

GUYANA ENERGY AGENCY



Picture showing Guyana's First Mega Scale Solar Farm at Lethem, Region 9

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EXECUTIVE SUMMARY

During 2022, a Contract was awarded for the construction of a 1.5MW hydropower facility at Kumu and for the rehabilitation and upgrade to 700kW capacity of the defunct Moco-Moco hydropower plant in Region 9. These two projects are expected to be completed in 2024.

A Contract was awarded during 2022 for the supply and delivery of 30,000 photovoltaic home systems for hinterland and riverain areas. The technical teams have since reviewed the prototype, clearing the way for manufacturing of the 30,000 units. The first batch is expected to arrive in Guyana by June 2023.

GEA installed and commissioned its first mega scale solar Farm at Lethem on Aug 5, 2022. The 1 MW Solar Farm at Lethem, by December 31, 2022, had already resulting in savings of 137,955 litres of diesel. Installation of a 1.5MW Solar Farm at Bartica has been completed with commissioning and testing procedures underway in the first quarter of 2023. A contract for a 0.65MW Solar Farm at Mahdia was awarded during 2022 with completion expected in 2023. Environment and Social Impact Assessment Report, Flood Risk Analysis, Topographical, and Geotechnical studies for the Leguan Solar Farm were tendered and completed during 2022 to facilitate construction tendering in the first quarter of 2023.

In 2022, the solar PV installed capacity increased by 1.38 megawatts to 7.99 megawatts with the addition of the 1 megawatt Lethem solar PV farm, 10 off-grid systems at Loo Creek in Region 4, and 59 solar PV systems at public buildings.

6 public electric vehicle charging stations were tendered in 2022 to catalyse e-mobility in Guyana and provide comfort to persons interested in investing in e-mobility through a demonstration project. The installation and commissioning of the public charging stations will be completed in the second quarter of 2023. In keeping with the Low Carbon Development Strategy (LCDS) 2030 and the Government's pursuit to develop low carbon transportation infrastructure, the Guyana Energy Agency (GEA), with funding support from the Inter-American Development Bank (IDB), trained 25 persons in Electric Vehicles Maintenance and Repairs during 2022.

As part of the energy conservation and efficiency programme, 36,520 LED lights were installed for residents and businesses of Linden, Wakenaam, Leguan and Bartica.

Works on the installation of 19 solar-powered mini-grids with a total installed capacity of 0.6MW and battery storage were advanced which will provide renewable electricity to 231 public and community buildings and is expected to be completed in the first quarter of 2023.



1.0 Energy & Energy Statistics Division

1.1 Petroleum-Based Imports

For the year 2022, the Division facilitated the importation of one hundred and ninety-nine (199) shipments of petroleum-based products on behalf of the oil companies, an increase from one hundred and eighty-two (182) shipments in the previous year. About forty-nine percent of the import volume for the oil companies in 2022 was lifted from Trinidad and Tobago; forty-five percent of the shipments were sourced via third parties based in the USA, Sweden, Spain, Italy, Netherlands, UK, Argentina, St. Lucia, Latvia, Saudi Arabia, Kuwait and Martinique. The remaining four percent and three percent were lifted from Suriname and Jamaica, respectively¹.

TOTAL IMPORTS (BBLS)					TOTAL IMPORTS - OIL COMPANIES (BBLS)				
January-December	Product	2021	2022	% change	January-December	Product	2021	2022	% change
	Mogas	1,676,056	1,635,026	-2.45%		Mogas	1,676,056	1,635,026	-2.45%
	Gasoil	3,597,281	3,849,991	7.03%		Gasoil	3,321,424	3,500,498	5.39%
	Kero	85,962	74,278	-13.59%		Kero	85,962	74,278	-13.59%
	Avjet	208,371	200,513	-3.77%		Avjet	208,371	200,513	-3.77%
	Fuel oil	1,563,278	1,694,130	8.37%		Fuel oil	169,913	112,413	-33.84%
	LPG	264,682	266,514	0.69%		LPG	251,968	255,190	1.28%
	LNG	8,263	11,068	33.95%		Avgas	1,805	896	-50.34%
	Avgas	6,736	5,829	-13.46%		Total	5,715,499	5,778,813	1.11%
	Total	7,410,630	7,737,349	4.41%					

The total petroleum imports recorded an overall increase of 4.41% in 2022, with a total of 7,737,349 barrels of petroleum-based products imported and an average of approximately 21,198 barrels per day. There were increases in the imports of Gasoil (diesel), Fuel oil, LPG (cooking gas) and liquid natural gas (LNG) and while imports for Mogas (gasoline), Kerosene, Avjet (Jet Fuel) and Avgas (aviation gas) decreased during this period.

Imports for the oil companies also rose by 1.11% in 2022, with a total of 5,778,813 barrels of petroleum-based products imported and an average of approximately 15,832 barrels per day. There were increases in the imports of Gasoil and LPG while imports for Mogas, Kerosene, Avjet, Fuel oil and Avgas declined during this period.

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



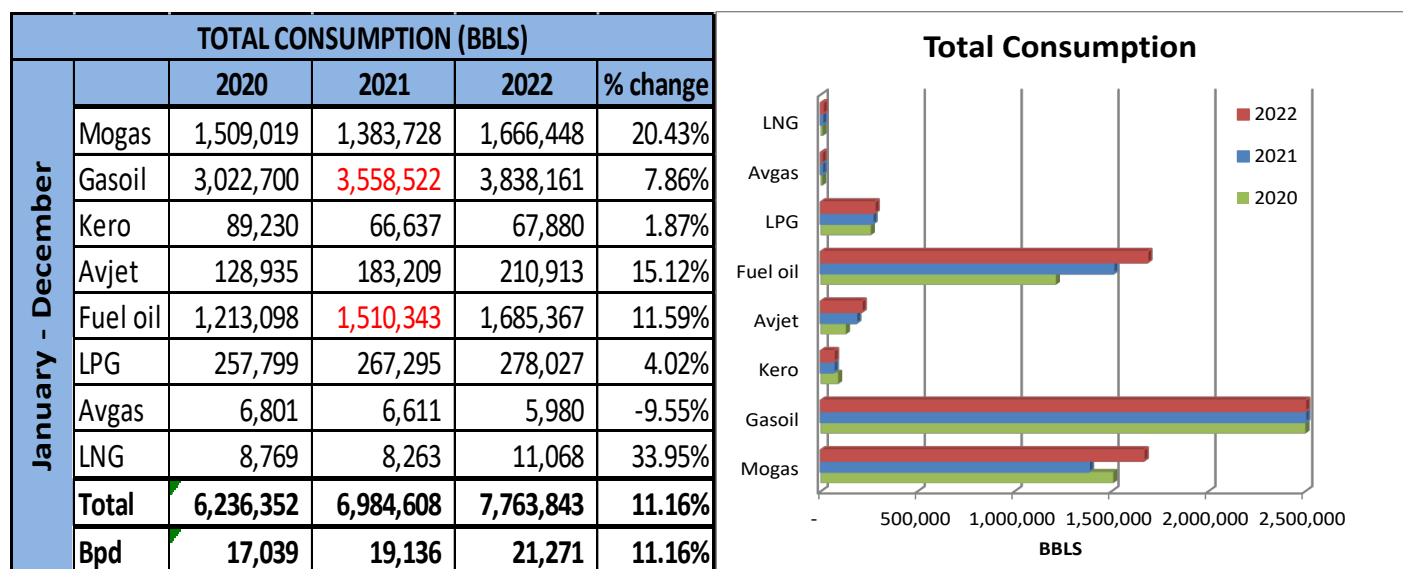
1.2 Consumption of Petroleum Products

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

$$\text{Consumption} = \text{Opening stock} + \text{Import volumes} - \text{Closing Stock}$$

A total of 7,763,843 barrels of petroleum-based products were consumed in 2022, with an average of 21,271 barrels per day. This represents a 11.16% increase when compared to 2021². There were also increases in the consumption of all products except aviation gasoline.

The increase in gasoline consumption for 2022 may be attributed to increased commuting in the public transport sector, partially stemming from the full reopening of public schools. The relatively larger increase in LPG consumption suggests greater use of cooking gas over kerosene. In addition, there was an increase in overall fuel oil consumption, which may be attributed to an expansion in bauxite production and manufacturing and consumption of energy from the electric utility. Moreover, the rise in jet fuel consumption can be attributed to increased flight travel at international airports. Conversely, there was a decrease in the consumption of aviation gasoline and a decline in aviation gasoline sales.



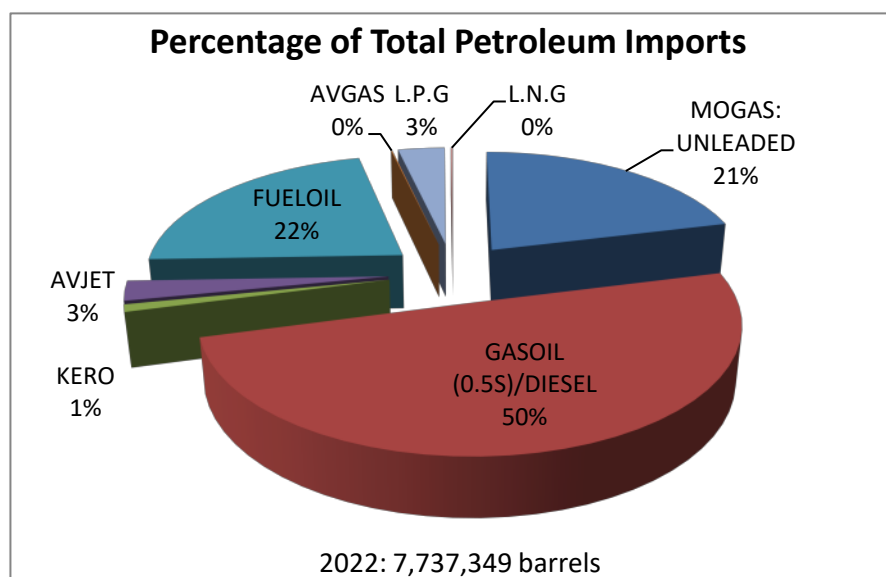
Diesel consumption rose due to growth in the rice, diamond mining, forestry and fishing subsectors, expansion in the manufacturing and service sectors, and upstream activities. Furthermore, an increase was observed in the volume of liquid natural gas used.

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



1.3 Acquisition Cost and Retail Prices

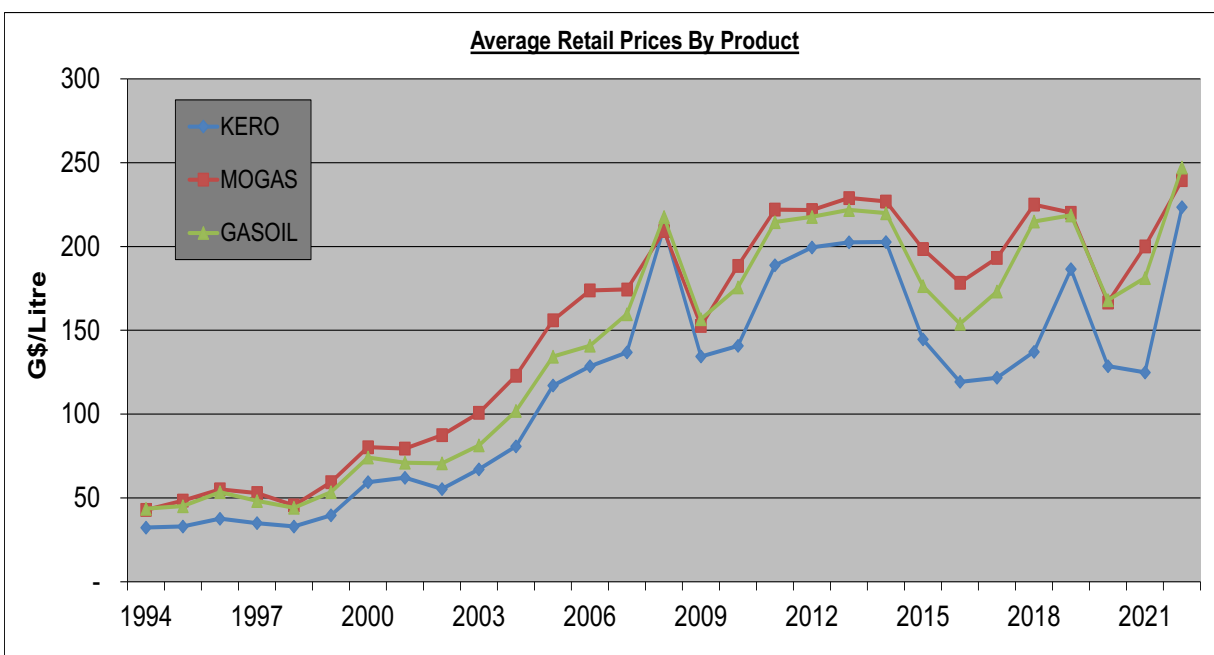
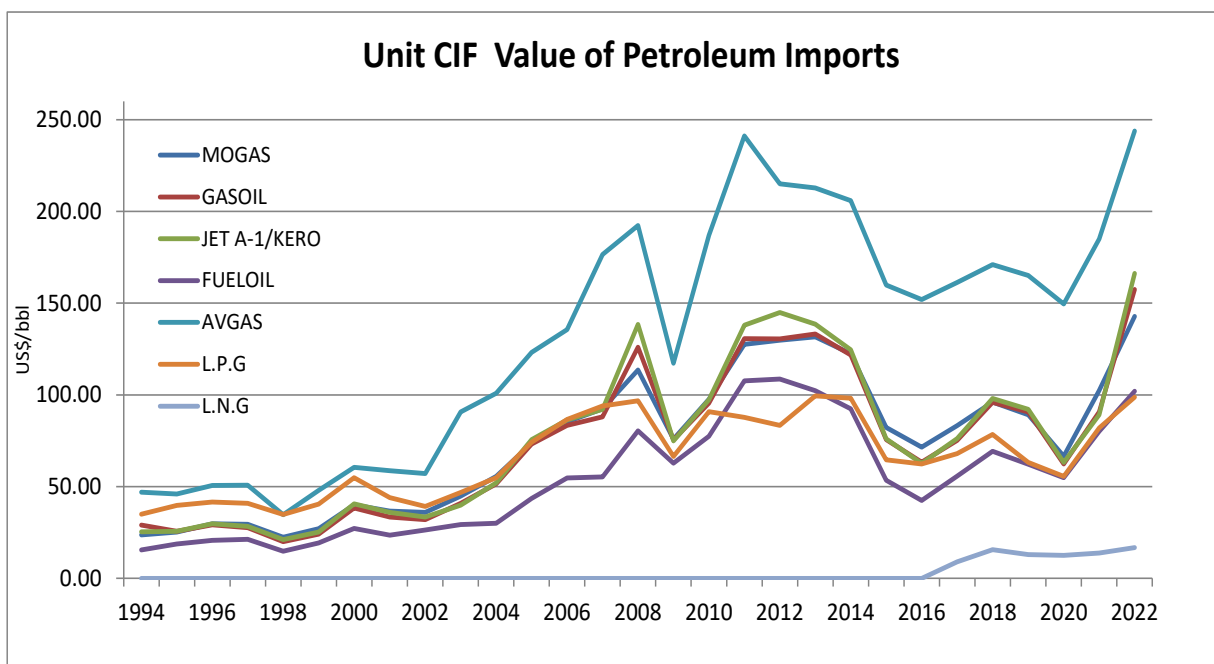
For 2022, Gasoil was the most imported product representing 50% of total imports and a CIF value amounting to 56% of total acquisition expense³. Mogas and Fuel oil reflected 21% and 22% of total imports, respectively, with corresponding CIF values amounting to 21% and 16% of total acquisition costs, respectively. The remaining products (Kerosene, Avjet, LPG, LNG and Avgas) constituted no more than 7% of total imports and 7% of total acquisition costs.



TOTAL IMPORTS BY PRODUCTS FOR THE YEAR			
	2022		
PRODUCTS	VOLUME		C.I.F VALUE
	LTRS	BBLS	US\$
MOGAS: UNLEADED	259,948,291	1,635,026	233,333,509
GASOIL (0.5S)/DIESEL	612,099,683	3,849,991	606,392,324
KERO	11,809,251	74,278	12,535,591
AVJET	31,878,965	200,513	33,138,413
FUELOIL	269,345,179	1,694,130	172,838,465
AVGAS	926,813	5,829	1,420,874
L.P.G	42,372,358	266,514	26,303,986
L.N.G	1,759,652	11,068	1,849,921
TOTAL	1,230,140,191	7,737,349	1,087,813,084

³ Gasoil CIF value was estimated for volumes used by the Trawler Association, United Petroleum Inc., China Zhonghao Inc., Shi-Oil, Global Commercial Import and Transport Inc., Global Petroleum Inc., and Aruca Investment in 2022.





The average cost per barrel of petroleum-based imports rose from US\$90.87 in 2021 to US\$140.59 in 2022, an increase of 54.71%. This upward trend also continued for each petroleum product's average unit CIF value. There were increases of 39.42%, 73.64% and 86.40% 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 increased by 27.36%, 31.80%, 20.34% and 21.53%, respectively.



Retail prices for Mogas (gasoline), Gasoil (diesel) and Kerosene rose during 2022 by an average of 40.33%. Specifically, the average retail price for gasoline increased by 19.76%, and diesel increased by 36.38%. Also, the average retail price for domestic kerosene increased by 79.01%, while the average retail price for cooking gas (LPG) increased by 14.57%.



1.4 Solar Energy

1.4.1 Solar PV Systems:

During 2022 the GEA conducted maintenance, upgrades and repairs to previously installed stand-alone Solar PV systems. These small capacity PV systems provide much needed electrical power at the schools and community health care facility in the respective villages/communities in which they are installed. In 2022, the solar PV installed capacity increased by 1.38 megawatts to 7.99 megawatts with the addition of the 1 megawatt Lethem solar PV farm, 10 off-grid systems at Loo Creek in Region 4, and 59 solar PV systems at public buildings.



15kWp Grid-Tie Solar PV System installed in Rose Hall Berbice Early Childhood Development Centre

The following is a list of new solar PV Installations completed in 2022:

Project Name	Installed Capacity (MW)	Location
Lethem Solar PV Farm	1.021	Lethem, Region 9
Healthcare Centre Solarization in Orealla Community	0.009	Orealla, Region 6
Solar PV Installations in Region 1	0.069	Region 1: Arakaka Primary, Wauna Primary, Santa Rosa Secondary, Arakaka Health Centre, Barima Koriabo Health Post, Redhill Health Post, Hobodeia Health Post,



		Kumaka Isolation Centre, Mabaruma Radio Station (NCN Building)
Solar PV Installations at 13 Government Buildings	0.039	Mashabo Health Post, Ulele Primary, Hackney Primary (Region 2) Santa Aratack Nursery & Primary, Santa Aratack Health Post, Saxacalli Health Centre (Region 3) Karrau Primary, Batavia Primary (Region 7) Sand Creek Nursery, Sandcreek Teacher's Quarters, Sandcreek Village Office, Sandcreek Youth's Multipurpose Hall (Region 9) Falmouth Primary/Nursery (Region 10)
Solar PV stand-alone systems with UNDP support	0.003	Kamwatta Primary, Region 1
	0.003	Quebanang Health Centre, Region 7
	0.003	Sand Creek Primary, Region 9
Solar PV stand-alone systems at public buildings	0.217	Chinese Landing Primary School, Capoey Primary School Kitchen, Dredge Creek Primary School, Rosehall ECDC, Bartica ECDC, Liberty Primary School, Lilydale Primary School, Mabel Sandy Nursery School, Chinese Landing Healthpost and Teacher's Quarters, PlegtAnker Primary/Nursery School, Health Centre, Baracara Primary School, ICT Hub, Teacher's Quarters, Health Centre and Doctor's Quarters, Community Centre and water pumps; Kaikan Women's Centre, Malali Healthpost, Itabali Primary School, Kaikan Repeater radio Station, Macushi Primary School, Maritaro Primary School, Rincon ICT Hub, St. Cuthbert ICT Hub, Nappi ICT Hub, Meriwau ICT Hub, River's View ICT Hub, Kumaka ICT Hub, Huradiah ICT Hub, Warapoka ICT Hub, Kwebana ICT Hub, Tapakuma ICT Hub, Lower Bonasika ICT Hub, Paruima ICT Hub, Karrau ICT Hub, Kartabo ICT Hub, Waramadong ICT Hub, Warwatta ICT Hub, Micobie ICT Hub, Kwatamang ICT Hub, Surama ICT Hub, Annai ICT Hub, Kumu ICT Hub, Rockstone ICT Hub, Great Falls ICT Hub



10 off-grid systems at Loo Creek	0.0171	Loo Creek, Region 4
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GEA is supporting the Office of the Prime Minister with the installation of solar PV systems for ICT Access and E-Services in Hinterland communities. Twenty-three (23) installations for ICT hubs were completed in 2022.



1.4.2 Supply and Installation of 19 Solar PV Mini-grids



During the year, materials were imported and works commenced on the supply and installation of 19 Solar Powered mini-grids at the following locations:



Off-grid Solar PV Mini-grids for Public Buildings in Hinterland Villages			
Region	Village Name	Public Buildings	PV Capacity (kW)
1	Baramita	6	31.5
1	Canal Bank	6	12
1	Haimacabra	4	21.5
1	Kwebana	14	32
1	Karaburi	4	19
1	Sebai	6	19
2	Wakapoa	11	35
2	St Monica	10	27.5
2	Capoey	10	41.5
2	Tapakuma	7	21
7	Waramadong	25	70.5
7	Jawalla	14	38.5
7	Paruima	15	32.5
8	Kurukabaru	9	26.5
9	Karasabai	21	46.5
9	Aishalton	21	27.5
9	Kraudarnau	12	25.5
9	Annai	28	41.5
10	Riversview	8	32.5
		231	601.50

The project was expected to be completed by December 31, 2022 but experienced delays in the manufacturing and receipt of the transformers for the networks. The transformers are expected to arrive in January 2023, after which the completion of the networks, testing and commissioning of the systems would be accomplished.





Annai, Region 9

1.4.3 Solar PV Home Energy Systems

The GEA will be implementing a significant electrification project to supply, deliver and install 30,000 Solar PV Home Energy Systems for Hinterland and riverine communities in Guyana. The systems are designed to provide electricity to unserved homes in Hinterland and riverine communities using a clean and renewable source of energy. Each system is designed to power two (2) 9-watt LED Lamps, one (1) 12-watt Stand Fan, and is equipped with a USB Port for charging of portable electronic devices. At the completion of the project, a total of 4.5 mega-watts will be installed across all ten (10) Administrative regions. The project is expected to benefit over 200 communities and 30,000 households. In addition, a component of the project will entail training technicians within these communities to assist with the installations. Funding through a Line of Credit with the EXIM Bank of India was finalised in October 2021 followed by confirmation of Credit Agreement Effectiveness on March 23, 2022.

Following a prequalification process conducted by the India Exim Bank, two companies were short-listed and invited to submit bids. A Contract valued at US\$8.387462 million was subsequently awarded and signed November 21, 2022 with Rajasthan Electronics & Instruments Ltd (REIL) for the supply and delivery of 30,000 photovoltaic home systems for hinterland and riverain areas. The technical teams have since reviewed the prototype, clearing the way for manufacturing of the 30,000 units. The first batch is expected to arrive in Guyana by June 2023.

1.4.4 Project for the Introduction of Renewable Energy and Improvement of Power System in Guyana (G/A1860260)

The objective of the Project is to improve the efficiency of the power systems by enhancing the quality of the substation equipment and distribution lines within the City of Georgetown and the surrounding areas. As well as, by installing and demonstrating a solar photovoltaic system and energy management system at the CARICOM Secretariat, thereby contributing to economic development within Guyana. This project has two components, namely the:



Procurement of electric power distribution materials (293km of Cosmos Wire, 48 pole-mounted transformers and 2x1500kVA power factor compensators) and 2x5MVA reactive power compensators for the Guyana Power & Light Inc. (GPL).



Procurement of a 400kWp solar PV power generation system with battery storage and a Building Energy Management System (BEMS) for the CARICOM Secretariat.

On June 27, 2018, JICA signed a grant agreement (G/A No. 1860260) with the Government of Guyana to provide grant aid of up to JPY1.848 billion for the project. 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 were June 30, 2020 and September 30, 2020 respectively. However, on March 31, 2020, the contractor issued a notification of the occurrence of Force Majeure in accordance with GCC Clause 13 of its contract. The COVID-19 pandemic and the ensuing precautionary measures (such as travel restrictions, closure of international airports and mandatory quarantine of persons travelling from high risk countries) implemented by countries to contain the COVID-19 outbreak were cited as the Force Majeure Event. This resulted in works on the project being temporarily suspended for 14 months, from April 1, 2020 to May 31, 2021. Works resumed on June 1, 2021.

The GPL component was completed on September 29, 2021 and the one year defect notification period for the reactive power compensators expired on September 28, 2022.

Regarding the CARICOM component, the 400kWp solar PV power generation system with battery was completed on January 11, 2022 but had to be taken out of operation on March 28, 2022 due to defective equipment (PV panels and battery modules). Following the completion of an investigation by the contractor and equipment manufacturers into the possible cause of the equipment failure, partial (200kWp) operation of the system was restored on August 6, 2022 pending receipt of the replacement equipment from Japan in January 2023. Meanwhile, the BEMS was completed on November 23, 2022 and additional O&M training for staff completed from November 21-22, 2022.



1.4.5 Energy Matrix Diversification and Institutional Strengthening of the Department of Energy (EMISDE) – Renewable Energy Solutions for the Hinterland (Component 1)

The Renewable Energy Solutions for the Hinterland is one of the major components of the Energy Matrix Diversification and Institutional Strengthening of the Department of Energy (EMISDE) Programme, funded by the Inter-American Development Bank (IDB). In keeping with the Low Carbon Development Strategy (LCDS) 2030, a total of 3.15 megawatts of energy will be added to the existing hinterland mini grids, by the end of 2023. Additionally, there is also a consideration of 0.6MW for Leguan in the pipeline, which when implemented will sum to a total of 3.75MW installed capacity under this programme.



The implementation of the Bartica/Lethem solar farm projects would have commenced on November 11, 2020, when the Contract agreement was signed between the Guyana Energy Agency and Farfan & Mendes Limited and Soventix Caribbean S.R.L. The total contract amount for the two solar PV farms valued at G\$1.098 billion, involved the installation of 1.5 megawatts at

Bartica and 1.0 megawatts at Lethem, respectively, as well as the implementation of a storage capacity to manage intermittency of these sources. Lethem's Solar PV project had been completed and was fully commissioned on August 5, 2022 while Bartica is expected to be completed by March ending 2023.





On September 15, 2022, the Guyana Energy Agency inked a Contract agreement with Standby Power Engineering Company (SPECOM) for the installation of 0.65MW of Solar photovoltaic farm at Mahdia, as well as the implementation of a storage capacity to manage intermittence of these sources. The total contract amount for the Mahdia solar PV project is valued at GY\$ 362,411,200 and the project is scheduled for completion within a duration of 330 days.

The Renewable Energy Solutions for the Hinterland also involves the installation of transmission and fiber optic communication lines to accommodate the Solar PV plants at Bartica (2.5km, 13.8kV), Lethem (0.5 km, 13.8kV) and Mahdia (2.0km, 13.8kV). The contracts for the installation of the transmission lines at Bartica and Lethem were awarded to Cummings Electrical Company Limited on January 3, 2022, at the total contract amount of GY\$96.1 million. Whereas the contract for the installation of the transmission lines at Mahdia was awarded to Ramoutar & Sons Contracting Services on September 15, 2022, at the total contract amount of GY\$45,440,300.

Another aspect of the project involved the installation of 800 AMI compatible smart meters at Bartica. A memorandum of Understanding (MOU) for the implementation of this project activity was signed between the Guyana Energy Agency and Guyana Power and Light Company on August 15, 2022 at a cost of GY\$18,600,288 and the project was completed on December 15, 2022.

As part of IDB's requirements for a proposed 0.6MW Solar farm at Leguan, the social and environment studies including a disaster risk management plan, and a detailed site investigating involving the topographic survey report, geotechnical engineering report and a flood risk report have been conducted.



The Women's Empowerment in Energy Programme (WEEP) was implemented, which witnessed 249 women drawn from communities of Bartica and Lethem being trained in Basic Solar Technology and Business Management programme. The Guyana Energy Agency (GEA) would have signed an MOU with the Board of Industrial Training (BIT) for the training in Solar Technology and another MOU with the Small Business Bureau (SBB) for the training in Business Management.

As part of the activities in Bartica, a Revegetation activity is also being implemented. The aim of the Revegetation Project is to offset the vegetation, approximately 2 hectares, that would have been cleared for the installation of the Bartica 1.5MW Solar Photovoltaic (PV) Farm. The GEA has contracted the services of a local consultant to undertake the revegetation activities, which will involve a group of local farmers artificially revegetating the Five Miles Bartica Sandpit, using the Taungya Agroforestry Practice. The participating local farmers will be involved in the planting of the specified trees and intercropping with any other food plants preferably sweet potatoes, which they will "grow and own" for their own direct benefits. The local farmers will be required to care for the tree seedlings as a complement for the free fertile farming land pending the time the forest species will grow and expand their canopy. Further, the implementation of the Taungya practice at the Bartica Sand Pit area offers an important opportunity for the development of a method and result demonstration site, for learning and replication to other similar sites nationwide.

1.5 Hydropower

1.5.1 Small Hydropower Project for the Cooperative Republic of Guyana (GUY1015)

The Small Hydropower Project with Project Code GUY1015 is being funded by a USD14.63million (Installment Sale) loan from the Islamic Development Bank (IsDB).

The objective of the Project is to provide a reliable and affordable supply of electricity to Lethem and nearby villages by construction of two small hydropower plants. The main components of the project include the construction of a new 1.5MW Kumu hydropower plant and the rehabilitation and upgrade of the defunct Moco Moco hydropower plant to 0.7MW capacity.

The main achievements for 2022 are:

1. The award of an EPC contract for construction of a 1.5MW Kumu hydropower plant and rehabilitation and upgrade of the defunct Moco Moco hydropower plant to 0.7MW to Vidullanka PLC of Sri Lanka for USD12.85 million on November 22, 2022. The contract duration is 24 months with a completion date of January 26, 2025. The performance and advance payment bonds and invoice for the advance payment were received on December 19, 2022 and the withdrawal application was submitted via IsDB's E-Disbursement portal



on December 20, 2022. Payment is pending and will be completed in January 2023. Also, the contractor was expected in Guyana by December 15, 2022 for the kick off meeting and to commence site mobilization works. However, this had to be postponed due to difficulties encountered in obtaining clearance for team members due to travel constraints. An alternative route via the US has since been identified but will require members to have valid transit visas. Appointments for same are scheduled for January 2023 and the first team is now expected in Guyana by January 18, 2023.

2. The process for procurement of consultancy services for design review and construction supervision for the project, which began on October 8, 2021, was advanced in 2022. Following IsDB's no objection for the REOI evaluation report and RFP on March 24, 2022, the RFP was issued to the four shortlisted consultants on August 15, 2022. A pre-proposal conference was held on August 26, 2022 and three proposals were received by the deadline date of September 27, 2022. The technical evaluation report was submitted for IsDB review and no-objection on December 21, 2022. IsDB's no objection is being awaited after which the financial proposals will be opened in accordance with the IsDB's procurement guidelines for consultant services.
3. The procurement process for two (2) Clerk of Works/Technicians commenced on December 9, 2022. Two EOIs were received by the deadline date of December 30, 2022. Interviews are scheduled for January 16, 2023 in Georgetown and January 26, 2023 in Lethem.
4. The planning process for consultations with key stakeholders including the Village Councils of Moco Moco and St. Ignatius/Kumu/Quarrie, Lethem Power Company Inc. Board, Regional Democratic Council Region 9 Chairman, Mayor and Town Council, Residents of Ignatius/Kumu/Quarrie Village, Rupununi Chamber of Commerce and Industry and the Residents of Moco Moco Village were completed in December 2022. Joint consultations will be held with the EPC contractor in January 2023.

1.5.2 Kato Hydropower Project

GEA's Hydropower Engineers provided technical support to the Hinterland Electrification Company Inc. for the 150kW Kato Hydropower Project. Works commenced in March 2020 and at December ending 2022, the project was approximately 70% completed.

Powerhouse – the contractor completed the excavation and installation of the powerhouse foundation, floor, columns and capping beam. Additionally, the trusses for the roof structure were fabricated.





Weir – the contractor completed the installation of the right and left bank wing walls, flush gate, 5m of the weir on the right bank and 11m of the weir core on the left of the flushing.



Conveyance – The contractor completed the installation of 301m of the conveyance, stream crossing two ford structures.





Electromechanical equipment – the contractor received the shipment of the E&M equipment and delivered it to the site.



Surge Tank – the contractor completed the second stage concrete of the surge tank.





1.6 Electric Mobility

In recognition of the Low Carbon Development Strategy (LCDS) 2030 and the Government's pursuit to develop low carbon transportation infrastructure, the Guyana Energy Agency (GEA), with funding support from the Inter-American Development Bank (IDB), held two one-week workshops on Electric Vehicles Maintenance and Repair during 2022 resulting in 25 persons trained.

The training of mechanics and electricians aims to advance a local ecosystem and prepare for investments in electric vehicles while supporting the development of electromobility for Guyana.





1.7 Energy Efficiency Interventions

The Government of Guyana, in pursuit of the Low Carbon Development Strategy, aims to transform Guyana's economy to deliver greater socio-economic development under a low carbon development path while also addressing the issues associated with climate change. In this regard the government is committed to providing affordable, stable, and reliable energy in the sector.

The LED Lighting Project promoted energy efficiency and conservation in households, businesses, and public buildings by replacing inefficient lighting technology with energy efficient Light Emitting Diodes (LEDs) lamps. This energy saving initiative is expected to encourage sustainable consumption and support Guyanese households and businesses in making energy conscious decisions and reducing their carbon footprint. This project would also address the lighting component of the approved Regional Energy Efficiency Building Code which was adopted as a National Standard.

As part of the energy conservation and efficiency programme, 36,520 LED lights were installed for residents and businesses of Linden, Wakenaam, Leguan and Bartica.



1.8 Fourth Committee Meeting for Latin America and the Caribbean Region for the International Solar Alliance

Guyana Energy Agency, with support from the Ministry of Foreign Affairs, successfully hosted



the Fourth Committee Meeting for Latin America and the Caribbean Region for the International Solar Alliance, August 3 to 5, 2022.

Prime Minister Brigadier (Ret'd) Mark Phillips, delivered the feature address at the Welcome Dinner held at the Guyana Marriott where he reiterated government's commitment to achieving a low carbon economy through energy diversification.

ISA is a member-driven and collaborative platform aimed at increasing the deployment of solar energy technologies as a means of enhancing energy access, ensuring energy security, and driving energy transition in its member countries. The ISA seeks to develop and deploy cost-effective and transformational energy solutions powered by the sun to help member countries develop low-carbon growth trajectories, with particular focus on delivering impact in countries categorised as Least Developed Countries (LDCs) and the Small Island Developing States (SIDS).



The Prime Minister lauded the collaboration between ISA and its members in delivering sustainable solar energy solutions and stated that the Government of Guyana has benefitted from the ISA's support in the areas of technical cooperation and grant assistance

with projects including the Solar PV Demonstration Project at the Orealla Health Centre, and training and capacity-building sessions for Guyanese professionals.



Minister within the Ministry of Public Works, Deodat Indar, who also serves as vice president of the committee, posited that Guyana is charting a path of undeniable development through beneficial partnerships with the ISA.





Prime Minister, Brigadier (Ret'd), Mark Phillips

Prime Minister, Brigadier (Ret'd), Mark Phillips, speaking at the opening ceremony, stated that Guyana is ready to work with its fellow members states and the ISA to realize the ISA goals of increasing the deployment of solar energy technologies while contribution to universal energy access, promoting energy security and supporting low carbon transmissions.



Prime Minister Phillips spoke of the importance of such platforms, which foster a conversation with policy



makers and stakeholders, who together, will develop innovative solutions that will shape the regional agenda for clean energy transitions particularly, for the uptake of solar energy technologies.

The prime minister acknowledged the value of solar energy, which is primarily considered the fastest growing renewable energy source, particularly in large-scale power generation. This value creates an urgent call for the acceleration of the use of solar energy for citizens' daily needs.

President, Dr. Mohamed Irfaan Ali delivered the feature address at the Opening Ceremony for the Meeting. He charged that the Caribbean Region should consider making separate investment in hydrogen as the renewable energy source of the future.



His Excellency Dr. Mohamed Irfaan Ali speaking at the ISA forum

The President's suggestion is premised on the fact that the gas is viable as a renewable energy solution owing to its many advantages, chief among them, affordability.

“We have to start designing a strategy that looks at green hydrogen and how that is formulated because the reality is if hydrogen is for the future and the financial implication is that banks and international community is willing to finance hydrogen against solar then unfortunately, it is the death of solar, this is the reality”, he said.



He explained further, ***“If the world moves into the direction that we are going to push hydrogen, then the financing for hydrogen has to come from somewhere and if hydrogen is the preferred investment for sustainable energy and for renewables in the future, then definitely the types of resources behind solar would not be there.”***

President Ali made it clear that, ***“I am not saying that is the answer, I am saying that is one suggestion, and those are the hard questions...I am speaking on the basis that we are all agreeing that we are going on a renewable pathway as part of our global commitment, that is a given.”***

The Head of State was speaking against the backdrop that while the Caribbean region has great solar potential, the cost to fund the projects is enormous.

He therefore, posited that natural gas be examined as a reliable renewable energy source that can be utilised, but at a significantly lower cost.

Under this national advancement plan, Guyana looks to complement the national grid with other forms of clean and renewable energy – namely natural gas, hydropower, wind power and biomass. It is anticipated that by 2030, 70 per cent of Guyana’s energy mix will be supplied through green energy.

Additionally, the highly-anticipated gas-to-energy project terminating at the Wales Development Authority, will see 250 MW of new power generation constructed.

This US\$900 million project will utilise natural gas from the Liza One and Liza Two development projects offshore Guyana.



1.9 CARICOM Energy Month

CARICOM Energy Month (CEM), celebrated annually in November, seeks to emphasise the role of citizens in transforming the region's energy systems and achieving a sustainable, climate-resilient future for the Community. In 2022, CEM was commemorated under the theme “Our Future is Electric”, highlighting the importance of electrification of end-use sectors for the sustainable energy transition.



GEA, in partnership with the CARICOM Secretariat and with support from the Caribbean Development Bank, hosted the Regional Kilo Walk in Georgetown, Guyana on November 19, 2022

His Excellency, Dr. Mohamed Irfaan Ali, President of the Cooperative Republic of Guyana and the Honourable Brigadier (Retired), Mark Phillips, Prime Minister, joined the entourage on the walk. The Prime Minister also delivered an Energy Month Address to the participants after the walk.



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 implementation of the provisions 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.



One thousand, five hundred and thirty-three (1,533) licences were granted among the various categories: Import, Importing Wholesale, Wholesale, Retail, Storage, Bulk Transportation Carriers and Consumer Installations.

Table Showing Licences Issued in 2022

Licences Issued		2022													2021	Total Growth
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	YTD	YTD	
Importing Wholesale		0	3	4	4	4	2	2	5	3	5	7	1	40	35	13%
Export		0	0	0	0	0	0	0	0	0	0	0	0	0	0	-
Wholesale		0	1	2	5	4	0	1	2	0	0	0	0	15	14	7%
Retail	Petrol Filling Stations	1	0	5	24	13	6	0	11	4	1	11	4	80	108	-35%
	Others	14	69	66	72	48	63	41	83	64	44	43	34	641	595	7%
Storage		0	0	0	0	0	0	0	1	0	0	0	0	1	2	-100%
Consumer Installation		0	5	28	22	49	15	8	30	4	6	9	3	179	178	1%
Bulk Transportation Carrier	Road Tanker Wagons	30	12	14	11	28	8	11	15	14	16	28	17	204	178	13%
	Trucks	20	33	28	28	15	15	32	21	31	26	35	25	309	318	-3%
	Fuel Barges	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-
	Boats	5	8	2	14	2	5	5	5	2	6	4	6	64	84	-31%
Total		70	131	149	180	163	114	100	173	122	104	137	90	1533	1512	1%





During 2022, the Division continued to collaborate with sister Agencies in executing joint mandates in the use and distribution of petroleum and petroleum products. A joint field exercise was conducted in Region 1 with the Environmental Protection Agency, Maritime Administration Department, Guyana Fire Service, Guyana National Bureau of Standards, Guyana Police Force and Guyana Defence Force (Coast Guard) to sensitise operators within the Region about the safety and legal requirements

for storing and transporting fuel in the Region.

Development of Single Window

The Agency continued to work with the Ministry of Tourism, Industry and Commerce (MTIC) on the development of an electronic single window, the objective is to modernize the Government of Guyana's trade and business facilitation administrative architecture thereby unlocking the potential for increased trade, business and investment. This project is being executed by MTIC and will allow applications for the import and export of petroleum and petroleum products being submitted and reviewed electronically through the single window. GEA was privileged to be one of the first entities to whom a demo of the single window was shown in December 2022.



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 449 bulk marking operations in the year 2022, an increase from 375 operations in 2021.



The Authentix Country Manager Liaison and Quality Manager provided the following oversight functions:

- Monitoring, verification, assessment, reconciliation and projections for marker concentrate received and used by GEA
- 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
- Training and recertification of Inspectors
- Assisting and supporting the

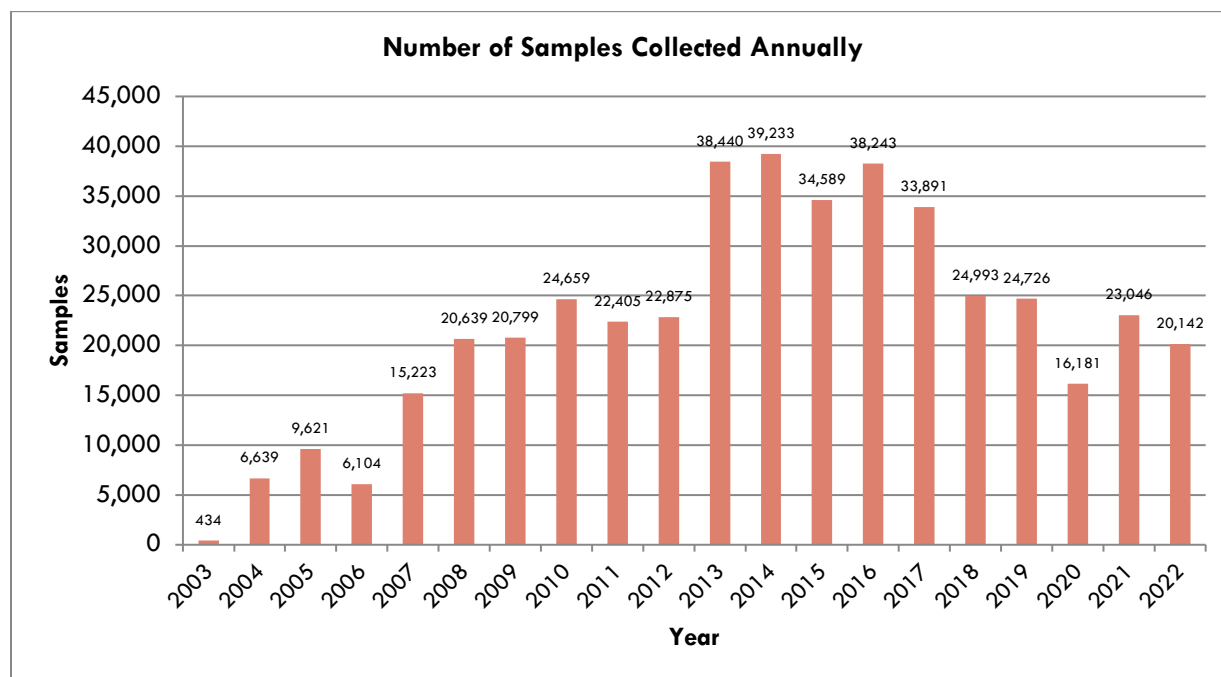
implementation of a quality management system for the laboratory and the development of new procedures for ISO/ IEC 17025 Accreditation.



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:



Focused sampling strategy in 2022 resulted in the collection of 20,142 fuel samples.

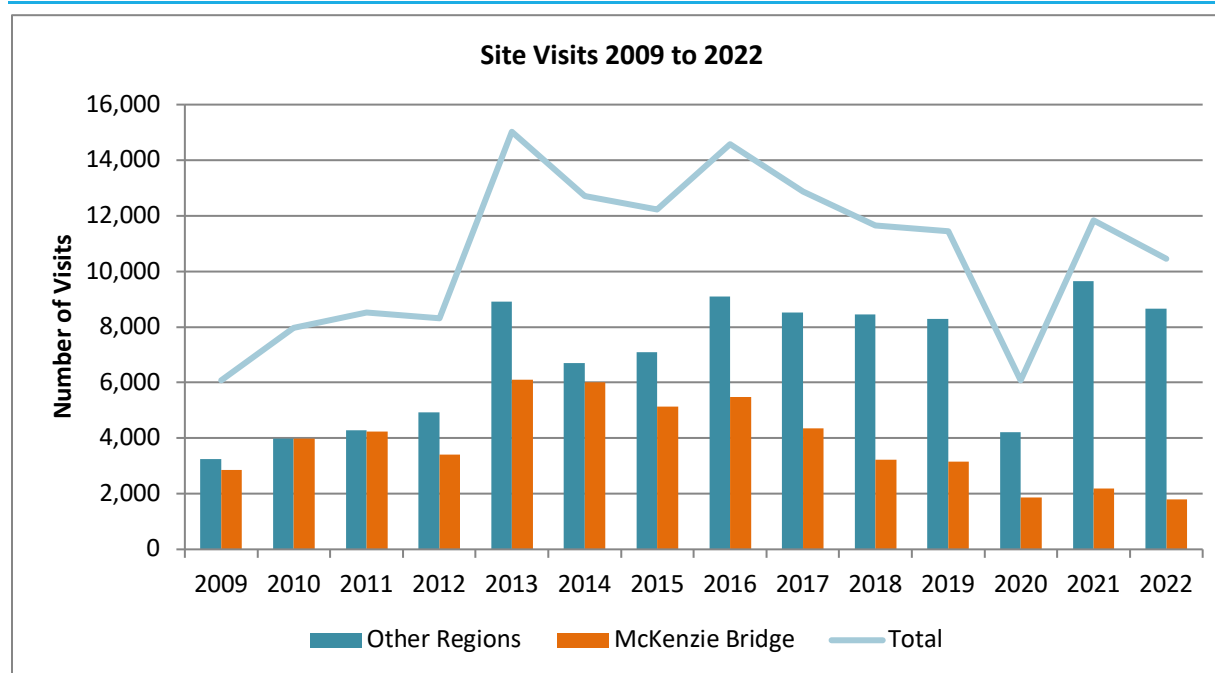
Region	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
1	59	273	-	20	41	2	3	0	0	2	28	20
2	1,408	1,673	2,250	1,894	1,261	2,663	1,502	1,569	1,572	1,111	1,065	1,307
3	2,419	3,479	4,167	2,727	1,926	2,582	2,524	2,112	1,509	1,307	2,778	2,663
4	3,289	4,595	5,291	5,189	3,866	6,112	6,011	5,672	3,860	3,138	5,516	5,524
5	827	1,479	1,274	710	500	1,134	870	920	657	329	1,189	1,444
6	829	931	1,167	919	659	1,673	1,078	850	436	540	1,035	1,145
7	140	295	354	377	1,982	2,279	2,369	1,527	2,949	2,046	1,614	1,474
8	12	135	25	62	72	77	36	89	28	71	20	63
9	1	64	-	53	94	122	93	68	15	50	22	87
10	15,858	12,770	24,671	30,452	24,505	26,517	22,008	14,581	14,344	9,137	11,131	10,304
Total	24,842	25,694	39,199	42,403	34,906	43,161	36,494	27,388	25,370	17,731	24,398	24,031

Number of Quantitative Analyses by Region

Samples tested using the 'quantitative methodology' has remained relatively unchanged in 2022 when compared to 2021. Regional improvements were noted in 2, 4, 5, 6, 8 and 9.



3.2 Analysis by Site



10,454 site visits were conducted in 2022. This was in part due to the slowing down of activities at the Linden checkpoint – given construction activities in the last month of the year, and the reduction in the number of trucks heading for the interior as compared to previous years.

Targeted operations were also done at the Bartica and Essequibo bases focusing more on intelligence driven exercises rather than sampling and testing sites which contributed to the aforementioned.

Visits by Area	2009	2010	2011	2012	2013	2014	2015
McKenzie Bridge	2,849	3,994	4,239	3,401	6,105	6,015	5,130
Other Regions	3,242	3,975	4,276	4,922	8,917	6,701	7,097
Total	6,091	7,969	8,515	8,323	15,022	12,716	12,227
Visits by Area	2016	2017	2018	2019	2020	2021	2022
McKenzie Bridge	5,488	4,364	3,215	3,148	1,860	2,193	1,786
Other Regions	9,095	8,518	8,440	8,290	4,219	9,652	8,668
Total	14,583	12,882	11,655	11,438	6,079	11,845	10,454

Of the 10,454 total site visits conducted during the year, 1,777 sites were sampled at least once.



17 (1%) 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. 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.

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
No. of Sites samples at least once	566	592	1,202	1,313	1,179	1,648	2,146	2,200	1,446	2,253	1,852	1,874	1,551	918	1,927	1,777
No. of Sites found with significant dilution in at least 1 tank	128	57	73	45	21	13	35	51	37	27	29	26	10	4	11	17
% of Sites found with significant dilution in at least 1 tank	23%	10%	6%	3%	1.8%	0.8%	1.6%	2.3%	2.6%	1.2%	1.6%	1.4%	0.6%	1%	1%	1%

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. Significant levels of adulteration were detected in less than 1% of sampled collected from 2013 to 2022.

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		2020		2021		2022	
0 – 50%	357	<1%	254	<1%	272	1%	93	<1%	55	<1%	87	<1%	45	<1%
51 – 70%	73	<1%	52	<1%	29	<1%	109	<1%	37	<1%	27	<1%	24	<1%
71 – 90%	30,322	78%	19,332	58%	15,219	62%	15,511	64%	8,454	51%	7,498	33%	6,297	31%
91% & Over	8,141	21%	13,807	41%	8,872	36%	8,486	35%	7,882	48%	14,946	66%	13,542	68%
Total	38,893	100%	33,445	100%	24,392	100%	24,199	100%	16,428	100%	22,558	100%	19,908	100%

3.4 Incidents of Illegal Fuel

The Division recorded a total of 17 Incidents of Illegal fuel in 2023.

Annual Incidents Recorded by Month 2009 – 2022													
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
2020	0	0	0	0	1	0	0	0	1	0	2	0	4
2021	0	0	0	4	2	0	1	3	0	0	0	1	11
2022	1	0	1	5	0	6	0	0	0	3	0	1	17

3.5 Quantity of Illegal Fuel Seized

The volume of illegal fuel identified and seized during 2022 was small compared to previous years.

Total Fuel Seized Annually (UK GAL) 2005 – 2022								
2005	2006	2007	2008	2009	2010	2011	2012	2013
3,011	8,001	21,793	33,560	33,443	21,242	10,273	6,004	2,931
2014	2015	2016	2017	2018	2019	2020	2021	2022
3,785	6,200	19,721	11,355	13,929	1,932	21,725	10	45

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).

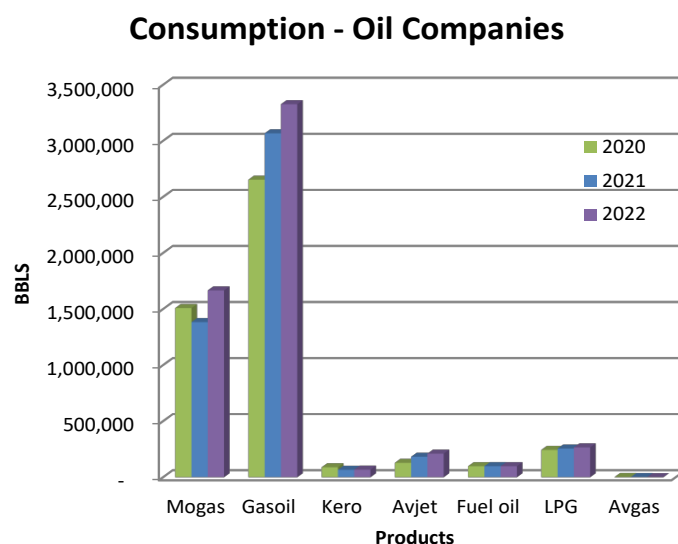
For the oil companies, 5,638,460 barrels of petroleum-based products were sold in 2022, with an average of 15,448 barrels per day. This represents a 11.47% increase when compared to 2021⁴. There were increases in the consumption of gasoline, diesel, kerosene, jet fuel, and cooking gas, while consumption of fuel oil and aviation gasoline declined for the year.

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



The increase in gasoline consumption for 2022 may be attributed to increased commuting in the public transport sector, partially stemming from the full reopening of public schools. The relatively larger increase in LPG consumption suggests greater use of cooking gas over kerosene.

TOTAL CONSUMPTION - OIL COMPANIES (BBLs)					
January - December		2020	2021	2022	% change
	Mogas	1,509,019	1,383,728	1,666,448	20.43%
	Gasoil	2,653,662	3,067,418	3,326,923	8.46%
	Kero	89,230	66,637	67,880	1.87%
	Avjet	128,935	183,209	210,913	15.12%
	Fuel oil	98,491	98,986	98,860	-0.13%
	LPG	243,656	256,295	266,702	4.06%
	Avgas	2,149	1,805	734	-59.33%
	Total	4,725,142	5,058,078	5,638,460	11.47%
	Bpd	12,910	13,858	15,448	11.47%



Diesel consumption rose due to growth in the rice, diamond mining, forestry and fishing subsectors, expansion in the manufacturing and service sectors, and upstream activities. 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 2021, 22 criminal investigations were completed (fuel marking and licensing offences), 3 charges instituted, 1 conviction was secured and Compensation of \$1,100,000 was accepted.



4.0 Administration and Human Resource Division

The Agency commenced the year with a staff complement of one hundred and seventeen (117) employees and ended the year with one hundred and fifteen (115) employees.

4.1 Professional Development

		Actual Training for 2022
Organize and install suitable capacity building and professional development programmes to provide employees with requisite knowledge and skills.	Number of training programmes	33
	Number of Officers trained	130

Training Summary

No	Dates	Facilitator	Aim	Participants
1	March 1-4, 2022	Ministry of Public Service	Communication in the Workplace	Antadeo Singh
2	March 29-31, 2022	Ministry of Public Service	Change Management	Shareefa Baksh-Toolsiram
3	March 31-April 1, 2022	Office of the Prime Minister, National Data management Authority	Cyber Crisis Management	Gayle Primo-Best
4	April 12-14, 2022	Ministry of Public Service	Personnel Policies and Practices	Alecia Horne
5	May 9-11, 2022	UNFCCC ETF	UNFCCC ETF training	Shevon Wood
6	May 10-13, 2022	Ministry of Public Service	Principles of Supervisory Management Module 1	Godfrey Grant
7	May 17-18, 2022	Ministry of Public Service	Team Building	Narisa Samuels-Lewis
8	May 30-31, 2022	Institute of Internal Auditors Guyana Chapter (IIAG)	IIAG's Seminar	Cindy Beck
9	June 7-10, 2022	Ministry of Public Service	Principles of Professional Secretarial Practices	Coleen Fletcher-Perry
10	June 23-25, 2022	Ministry of Public Service	Occupational Safety & Health	Kendria Drakes
11	June 14, 2022-July 11, 2022.	National Institute of Labour Economics Research and	International Training Programme on Developing Human Capabilities	Roshawn Heywood



Development in New Delhi, India.				
12	Jul 19-22, 2022	Ministry of Public Service	Principles of Supervisory Management Module 1	Godfrey Grant
13	July 27, 2022	Ministry of Public Service	Training for Office Assistant	Emanuel Hector
14	July 19-20, 2022	Attorney General's Chambers and Ministry of Legal Affairs	Guyana Civil Asset Recovery Workshop'	Thandiwe Benn, Coleen Sparman-Stephen, Mohanram Persaud, Jason Samuels, Shanamay Daniels- King, Doneeta Ramlakhan, Kiefer Robin, Paul Fraser, Satyanand Singh
15	July 2- September 3, 2022	Nations University	Intelligence Gathering	Satynand Singh, Aliza Imdad, Michael Peters, Navindra Jaikarran, Antadeo Singh, Jason Samuels
16	July 1-7, 2022	Carnegie School of Home Economics	Housekeeping	Joy Duke, Irene Campbell, Frida Rampersaud, Collette Nurse
17	July 21, 2022	Everblue Training Institute	NABCEP PV Associate Exam Prep & Exams	Ian Duncan
18	July 12,13- 15, 26-28, 2022	The Response Group	CS 100/200- July 12, 2022 (Virtual), ICS 300- July 13 to 15, 2022, (Virtual), Oil Spill Clean Up Fundamentals- July 26-28, 2022 (In Person)	K. Lewis, C. Sparman- Stephen, T. Benn, A. Deally, G. Primo-Best, D. Boodhoo, D. Narain, K. Cameron, S. Baksh- Toolsiram, W. Holder, S. Daniels-King, D. Haimraj, Q. Nedd, A. Horne, Devon Brummell, Simeon Butcher, Yoglata Ruplal, Kendria Drakes, Rosshanda Baggot, Greganne Garnett, Lisa Nassy
19	July 19-20, 2022	Attorney General's Chambers and Ministry of Legal Affairs	Guyana Civil Asset Recovery Workshop	Thandiwe Benn, Coleen Sparman-Stephen, Mohanram Persaud, Jason Samuels, Shanamay Daniels- King, Doneeta



				Ramlakhan, Paul Fraser, Satyanand Singh
20	August 15, 2022	Everblue Training	NABCEP PV Associate Exam Prep & Exams	Ian Duncan, Christopher Nelson, Osbert Smith, Julian Smith
21	August 11, 2022	Renewable Energy Institute	Hydro Power Certificate	Damion Shiwcharran, Orlando Arno
22	September 6-15, 2022	U.S Trade and Development Agency United States of America	Best practices in the procurement of energy infrastructure	Shareefa Baksh-Toolsiram
23	September 13-16, 2022	Ministry of Public Service	Customer Service Delivery	Emanuel Hector
24	September 27-30, 2022	Ministry of Public Service	Change Management	Shanamay Daniels
25	September 20, 2022	The Renewables Academy (RENAC) AG, Berlin	Certified PV Professional (Batch 1) - Apr 2022	Latchman Shivdat, Brian Constantine
26	October 25-28, 2022	Ministry of Public Service	Leadership Development	Daywattie Narain
27	07 th of November 2022 to December 7 th , 2022	Times Professional Learning Institute located in Mumbai, India	International training program in advanced communication skills	Greganne Garnett
28	November 14-19, 2022	IDB in partnership with the Korea Energy Agency (KEA) North Korea	Electromobility and Energy Efficiency training	Brian Constantine
29	November 22-24, 2022	Saint Lucia	IRENA Capacity Building on Project Finance and Facilitation in the Caribbean	Olson Abrams
30	November 25, 2022	Held by GEA at Cara Lodge	Statement Writing for Inspectors	Antadeo Singh, Simeon Butcher, Michael Peters, Rahim Mohamed, Navindra Jaikarran, Quasen Nedd, Devon Burummell, Roshawn Heywood, Kiefer Robin, Leon Burnett, Earicka Richards, Arjune Deally, Aliza Imdad



31	November 28-December 2, 2022	GEA/IDB	IMI International Level 3 Electric/Hybrid Vehicle System Repair and Replacement	Christopher Nelson
32	December 5-6, 2022 (6 th morning)	Held by Authentix at Cara Lodge	AXIS software training	Christina Seepersaud Devica Singh Camiela Buchoon Cindy Beck Yota Burgess Shem Petrie Dijon Boston Tularam Gurbarran Narisa Lewis Diana Maxwell Gaitri Khemraj Yoglata Ruplal Mohan Changa Rowena Wray Kamala Chatterpaul Nikita Drakes Namesh Persaud Esan Nelson William Holder
33	December 6, 2022 (6 th afternoon)	Held by Authentix at Cara Lodge	Understanding the Requirements of ISO/IEC 17025:2017	Yoglata Ruphal Gaitri Khemraj Diana Maxwell Narisa Lewis Rowena Wray Mohan Changa Kamala Chatterpaul Nikita Drakes Shem Petrie Tularam Gurbarran Dijon Boston Camiela Buchoon Christina Seepersaud Navindra Jaikarran Cindy Williams Yota Burgess Leon Burnette Cindy Beck Namesh Persaud Michael Peters



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.



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.

