in 2019. Despite the decrease in inspections, applicants and licence holders were required to submit photographs of their sites prior to licences being issued.

Type of Inspection	2019													2018	Growth
	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	YTD	YTD	
Petrol Filling Stations	3	48	27	2	16	7	24	0	3	15	4	9	158	146	8%
Others	0	36	56	4	30	2	0	0	3	24	25	26	206	320	-36%
Consumer Installations	0	26	11	0	10	0	0	0	0	6	4	5	62	86	-28%
Road Tanker Wagons	6	15	6	10	5	2	12	3	12	5	4	2	82	105	-22%
Trucks/ Canters	18	24	12	33	11	9	13	7	8	11	10	1	157	160	-2%
Barges	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-
Boats	3	0	5	1	0	1	1	0	0	0	0	0	11	15	-27%
Imports	0	0	0	0	2	0	0	0	0	0	1	0	3	2	50%
Wholesale	0	3	0	0	2	0	0	0	0	0	0	0	5	3	67%
Total	30	152	117	50	76	21	50	10	26	61	48	43	684	837	-18%

3.0 Fuel Marking Division

Since implementation of the Fuel Marking Programme in 2003, the Division has, in keeping with the legislative mandate, utilised a marking system to add markers to petroleum products imported by every person under an import licence or import wholesale licence for the purpose of identifying such petroleum and petroleum products as having been legitimately imported.

Marking Officers supported a total of 399 bulk marking operations in 2019 compared to 354 for 2018.

The Authentix representative provided the following oversight functions:

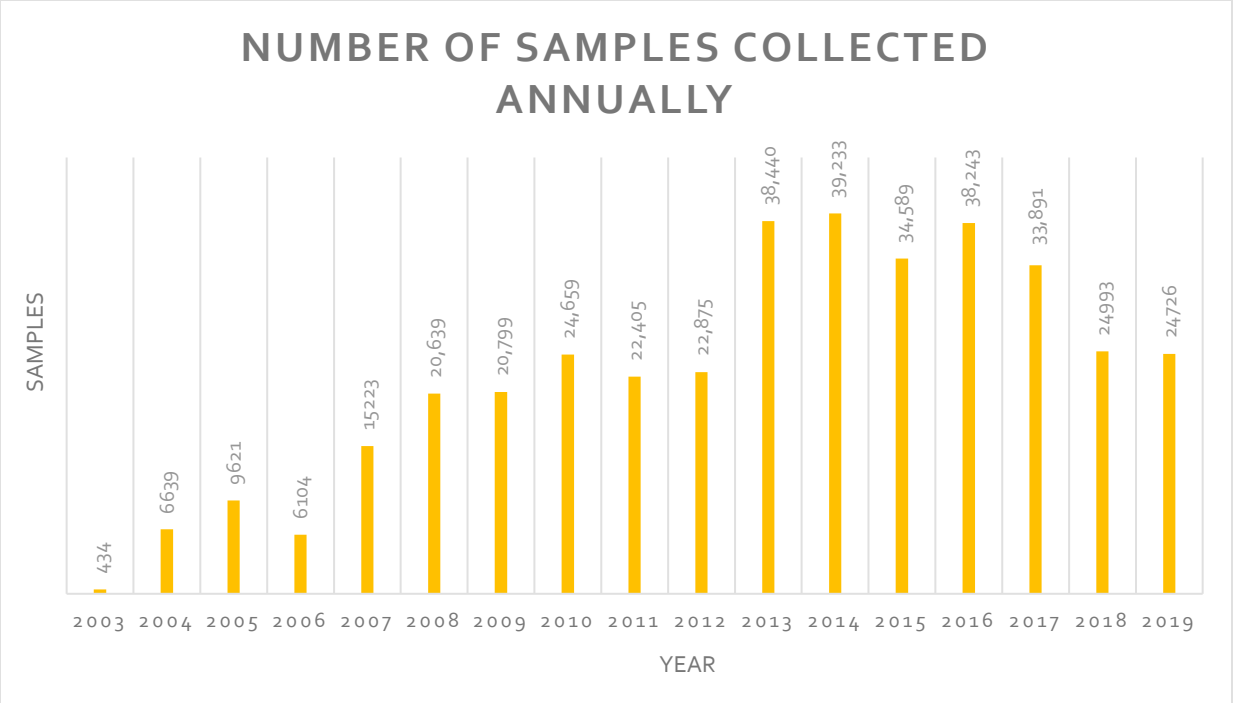
- Verifying marker concentrate received by GEA

- Supervision of the decanting of marker concentrate from drums
- Reconciling marker concentrates
- Auditing marker concentrates/ marking operations
- Assistance in repairing/maintaining the injectors
- Training of new staff - bulk marking and daily marking
- Training of staff to repair and service the bulk marking injectors

3.1 Sample Analysis

Samples of petroleum and petroleum products were collected from a number of sites throughout Guyana and tests were conducted to determine the presence or proportion of the markers in the respective samples of petroleum products.

The number of fuel samples collected/logged each year:



The number of samples collection for 2019 has remained relatively unchanged when compared to the previous year. Despite this, the sample collection ratio to sites visited remains 2:1. Overall, sample collection is still good being higher than the pre-2013 level.

Region	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
1	20	55	59	273	-	20	41	2	3	0	0
2	1,173	1,920	1,408	1,673	2,250	1,894	1,261	2,663	1,502	1,569	1,572
3	3,927	3,741	2,419	3,479	4,167	2,727	1,926	2,582	2,524	2,112	1,509
4	1,848	4,420	3,289	4,595	5,291	5,189	3,866	6,112	6,011	5,672	3,860
5	420	1,160	827	1,479	1,274	710	500	1,134	870	920	657
6	376	627	829	931	1,167	919	659	1,673	1,078	850	436
7	170	286	140	295	354	377	1,982	2,279	2,369	1,527	2,949
8	76	130	12	135	25	62	72	77	36	89	28
9	5	93	1	64	-	53	94	122	93	68	15
10	12,236	15,839	15,858	12,770	24,671	30,452	24,505	26,517	22,008	14,581	14,344
Total	**20,251**	**28,271**	**24,842**	**25,694**	**39,199**	**42,403**	**34,906**	**43,161**	**36,494**	**27,388**	**25,370**

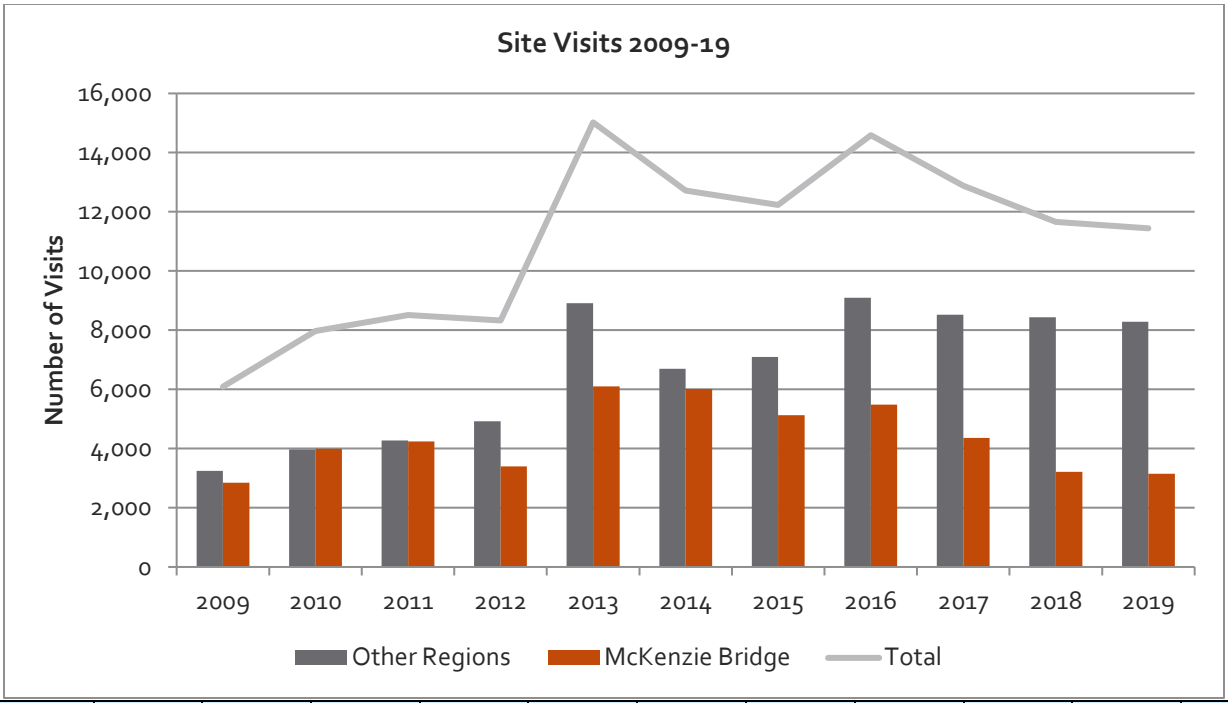
Number of Quantitative Analyses by Region

While sample testing using the quantitative methodology has been declining since 2016, the number of samples tested in 2019 is still higher than what was last achieved since 2011. Nearly all administrative regions saw declines in testing using this method with the exception of Regions 2 and 7.

3.2 Analysis by Site

The number of sites visited by the Inspectors was similar to that recorded in the previous year. It is apparent from the data that the traffic at the Linden checkpoint has not picked from the highs of the recent years. This would suggest that fuel consumption from small scale mining and logging operations in the interior continues to be in a lull compared to the pre-2018 levels. Additional to the aforementioned, the unit operated for the better part of 2019 without a third of its staff complement being available for duty due to several factors e.g. several staff being on medical leave or others being on administrative leave.

From the various bases of operations the Inspection Unit was able to launch several special operations especially in locations such as Kwakwani (Region 10), Lethem (Region 9), Mahdia (Region 8) and Aranka (Region 7). These operations along with routine sampling activities continue to serve several operational objectives of the unit inclusive of deterring individuals from committing acts of fuel smuggling.



Visits by Area	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	*2015*	*2016*	*2017*	*2018*	*2019*
Other Regions	3,242	3,975	4,276	4,922	8,917	6,701	7,097	9,095	8,518	8,440	8,290
McKenzie Bridge	2,849	3,994	4,239	3,401	6,105	6,015	5,130	5,488	4,364	3,215	3,148
Total	6,091	7,969	8,515	8,323	15,022	12,716	12,227	14,583	12,882	11,655	11,438

Of the 11,438 total site visits conducted during the year, 1,551 sites were sampled at least once.

10 (0.6%) of the sites sampled at least once were found with *significant dilution (defined as more than 50%)* in at least one tank. The percentage of sites found with significant dilution in at least one tank has progressively decreased from 34% in 2006 to 0.6% in 2019. The incidence of fuel smuggling continues to be low as the number of sites found with significant dilution in at least one tank remains relatively low.

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
No. of Sites samples at least once	763	656	566	592	1,202	1,313	1,179	1,648	2,146	2,200	1,446	2,253	1,852	1,874	1,551
No. of Sites found with significant dilution in at least 1 tank	240	220	128	57	73	45	21	13	35	51	37	27	29	26	10
% of Sites found with significant dilution in at least 1 tank	31%	34%	23%	10%	6%	3%	1.8%	0.8%	1.6%	2.3%	2.6%	1.2%	1.6%	1.4%	0.6%

3.3 Analysis of Test Results

The *"Test Results" (Quantitative Analyses)* refer to the percentage of marker concentrate detected when the sample was analysed. A "correctly marked" sample should be at 100%. The results of samples analyses over the years are categorized in the following four ranges:

0 to 50% : Significant dilution
51 to 70% : Some dilution
71 to 90% : Suspected dilution
91% and more : Legal

The table below shows that during the assessment phase (2003), 12% of the samples analysed were found to be significantly diluted. This decreased to 6% in the post-assessment phase and throughout 2004. From 2005 to 2007, the testing strategy was focused on areas with a high incidence of illegal activity. For this three-year period, the percentage of significantly diluted samples fluctuated from 9% to 15% and then to 8%. It is believed that this fluctuation was a

direct result of the strategy used for sampling and would have a direct relationship with the number of samples analysed and the focus on areas with a high incidence of smuggling. The year 2008 can be characterized as a mixture of focused, planned and random sampling. The percentage of samples found with significant dilution was maintained at 3% in 2009. The year 2010 set another record with significant dilution reported as 2%, indicative of sustained reduction in the percentage of significantly diluted samples analysed. In 2011 and again in 2012, *significant levels of adulteration (defined as more than 50%)* were detected in less than 2% of the samples analysed. With the analysis of 64% more samples in 2013, 1.6% of the samples analysed were found to be significantly diluted. Significant levels of adulteration were detected in only 2.3% of the samples analysed in 2014, 2.6% in 2015, 1.2% in 2016, 1.6% in 2017, 1.4% in 2018 and 0.6% in 2019.

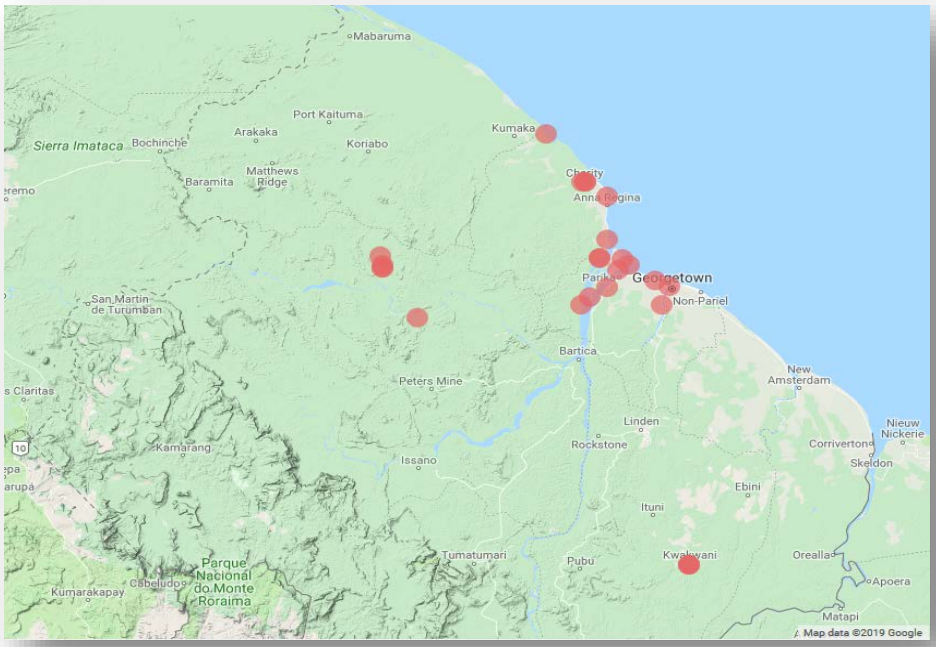
Test Results (Quantitative Analyses)	*03 Dec 2003 (Assessment Phase)*		*27 Jan 2004 (Post-Assessment)*		*2004*		*2005*		*2006*		*2007*		*2008*	
0 – 50%	42	12%	28	6%	196	6%	855	9%	764	15%	1,169	8%	593	3%
51 – 70%	59	17%	32	7%	275	9%	1,234	14%	223	4%	343	2%	254	1%
71 – 90%	67	19%	89	19%	475	16%	2,576	28%	928	19%	8,204	55%	8,593	42%
91% & Over	188	53%	329	69%	2,110	69%	4,431	49%	3,091	62%	5,171	35%	11,013	54%
Total	356	100%	478	100%	3,056	100%	9,096	100%	5,006	100%	14,887	100%	20,453	100%
Test Results (Quantitative Analyses)	*2009*		*2010*		*2011*		*2012*		*2013*		*2014*		*2015*	
0 – 50%	701	3%	511	2%	167	1%	259	1%	303	1%	186	<1%	141	<1%
51 – 70%	767	4%	372	2%	164	1%	128	1%	137	1%	46	<1%	74	<1%
71 – 90%	12,654	62%	10,834	45%	10,990	49%	10,491	49%	29,734	79%	30,440	76%	25,003	76%
91% & Over	6,129	30%	12,612	52%	11,171	49%	11,867	49%	7,252	19%	9,270	23%	7,675	23%
Total	20,251	100%	24,329	100%	22,492	100%	22,745	100%	37,426	100%	39,942	100%	32,893	100%
Test Results (Quantitative Analyses)	*2016*		*2017*		*2018*		*2019*							
0 – 50%	357	<1%	254	<1%	272	1%	93	<1%						
51 – 70%	73	<1%	52	<1%	29	<1%	109	<1%						
71 – 90%	30,322	78%	19,332	58%	15,219	62%	15,511	64%						
91% & Over	8,141	21%	13,807	41%	8,872	36%	8,486	35%						
Total	38,893	100%	33,445	100%	24,392	100%	24,199	100%						

The majority of samples tested at least once using this methodology recorded results more so in the 71% - 90% range. This was followed up with results reading '91% and over'. So far, like in the preceding years, minimal samples recorded results below 70% using the quantitative testing methodology.

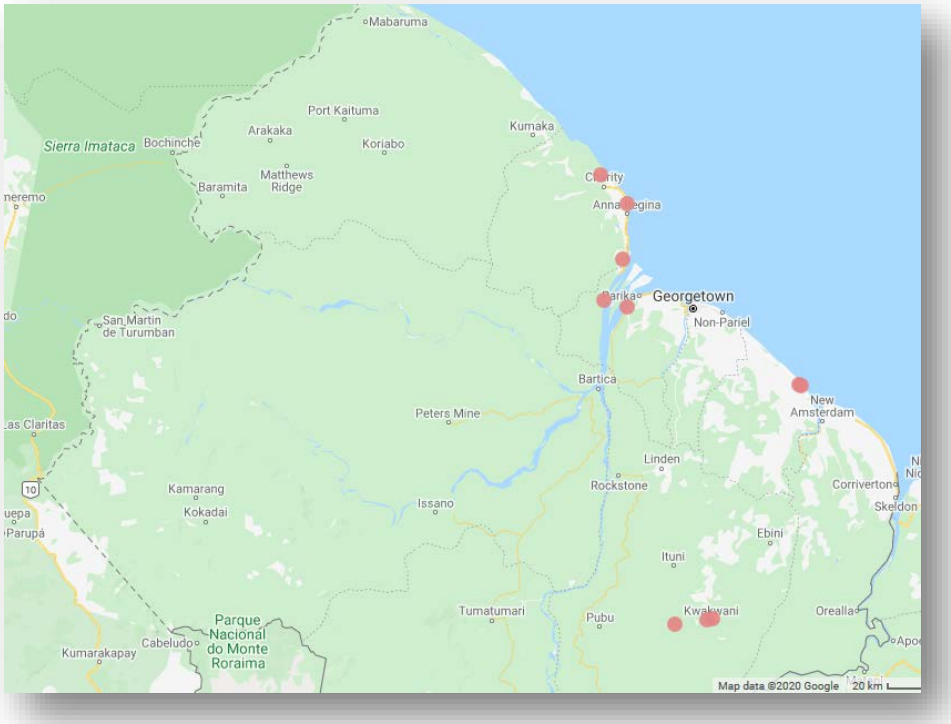
3.4 Incidents of Illegal Fuel

The Division recorded a total of 10 Incidents of Illegal fuel in 2019.

Annual Incidents Recorded by Month 2009 – 2019													
Year	*Jan*	*Feb*	*Mar*	*Apr*	*May*	*Jun*	*Jul*	*Aug*	*Sep*	*Oct*	*Nov*	*Dec*	*Total*
2009	1	3	3	1	6	4	7	6	6	4	3	2	46
2010	6	2	3	3	5	3	6	3	2	2	3	10	48
2011	7	0	2	3	1	1	2	1	1	2	1	0	21
2012	1	0	0	0	0	3	0	3	1	1	2	2	13
2013	1	2	3	3	7	2	3	2	6	0	3	4	35
2014	2	2	1	3	2	1	0	3	2	3	11	21	51
2015	14	1	0	2	1	4	5	1	2	2	1	4	37
2016	3	2	2	2	3	3	4	2	5	1	0	0	27
2017	0	1	4	7	3	3	0	5	0	5	0	1	29
2018	2	4	1	0	1	3	5	3	1	5	1	0	26
2019	2	3	1	0	0	1	0	0	0	2	1	0	10



Locations of Incidents Recorded in 2018



Locations of Incidents Recorded in 2018

Joint Operations

Generally, for 2019 joint operations would have been somewhat limited with key operational partners. Despite this the GEA has been reaching out to task force members to conduct specific operations. Just one aerial recce was done with the GDF in November in part because the GDF has been experiencing operational issues with its aircraft. Operations with the GRA were primarily limited to requests made by that entity. However, the GRA marine arm was not able to reciprocate as their vessels were reportedly down for the better part of 2019 due to engine failure.

Month	2019				2018				2017			
	GPF	*GDF*	*GRA*	*Total*	*GPF*	*GDF*	*GRA*	*Total*	*GPF*	*GDF*	*GRA*	*Total*
Jan	-	-	1	1	4	-	2	6	1	1	1	3
Feb	1	-	-	1	2	1	-	3	2	1	-	3
Mar	2	-	-	2	3	1	-	4	4	2	-	6
Apr	-	-	-	-	3	-	2	5	3	1	1	5
May	1	-	-	1	1	-	1	2	-	2	-	2
Jun	-	-	-	-	3	1	-	4	2	1	-	3
Jul	-	-	2	2	-	-	-	-	2	-	1	3
Aug	-	-	-	-	3	-	1	4	3	-	-	3
Sep	1	-	-	1	2	-	1	3	1	-	-	1
Oct	-	-	-	-	-	-	2	2	1	-	2	3
Nov	-	1	-	-	-	-	-	-	2	-	2	4
Dec	-	-	-	-	2	-	-	2	-	-	-	-
Total	**5**	**1**	**3**	**9**	**23**	**3**	**9**	**35**	**21**	**8**	**7**	**36**

Key:

GPF - Guyana Police Force
GDF - Guyana Defence Force
GRA - Guyana Revenue Authority

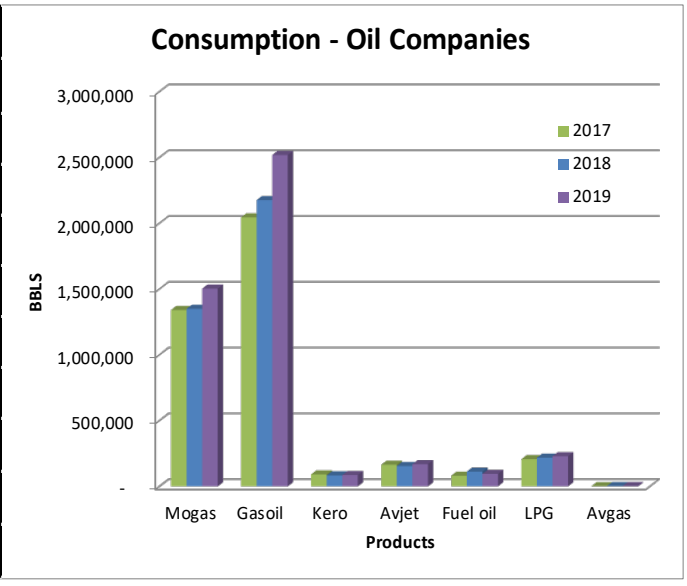
3.5 Quantity of Illegal Fuel Seized

Total Fuel Seized Annually (UK GAL) 2005 – 2019														
2005	*2006*	*2007*	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	*2015*	*2016*	*2017*	*2018*	*2019*
3,011	8,001	21,793	33,560	33,443	21,242	10,273	6,004	2,931	3,785	6,200	19,721	11,355	13,929	1,932

3.6 Volume Analysis

An additional metric to evaluate the performance of the Fuel Marking programme is a measure of gasoline, diesel and kerosene consumption (except for large duty-free consumers). For the oil companies, 4,603,207 barrels of petroleum-based products were sold in 2019 with an average of 12,612 barrels per day. This represents a 12.37% increase when compared to 2018[4]. There were

TOTAL CONSUMPTION - OIL COMPANIES (BBLS)					
January - December		2017	2018	2019	% change
	Mogas	1,340,712	1,349,687	1,503,160	11.37%
	Gasoil	2,044,089	2,175,671	2,518,440	15.75%
	Kero	91,009	83,581	86,221	3.16%
	Avjet	164,564	154,850	168,921	9.09%
	Fuel oil	81,320	112,299	94,834	-15.55%
	LPG	206,774	217,898	229,440	5.30%
	Avgas	1,412	2,438	2,191	-10.13%
	Total	**3,929,880**	**4,096,423**	**4,603,207**	**12.37%**
	Bpd	**10,737**	**11,223**	**12,612**	**12.37%**



[4] Gasoil and Fuel oil purchased locally by GPL from the oil companies were discounted to avoid double counting.

increases in the consumption of gasoline, diesel, kerosene, cooking gas and jet fuel while consumption of fuel oil and aviation gasoline declined for the year.

The increase in gasoline consumption for 2019 can be attributed to an increase in motor vehicle registration and the relatively larger increase in LPG consumption suggest greater use of cooking gas over kerosene.

Notwithstanding a decrease in diesel fuel use from Trawlers' Association, there was an overall increase in diesel consumption with increases from the oil companies, GPL and newer importers (including United Petroleum Inc., Atlantic Fuels, China Zhonghao Inc., SBF Petroleum and KB Enterprise). The increase in diesel volumes can be attributed to improvements in the rice, forestry, gold mining industries, an expansion of the service sector due to oil and gas activities, and LFO consumption by GPL. It may also presumably result from decreased availability of smuggled fuel due to the success of the monitoring and enforcement activities of the Fuel Marking Programme.

3.7 Prosecutions

For 2019, the Legal section recorded the following:

- 21 completed investigations.
- Approval of $1,040,000 in compensation under *Section 33A Guyana Energy Agency Act;* the additional sum of $130,000 was pending approval at the end of 2019.
- The submission of the revised *Petroleum and Petroleum Products Regulations* to the Hon. Minister for review.

4.0 Administration and Human Resource Division

The Agency commenced the year with a staff complement of one hundred and four (104) employees and ended the year with one hundred and seven (107) employees.

The following positions were filled during the year:

- Social & Environmental Officer
- Head, Finance Division
- 3 Hydro Power Support Engineers
- 3 Energy Engineers
- 2 Drivers
- 3 Marking Officer
- Senior Marking Officer
- Inventory Officer
- Economist

Resignations:

- 2 Inspectors
- Marking Officer
- Energy Engineer
- Hydropower Support Engineer
- Technician

Dismissals:

- Manager, Marking
- Marking Officer

Passing:

- Driver/Office Assistant
- Marking Officer

Non-Renewal

- 2 Inspectors

Termination:

- Inspector

4.1 Professional Development

		Actual Training for 2019	Target for 2019
Organize and install suitable capacity building and professional development programmes to provide employees with requisite knowledge and skills.	Number of training programmes	28	20
	Number of Officers trained	72	100

Training Summary

	Dates	Facilitator	Aim	Participants	Cost
1	March 4-8, 2019	Ministry of the Presidency, training Division	Principles of Supervisory Management-Module 1	Dale London, Geneva Cumbermack	Free
2	March 11-15, 2019	Ministry of the Presidency, training Division	Principles of Professional Secretarial Practice-Module 1	Nicholae Leacock, Earicka Richards	Free
3	Mac 11-15, 2019	Ministry of the Presidency, training Division	Information Communication Technology Training Course	Abigail Bijader	Free
4	March 18-21, 2019	Civil Defence Commission, Arthur Chung Convention Centre	National Oil spill response	Thandiwe Benn, William Holder, Arjune Deally	Free

5	April 1-5, 2019	Ministry of the Presidency, training Division	Principles of Human Resource Development Module 1	Quasen Nedd, Rowena Wray	Free
6	April 2-4, 2019	Boardroom, Department of Public Service, Waterloo Street North Cummingsburg	Leadership & Development	Shanamay Daniels King	Free
7	April 9-11, 2019	Ministry of the Presidency, training Division	Improving the services of the customer care professional	Royale Melville, Crystal Perreira	Free
8	April 15-17	Ministry of the Presidency, training Division	Personnel Policies and Practices	Amanda Singh	Free
9	April 29-30, 2019	Ministry of the Presidency, training Division	Principles of Professional Secretarial Practice Module 2	Nicholae Leacock	Free
10	April 9-11, 2019	Ministry of the Presidency, training Division	Improving the services of the customer care professional	Royale Melville, Crystal Perreira	Free
11	April 15-17	Ministry of the Presidency, training Division	Personnel Policies and Practices	Amanda Singh	Free
12	April 29-30, 2019	Ministry of the Presidency, training Division	Principles of Professional Secretarial Practice Module 2	Nicholae Leacock	Free
13	May 20-23, 2019	Ministry of the Presidency, training Division	Principles of Human Resource Development Module 11	Quasen Nedd, Rowena Wray	Free
14	May 27-30, 2019	ECLAC-Panama City, Panama	1st Regional Meeting of the Regional Observatory on Sustainable Energy (ROSE)	Shevon Wood	Free
15	Jun 17-21, 2019	Panama	Certification in the Executive Development Programme Implementing Climate Change	Rosshanda Bagot and Olson Abrams	Sponsored by OLADE

			Policies in the Energy Sector for Caribbean Region		
16	July 15-16, 2019	Ministry of Public Infrastructure-Artur Chung Conference Centre	RBM Budget training, preparation of the MoPI's 2020 Budget	Gayle Best, Ryhan Stephens, Rosshanda Bagot	GY100,000
17	Aug 5-8, 2019	Duke Lodge	Enhancing Environmental Statistics for measuring and Evaluation	Rosshanda Bagot	Free
18	Aug 23, 2019	Esan Nelson (Guyana Energy Agency)	International Standard Organisation (ISO)	14 Inspectors, Keshaun Fraser, Mohanram Persaud	In-house
19	August 25-September 28, 2019	'JICA Knowledge Co-Creation (KCC) Program'-Japan	PROMOTION OF ENERGY EFFICIENCY AND CONSERVATION	Taiwo Wilson Williams	Free
20	September 7, 2019	Esan Nelson (Guyana Energy Agency)	International Standard Organisation (ISO)	12 Marking Officers, 3 Inspectors, Analyst	$7,920
21	September 10-13, 2019	Guyana National Bureau of Statistics	Internal Auditor training for ISO 9001 QMS	Thandiwe Benn, Valmiki Ramtahal	$80,000
22	September 10-12, 2019	Ministry of the Presidency	Personnel Policies and Practices	Narisa Samuels, Crystal Bascom	Free
23	September 16-October 4, 2019	Government of India-National Institute of Solar Energy	International Training Programme on Solar Energy Technologies	Olson Abrams	Free
24	October 16, 2019	Energy Chamber of Trinidad & Tobago	Guyana Safety Forum & Trade Show	Cindy Williams	$94,176
25	October 22-23, 2019	ECLAC	Third Regional Technical forum of Energy planners and the fifth Global Energy Forum	Shevon Wood	Free
26	October 21-23, 2019	Guyana National Bureau of Standards	General requirements for safety in laboratories based on the requirements of GYS 235:2003	Yota Burgess, John Rawlins	$60,000

27	October 21-25, 2019	Ministry of the Presidency	Train the Trainers	Narisa Samuels	Free
28	October 30-31, 2019	Public Procurement Commission	Public Procurement Monitoring	Seema Greene	Free

4.2 Administration and Infrastructural Enhancement

In excess of **226** procurement transactions were completed under the Current & Capital Programme. These included civil works (washrooms, external repairs, parts for vehicles, copiers and printers, etc).

The GEA was allocated **$525M** to implement RE, EE projects and procure other items for operations under its 2019 Capital Budget as follows:

(a) Installed PV systems on 80 buildings.

(b) Procured and installed 462 solar-powered LED Lamps.

(c) Installed 9 Integrated Stand-Alone Solar Powered 80W LED Street Lights at the National Park.

(d) In the process of procuring an Electric Vehicle and installing a charging station at the GEA.

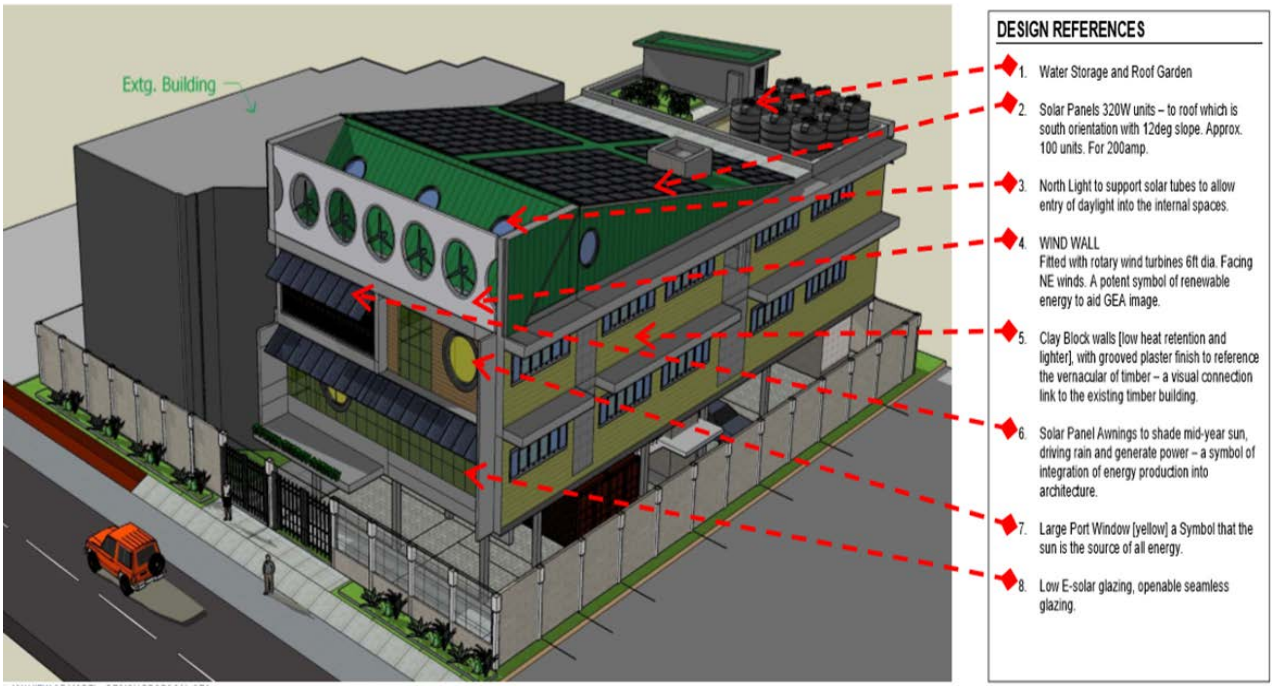
(e) Procure 28,490 Lamps and 14,795 Bulbs benefit residence and communities in regions 1 through 10, procure tools to conduct the installations.

(f) Supply, Installation & Commissioning of a 72 kWp Hybrid Solar Photovoltaic Micro-grid System in Moraikobai.

(g) One new 4x4 vehicle.

(h) AC Units, Drone, Binocular, Monocular, Computers, Furniture, Marker Cans.

The GEA also completed the design phase of its proposed extension to the West of its compound. See proposed design below:




GUYANA ENERGY AGENCY

5.0 Finance Division

The activities of GEA are financed from Government subventions and from revenue generation. Revenue was generated by the Agency from administrative fees (Agency Fees) for the marking and handling of fuel and from the issuance of licences to import, sell, store and transport petroleum and petroleum products.

Appendix: Legislation, Mandate and Overview of the Divisions

Legislation

The GEA, a body corporate, was established in 1997 by the **Guyana Energy Agency Act 1997 (Act No. 31 of 1997)**. The GEA Act has been amended over the years to foster harmonization, increased monitoring, better regulation and greater enforcement in the energy sector.

The GEA falls under the purview of the Minister of Public Infrastructure as the Minister responsible for energy and electricity. GEA's organization structure consists of a Board of Directors, Chief Executive Officer, Deputy Chief Executive Officer, Secretariat and the following five Divisions:

i) Energy & Energy Statistics Division,

ii) Legal & Licensing Division,

iii) Fuel Marking Division,

iv) Administration/Human Resource Division, and

v) Finance Division.

The GEA's organization structure was revised during 2010 to accommodate the following new positions: Energy Economist, Energy Engineer, Hydropower Support Engineer, Licensing Administrator, Internal Auditor, Public Communications Officer, Human Resource Officer, [additional] Legal Officer, Field Operations Coordinator, Senior Investigator and Investigator.

The mandate and activities of the Guyana Energy Agency (GEA) are governed by the following legislation:

- Guyana Energy Agency Act 1997,
- Energy Sector (Harmonisation of Laws) Act 2002,

- Guyana Energy Agency (Amendment) Act 2004,
- Guyana Energy Agency (Amendment) Act 2005,
- Guyana Energy Agency (Amendment) Act 2011,
- Petroleum and Petroleum Products Regulations 2014,
- Hydroelectric Power Act and Regulations 1956,
- Hydroelectric Power (Amendment) Act 1988,
- Electricity Sector Reform Act 1999,
- Public Utilities Commission Act 1999,
- Electricity Sector Reform (Amendment) Act 2010, and
- Public Utilities Commission (Amendment) Act 2010.

The GEA Act of 1997 established the Guyana Energy Agency (GEA) as a body corporate. On March 31, 2004 the **GEA (Amendment) Act 2004** was assented to and published in an Extraordinary Issue of the *Official Gazette* which made provisions for the implementation of the fuel marking system, creation of offences and also for the grant and issue of the various classes of licences, viz- Import Licence; Wholesale Licence; Importing Wholesale Licence; Retail Licence; Bulk Transportation Carrier Licence; Storage Licence; and Consumer Installation Licence.

The core functions listed in section 5 of the principal Act are:

- to advise and make recommendations to the Minister regarding any measures necessary to secure the efficient management of energy and the source of energy in the public interest and to develop and encourage the development and utilisation of sources of energy other than sources presently in use;
- to develop a national energy policy and secure its implementation;
- to carry out research into all sources of energy including those sources presently used in Guyana for the generation of energy, and securing more efficient utilization of energy and sources of energy;

- to monitor the performance of the energy sector in Guyana, including the production, importation, distribution and utilization of petroleum and petroleum products;
- to disseminate information relating to energy management, including energy conservation and the development and utilization of alternative sources of energy;
- to grant and issue licences relating to petroleum and petroleum products, including import licences, wholesale licences, importing wholesale licences, retail licences, bulk transportation carrier licences, storage licences and consumer installation licences;
- to utilise a marking system to add markers to petroleum and petroleum products imported by every person under an import licence or import wholesale licence for the purpose of identifying such petroleum and petroleum products as having been legitimately imported;
- to take samples of petroleum and petroleum products from any person at random throughout Guyana and carry out tests and examinations to determine the presence or level of the markers in the samples of the petroleum and petroleum products;
- to perform the necessary tests to determine whether the marker(s) is (are) in the required proportion and any further test necessary to determine whether the petroleum and petroleum products have been lawfully obtained, stored, possessed, offered for sale, blended or mixed with any substance that is not approved;
- to prosecute in the Magistrates' Courts persons who are in possession of petroleum and petroleum products bearing no markers or at a concentration contrary to that required;
- to prosecute in the Magistrates' Courts persons who import petroleum and petroleum products without an import licence or wholesale import licence;
- to prosecute in the Magistrates' Courts persons who purchase, obtain, store, possess, offer for sale, sell, distribute, transport or otherwise deal with illegal petroleum.

Section 6 of the Act further outlines several advisory functions of the Agency:

- to study and keep under review matters relating to the exploration for, production, recovery, processing, transmission, transportation, distribution, sale, purchase, exchange and disposal of energy and sources of energy;

- to report thereon to the Minister and recommend to the Minister such measures as the Agency considers necessary or in the public interest for the control, supervision, conservation, use and marketing and development of energy and sources of energy;
- to prepare studies and reports at the request of the Minister on any matter relating to energy or any source of energy, including research into alternative sources of energy, or the application of such research, and to recommend to the Minister the making of such arrangements as the Agency considers desirable for cooperation with governmental or other agencies in or outside Guyana in respect of matters relating to energy and sources of energy;
- to advise the Minister or assigned authority on matters relating to the administration and discharge of the functions of the *Electricity Sector Reform Act 1999*.

The Fuel Marking Programme was charged with the responsibility of ensuring that all gasoline, diesel and kerosene are properly marked at a known concentration at all legitimate import points and also collecting and testing samples of fuel from various parts of the country including wholesalers, retailers, distributors, transporters, commercial consumers and any person in possession of fuel for the relevant marker(s).

Energy & Energy Statistics Division

The Division's duties and responsibilities are:

- to ensure that petroleum products are readily available in the country;
- to manage the purchase and importation of petroleum and petroleum products;
- to facilitate payment arrangements between the Oil Companies, the Bank of Guyana and other petroleum importers;
- to collaborate with sector agencies on energy and related matters;
- to develop Guyana's Energy Policy and revise as necessary;

- to study and review matters relating to the exploration for, production, recovery, processing, transmission, transportation, distribution, sale, purchase, exchange and disposal of energy and sources of energy within and outside Guyana;
- to prepare studies and reports at the request of the Minister on any matter relating to energy;
- to develop and execute projects relating to alternative sources of energy;
- to update the country's energy data with respect to acquisition prices, wholesale prices and retail prices;
- to prepare and analyse energy demand and supply data;
- to supply petroleum information and analysis of the relevant energy data as required;
- to supply the **CEIS** and **OLADE** databases with energy information.

Legal & Licensing Division

The Division's duties and responsibilities are:

- to inspect all sites, motor vehicles, machinery and equipment for which a licence may be required under the Regulations;
- to grant/issue the relevant licences pertaining to-
    - importation of petroleum or petroleum products;
    - bulk transportation of petroleum or petroleum products;
    - storage of petroleum or petroleum products;
    - wholesale of petroleum or petroleum products;
    - retail of petroleum or petroleum products;
    - storage and own-use of petroleum or petroleum products.
- to suspend, cancel, cease licences in accordance with the regulations made under the **Guyana Energy Agency Act 1997** as amended by the **Guyana Energy Agency (Amendment) Acts 2004, 2005 and 2011;**

- to ensure that files for prosecution are completed promptly and dispatched to the Office of the Director of Public Prosecutions for advice;
- to oversee and coordinate the assignment of cases for prosecution;
- to prosecute in the Magistrates' Courts persons who are in possession of petroleum and petroleum products bearing no markers or at a concentration contrary to that required;
- to prosecute in the Magistrates' Courts persons who import petroleum and petroleum products without an import licence or wholesale import licence;
- to prosecute in the Magistrates' Courts persons who purchase, obtain, store, possess, offer for sale, sell, distribute, transport or otherwise deal with petroleum without the relevant licence (s);
- to coordinate the representation of the Agency in civil litigation;
- to prepare Amendments to the Legislation as required and work in collaboration with the Drafting Department of the Ministry of Legal Affairs regarding same;
- to provide management with the necessary legal guidance in execution of the Agency's overall mandate and in relation to other stakeholder agencies, where necessary.

Fuel Marking Division

The Division's duties and responsibilities are:

- to utilise the respective marking system to add markers to petroleum and petroleum products imported by every person under an import licence or import wholesale licence for the purpose of identifying such petroleum and petroleum products as having been legitimately imported, whether domestic or duty-free;
- to add the relevant covert proprietary chemical markers to petroleum and petroleum products at the concentration determined by the Minister by notice in the Gazette;
- to maintain the integrity of the marking system;
- to test the accuracy and monitor the effectiveness of the marking system;

- to take samples of petroleum and petroleum products from any site at random throughout Guyana and carry out tests and examinations to determine the presence or level of the markers in the samples of the petroleum and petroleum products;
- to perform the necessary laboratory tests to determine whether the marker(s) is (are) in the required proportion;
- to determine the composition and grade of petroleum and petroleum products and determine whether same have been blended or mixed with any substance that is not approved;
- to give testimonial evidence in the prosecution of offences under the Act;
- to provide, through the Analyst's Certificate, expert/scientific evidence as proof of the legality of petroleum and petroleum products.

Administration and Human Resource Division

The Division's duties and responsibilities are:

- to maintain and update the Agency's personnel files and other records;
- to aid in the recruitment, selection, replacement and continuous professional development of staff;
- to address staff concerns related to wages and salary administration, contract negotiation and separation procedures;
- to improve staff morale through cogent policies and remuneration;
- to manage and maintain the Group Pension, Group Life, Medical and National Insurance Schemes while ensuring that claims, benefits and queries are processed expeditiously and to the satisfaction of the staff;
- to handle all grievance procedures with the objective of reaching mutually acceptable solutions;
- to ensure that office supplies, equipment, and vehicles are adequately provided and maintained;
- to ensure that the Agency's edifices, facilities and compound are kept clean and properly utilized and maintained;

- to monitor the security services for reliability and adequacy in the execution of their duties;
- to develop and enforce the Agency's Policy Manual and Disciplinary Code;
- to provide general support services to the officers of the Agency in the execution of their duties;
- to ensure adherence to health and safety regulations in the work environment;
- to manage the procurement, receipt and issue of stationery, stocks, office equipment and assets of the Agency and monitor use of same to prevent abuse of the Agency's resources.

Finance Division

The Finance Division is tasked with the responsibilities of the day to day management of the Agency's financial resources. The Division's duties and responsibilities are:

- to advise management on the Agency's financial matters, and where necessary, other agencies;
- to manage and maintain the Agency's income and expense accounts and all other accounting records;
- to prepare the Agency's financial statements;
- to prepare the Agency's budget documents;
- to prepare monthly wages and salaries and other allowances;
- to process payments;
- to ensure that goods and services procured by the Agency are so procured in compliance with the **Procurement Act** and other relevant guidelines;
- to verify the accuracy of bills and receipts provided and investigate suspicious or fraudulent bills/receipts;

- to maintain and update the Agency's asset register.

ORGANISATIONAL STRUCTURE FOR THE GUYANA ENERGY AGENCY (2019)