

DOCUMENT OF THE INTER-AMERICAN DEVELOPMENT BANK

**GUYANA**

**STRENGTHENING THE ENERGY SECTOR**

**(GY-L1067)**

**LOAN PROPOSAL**

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| ABBREVIATIONS |   |
|---------------|---|
| boe           | Barrel oil equivalent                                 |
| CNOOC         | China National Offshore Oil Corporation               |
| DBIS          | Demerara-Berbice Interconnected System                |
| DE            | Department of Energy                                  |
| EA            | Executing Agency                                      |
| ESRA          | Electricity Sector Reform Act                         |
| GDP           | Gross Domestic Product                                |
| GoG           | Government of Guyana                                  |
| GPL           | Guyana Power and Light                                |
| GSDS          | Green State Development Strategy                      |
| GWh           | Gigawatt hour   |
| HFO           | Heavy Fuel Oil  |
| IDB           | Inter-American Development Bank                       |
| IMF           | International Monetary Fund                           |
| kWh           | kilowatt hour   |
| LAC           | Latin American and Caribbean                          |
| LFO           | Light Fuel Oil  |
| MoF           | Ministry of Finance                                   |
| MoPI          | Ministry of Public Infrastructure                     |
| MW            | Megawatts   |
| NG            | Natural Gas   |
| O&G           | Oil and Gas   |
| OC            | Ordinary Capital                                      |
| OECD          | Organization for Economic Cooperation and Development |
| OPEC          | Organization of Petroleum Exporting Countries         |
| PBL           | Policy-based Loan                                     |
| PSA           | Production Sharing Agreement                          |
| PUP           | Public Utilities Policy                               |
| PV            | Photovoltaic  |
| RE            | Renewable Energy                                      |
| TC            | Technical Cooperation                                 |
| US\$          | Dollars of the United States of America               |

**PROJECT SUMMARY**  
**GUYANA**  
**STRENGTHENING THE ENERGY SECTOR**  
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| Financial Terms and Conditions  |  |  |  |
|---|--|--|--|
| Borrower:   | Source   | Amount (US\$)                          | %                                      |
| The Co-operative Republic of Guyana   | IDB (Regular OC):  | 5,820,000                              | 50                                     |
|   | IDB (Concessional OC):   | 5,820,000                              | 50                                     |
| Executing Agency (EA):  | Total  | 11,640,000                             | 100                                    |
| Ministry of Finance (MoF)   |  |  |  |
|   | Regular Ordinary Capital<br>(Flexible Financing Facility) <sup>(a)</sup> | Concessional Ordinary Capital          |  |
| Amortization Period:  | 20 years   | 40 years                               |  |
| Disbursement Period:  | 2 years  |  |  |
| Grace Period:   | 5.5 years <sup>(b)</sup>   | 40 years                               |  |
| Interest rate:  | LIBOR Based  | 0.25%                                  |  |
| Credit Fee:   | <sup>(c)</sup>   | N/A                                    |  |
| Inspection and Supervision Fee:   | <sup>(c)</sup>   | N/A                                    |  |
| Weighted Average Life (WAL):  | 12.75 years  | N/A                                    |  |
| Currency of Approval:   | Dollars of the United States of America (US\$)                           |  |  |
| Project at a Glance   |  |  |  |
| <b>Project Objective/Description:</b> The general objective is to support the strengthening and sustainability of the energy sector in Guyana by contributing to the development of the Oil and Gas (O&G) sector and the development of cleaner energy sources for electricity generation. The specific objectives are to: (i) develop a management and planning framework for the O&G sector; and (ii) contribute towards the development of the policy framework to diversify the electricity generation matrix.<br><br>This operation will be financed by a multi-tranche policy-based loan, in two consecutive tranches of US\$5.82 million each. |  |  |  |
| <b>Special Contractual Conditions prior to the disbursements of the financing:</b> The disbursement of the funds in each tranche will be contingent on fulfillment of the policy reform measures described in the program's components and in the Policy Matrix (Annex II), and any other conditions specified in the loan contract (¶3.2).   |  |  |  |
| <b>Exceptions to Bank Policies:</b> None.   |  |  |  |
| Strategic Alignment   |  |  |  |
| <b>Challenges<sup>(d)</sup>:</b>  | SI <input type="checkbox"/>  | PI <input checked="" type="checkbox"/> | EI <input type="checkbox"/>            |
| <b>Cross-Cutting Themes<sup>(e)</sup>:</b>  | GD <input type="checkbox"/>  | CC <input type="checkbox"/>            | IC <input checked="" type="checkbox"/> |

<sup>(a)</sup> Under the Flexible Financing Facility (FN-655-1), the borrower has the option to request modifications to the amortization schedule as well as currency and interest rate conversions. In considering such requests, the Bank will take into account operational, risk management considerations and market conditions, as well as the concessional level of the Loan in accordance with Bank's applicable policies.

<sup>(b)</sup> Under the flexible repayment options of the Flexible Financing Facility (FFF), changes in the grace period are possible as long as the Original Weighted Average Life (WAL) and the last payment date, as documented in the loan agreement, are not exceeded.

<sup>(c)</sup> The credit fee and inspection and supervision fee will be established periodically by the Board of Executive Directors during its review of the Bank's lending charges, in accordance with the relevant policies.

<sup>(d)</sup> SI (Social Inclusion and Equality); PI (Productivity and Innovation); and EI (Economic Integration).

<sup>(e)</sup> GD (Gender Equality and Diversity); CC (Climate Change and Environmental Sustainability); and IC (Institutional Capacity and Rule of Law).

## I. DESCRIPTION AND RESULTS MONITORING

### A. Background, Problem Addressed, Justification

- 1.1 **Macroeconomic and fiscal context.** Guyana is rich in natural resources, including predominantly five commodities: bauxite, gold, rice, sugar, and timber, which represent 84% of total exports.<sup>1</sup> Beginning in 2020, Guyana's economy will transition to become an oil producer, which is expected to considerably increase resource-related government revenues. Currently, Guyana is dependent on foreign oil, which represented 24% of the total imports in 2017 (Bank of Guyana, 03/2018). Despite lower commodity prices, Guyana's macroeconomic indicators have remained stable. Since 2013, the economy has grown at an average rate of 3.5% per year, the second highest in the Caribbean, and the average annual inflation has remained subdued at 0.8%.<sup>2</sup>
- 1.2 Between 2014 and 2017, total expenditure as a share of Gross Domestic Product (GDP) averaged 29.5%, while revenue as a share of GDP averaged 25.6%. This has contributed to recurrent fiscal deficits averaging 4% of GDP during this period. As the economy prepares to develop the Oil & Gas (O&G) sector to become an oil producer,<sup>3</sup> the fiscal deficit is expected to increase to over 5% of GDP in 2018 and 2019. This is mainly due to the government's efforts to increase infrastructure spending leading up to oil production in 2020. Capital expenditure is expected to increase from 7.7% of GDP in 2018 to 8.7% in 2019 and remain over 10% for several years from there on. The fiscal balance is projected to turn into a surplus after 2023 because of oil revenues.
- 1.3 Debt remains stable with a positive outlook in the medium term. Total public debt as a share of GDP has remained slightly above 50% between 2014 and 2017. The higher projected deficits in 2018 and 2019 are expected to lead to total public debt levels of 57% and 57.2%, respectively, before decreasing to approximately 40% of GDP in 2023. Currently, external public debt is approximately 63% of total public debt.

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<sup>1</sup> Article IV International Monetary Fund (IMF) 2018.

<sup>2</sup> World Economic Outlook, 04/2018.

<sup>3</sup> The development of the O&G sector considers exploration and production activities with the objective of exporting this resource, as well as the use of Natural Gas (NG) for electricity generation. It does not consider the development of the oil refinery industry.

Table 1. Macro/Fiscal Indicators (% GDP)

| Indicator / Year          | 2014 | 2015 | 2016 | 2017 | 2018p | 2019p | 2020p |
|---------------------------|------|------|------|------|-------|-------|-------|
| <b>Real GDP growth</b>    | 3.9  | 3.1  | 3.4  | 2.1  | 3.4   | 4.8   | 29.8  |
| <b>Revenue and Grants</b> | 23.6 | 25.6 | 25.6 | 27.6 | 28.2  | 28.9  | 28.7  |
| Revenue                   | 22.9 | 24.6 | 24.5 | 26.0 | 26.7  | 27.6  | 27.8  |
| Grants                    | 0.7  | 1.0  | 1.1  | 1.6  | 1.5   | 1.3   | 0.9   |
| <b>Total Expenditure</b>  | 29.1 | 27.0 | 29.9 | 32.0 | 33.6  | 34.0  | 33.4  |
| Current Expenditure       | 21.1 | 22.4 | 23.5 | 24.2 | 25.9  | 25.3  | 22.3  |
| Capital Expenditure       | 8.0  | 4.6  | 6.4  | 7.8  | 7.7   | 8.7   | 11.1  |
| <b>Primary Balance</b>    | -4.3 | -0.4 | -3.4 | -3.4 | -4.3  | -4    | -3.5  |
| <b>Overall Balance</b>    | -5.5 | -1.4 | -4.4 | -4.5 | -5.4  | -5.1  | -4.8  |
| <b>Total Public Debt</b>  | 51.9 | 50.1 | 50.7 | 52.2 | 57    | 57.2  | 54.4  |

Source: Article IV. IMF, 2018.

- 1.4 **Socioeconomic context.** Guyana is a South American country on the continent's Caribbean coast and its population is 773,000 people.<sup>4</sup> While GDP growth exceeds the regional average, Guyana's GDP per capita of US\$4,700 is one of the lowest in the region.<sup>5</sup> The average GDP per capita for Latin American and Caribbean (LAC) countries was US\$9,000 in 2017 and the Caribbean average was US\$10,150.<sup>6</sup> According to the Guyana Labor Force Survey (03/2017), the unemployment rate is 12%, above the LAC average of 8.2%. The labor force participation rate is 68.8% and 43.6%, for men and women respectively, even though the population of working age women is slightly higher than men. Guyana has not measured poverty and inequality rates since 2006 when the last household income and expenditure survey was done. At that time the moderate poverty rate was estimated at 36.1% and the extreme poverty rate 18.6%.
- 1.5 Life expectancy at birth was 66.6 years in Guyana (2016), one of the lowest among peer countries and below the LAC average of 75.5.<sup>7</sup> Moreover, it is estimated that 8.5% of the population is undernourished, slightly higher than the LAC average of 6.5% in 2015.<sup>8</sup> Rates of immunization coverage are high in Guyana, reaching 97% of the population for some of the main vaccines (BCG, DPT1).<sup>9</sup> Maternal deaths per 100,000 live births in 2015 was estimated at 229, which is higher than the LAC average of 68 and higher than the world average of 216.<sup>10</sup>
- 1.6 **Institutional sector context.** The Ministry of Public Infrastructure (MoPI) has the overall responsibility for the administration, high-level policy making and regulatory functions of the electricity sector in Guyana. The electricity sector is governed by the Electricity Sector Reform Act (ESRA) of 1999, and its ESRA Amendment 17 of 2010. The MoPI houses the following agencies working on policy development and the operation of the energy sector: (i) the Guyana Energy Agency oversees the

<sup>4</sup> [World Development Indicators, World Bank.](#)

<sup>5</sup> World Economic Outlook, 04/2018.

<sup>6</sup> World Economic Outlook, 04/2018.

<sup>7</sup> [World Development Indicators, World Bank.](#)

<sup>8</sup> World Development Indicators, World Bank.

<sup>9</sup> [Monitoring the situation of children and women. UNICEF Data.](#)

<sup>10</sup> World Development Indicators, World Bank.

provision of the policy support, technical planning, and the development of operating codes and regulations for the development of the energy sector, as well as the import and distribution of the petroleum products;<sup>11</sup> (ii) the Guyana Power and Light (GPL) is the public vertically-integrated utility that operates the Demerara-Berbice Interconnected System (DBIS) covering approximately 80% of the population. Other institutions under the MoPI are the Hinterland Electrification Company Inc., the Public Utilities Commission, and the Government Electrical Inspectorate.

- 1.7 In the case of Oil and Gas (O&G), the sector has been governed by the Petroleum (Exploration and Production) Act 1986, which covers the basic parameters of the sector and placed regulatory and oversight responsibilities on the Ministry of Natural Resources.<sup>12</sup> In an effort to prepare the country for first oil, as a result of the Bank's ongoing strategic support to the sector – which has included, since 2017, high-level advisory to the Presidency of the Republic and recommendations on sector organization and design – and in line with international best practices, a DE under the Ministry of the Presidency, was created in late 2018 to guide the development of the O&G sector.<sup>13</sup>
- 1.8 **O&G context.** In 2015, a consortium of three major oil companies - composed of ExxonMobil, Hess, and Nexen (a fully-owned subsidiary of the China National Offshore Oil Corporation, CNOOC), hereafter the consortium - made a significant offshore oil discovery in the Stabroek block,<sup>14</sup> located about 120 miles off the country's coast. These discoveries have made Guyana home to the world's biggest new deep-water oil play and indicated that the country will rapidly join the ranks of new critical O&G suppliers. The consortium found several economically viable deposits within the block after drilling exploratory wells in the Liza field, and then in the Payara, Liza deep, Snoek, Turbot, Ranger, Pacora, and Longtail fields. The operators estimate that the recoverable resources from the Stabroek block stand around 4 billion Barrels of Oil Equivalent (boe).<sup>15</sup> This would place Guyana among the 40 largest O&G reserves holders in the world.<sup>16</sup>
- 1.9 Commercial production is planned to commence by 2020 using a floating production storage and offloading facility, with an initial output of 120,000 boe/day and projected to reach 300,000 boe/day in 2025.<sup>17</sup> Should these production levels be met, the value of oil production could reach approximately US\$3.2 billion/year in 2020, a figure equivalent to 89% of the current GDP (Article IV. IMF, 2018).<sup>18</sup>

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<sup>11</sup> The importation is now planned to be transferred to the DE.

<sup>12</sup> [Petroleum \(Exploration and Production\) Act 1986](#).

<sup>13</sup> The Official Gazette (Extraordinary) of Guyana #120/2018 dated August 2<sup>nd</sup>, 2018 established the creation of the DE. The Inter-American Development Bank (IDB) is currently supporting the strengthening of the DE through a Technical Cooperation (TC) operation and an investment loan under preparation (¶1.35).

<sup>14</sup> The Stabroek block currently comprises 26,800 square kilometers. Esso Exploration and Production Guyana Limited is the operator and holds a 45% interest in the Stabroek block. Hess Guyana Exploration Ltd. holds a 30% interest, and CNOOC Nexen Petroleum Guyana Limited holds a 25% interest.

<sup>15</sup> [Exxon Mobil, 2018](#).

<sup>16</sup> [U.S. Energy Information Administration \(2018\)](#).

<sup>17</sup> Article IV, IMF, 2018 p-4.

<sup>18</sup> This estimation is a back-of-the-envelope figure stemming from ExxonMobil's production projection and the U.S. Energy Information Administration's price forecast for West Texas Intermediate, the benchmark price for western Hemisphere oil production.



The existing O&G sector is operating under a basic regulatory framework, only designed to regulate the import and distribution of fossil fuels.<sup>19; 20</sup>

- 1.10 The development of the reserves found in the Stabroek block are governed by a Production Sharing Agreement (PSA) between the Government of Guyana (GoG) and the consortium. The PSA sets the GoG's share at 50% of profit oil, defined as all revenues minus costs. The PSA sets 75% of total revenues to be allocated for cost-recovery and thus the government take will increase over time from 12.5 to 50% as the consortium recovers its initial upfront investment. The agreement mentions a royalty payable by the contractor of 2% to reflect its usage and exploitation of the state's property, which is agreed upon as a percentage of the amount or value of available oil and/or gas.
- 1.11 This new energy scenario, which will likely yield significant revenues for the government, represents an important shift in Guyana's development trajectory. It embodies a crucial and unprecedented opportunity for economic growth and sustainable development. The conversion of short-term oil wealth into long-term well-being hinges on the capacity of the GoG to adequately manage this new sector and enact productivity-enhancing reforms. If handled well, it can boost the overall standard of living for the country. However, there is considerable work to be done so that Guyana can enjoy the benefits of its recent (and potential) oil wealth. Too often resource-rich countries have become or remained poor as a result of inadequate resource management and currently the list of new O&G exporters includes some of the world's most fragile states (e.g. Liberia, Mozambique, Timor Leste), making the downside risks especially high.<sup>21</sup> Hence, there is an urgent need to improve the capacity of Guyana's O&G sector ahead of the start of production.
- 1.12 The DE has been tasked as the national entity that will oversee, monitor and supervise all upstream and downstream activities of the O&G sector.<sup>22</sup> There is an immediate need to start building its management and planning framework to operate Guyana's nascent O&G sector. It is necessary for the country to attend its immediate needs in strengthening its capacity to properly manage the PSA and defining the key short-term actions that the country should follow for developing the O&G management and planning capacity. Global experiences have shown that a high-level entity to coordinate and strategize is essential to avoid substandard outcomes and lack of transparency in the O&G sector.<sup>23</sup> Transparency is a critical feature to guarantee optimal O&G sector performance and when complemented with good corporate governance practices, demonstrate better growth and development results.<sup>24</sup>

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<sup>19</sup> Historically, Guyana has been dependent on import of fossil fuels. In 2017, these imports represented 24% of the country's total imports. [Guyana. Imports/Exports. OEC.](#)

<sup>20</sup> Guyana is highly dependent on imported oil products for its overall energy supply. Imported fossil fuels account for about half of final energy consumption with the other half coming from combustible renewables and waste products. [Energy Matrix Country Briefings. Espinasa and Humpert. 2014.](#)

<sup>21</sup> The existence of the resource curse is still an open debate. Despite extensive research on the effects of natural resource abundance on development, its existence can lead to both economic successes and debacles. Many economists still express concern about Dutch disease and the association between resource abundance, low growth, and scant industrialization. See Pritchett, 1998; Frankel, 2012; Manzano, 2014; Balza, Espinasa, and Jimenez 2014.

<sup>22</sup> The DE has started the recruitment of operating staff.

<sup>23</sup> Cameron and Stanley, 2017.

<sup>24</sup> Kaufman and Penciakova, 2012; Vieyra, Masson and Walter, 2014; Balza, Espinasa and Jimenez 2014.

- 1.13 **Electricity generation context.** The installed capacity in the main interconnected system, the DBIS, is 172.2 Megawatts (MW), of which 135.9 MW are considered effective and operative.<sup>25</sup> This capacity is operated by Guyana's main electric power utility, the GPL, which has a regulated monopoly in the generation, transmission, distribution, and sale of electricity on the coastal zone of Guyana, where about 80% of Guyana's population resides and the majority of the economic activity is located.
- 1.14 For decades, Guyana has remained dependent on imports of fossil fuels for its energy needs. GPL's main electricity generation assets are Heavy Fuel Oil (HFO) and Light Fuel Oil (LFO) reciprocating engines that are currently in operation serving the DBIS. In 2017, the vast majority of the electricity was generated based on imported liquid fossil fuels.<sup>26</sup> The existing engines are a mix of new installations (installed within the past ten years) and much older units (from 20 to 40 years old).
- 1.15 In 2012 GPL paid as much as US\$110 million for imported HFO and LFO. The decline in oil prices that started in 2014 has provided some relief to GPL, as its import bill in 2017 was US\$67 million for similar volumes.<sup>27</sup> Oil prices, however, have begun an upward swing over recent months; this exposes the country to oil price volatility and fuel availability for electricity generation, which for years has resulted in expensive electricity production with an average tariff of US\$0.30/kilowatt hour (kWh) representing one of the highest rates in LAC.<sup>28, 29, 30</sup>
- 1.16 Currently, Guyana is at a historic juncture to convert its abundant natural resources into a diversified electricity generation matrix. Along with the Stabroek oil discoveries, the consortium has found commercial quantities of Natural Gas (NG) associated with the oil deposits. Large reserves of associated NG could be brought to shore to generate electricity. Together with Renewable Energy (RE) sources, this could transform the electricity generation sector. The use of NG could help to lower carbon emissions and represent cost savings, benefiting residential, commercial, and industrial consumers. The Esso Exploration and Production Guyana Ltd. estimates that between 30-50 million cubic feet per day of NG can be made available for electricity generation in Guyana.
- 1.17 This new scenario presents a new set of challenges for Guyana. The introduction of NG in the electricity generation matrix in the DBIS can become, in the short and medium term, the country's generation base load while helping bridge or transition towards the broader development of RE. Thus, in the long-term, renewables can have an increasing share of the generation mix under a more diversified matrix. The discovery of NG resources and its utilization in electricity generation and further penetration of renewables will contribute in solving the problem of high dependency in imported liquid fossil fuels. The NG is considered a low carbon fuel

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<sup>25</sup> The difference comprises approximately 30 MW biomass generation plant, under the public sugar company Guysuco which is not operating. Electricity demand peak for 2017 was 115 MW.

<sup>26</sup> Generation based on HFO and LFO in 2017 was estimated to reach 93%.

<sup>27</sup> Approximately 1,017,000 barrels of HFO and LFO were used by GPL in 2017.

<sup>28</sup> The latest rates published by the electric utility GPL present several categories of tariffs, starting at US\$0.23/kWh for the residential sector, going to up to US\$0.35/kWh for the commercial sector.

<sup>29</sup> Tariffs in the region (US\$/kWh): Suriname (0.05), Trinidad and Tobago (0.06); Jamaica (0.24); Barbados (0.26); LAC average (0.18).

<sup>30</sup> Over the last two decades, like prices of other commodities, the price of crude oil experienced wide price swings in (times) of shortage or oversupply (Balza and Espinasa, 2018; Espinasa and Sucre, 2015).

that opens room in the national energy policy to progressively incorporate renewables for electricity generation,<sup>31</sup> like the ambitious solar PV project (¶1.22).

- 1.18 Therefore, this aspirational transition requires the development of key studies and the creation of policies that can help Guyana to take the first steps in the construction of a sustainable energy mix for electricity generation. Those studies and policies should set country's specific objectives in the framework of the Green State Development Strategy (GSDS) (¶1.28), scenarios for the diversification of the electricity matrix by incorporating RE and NG, establishing clear actions for its implementation, developing monitoring and evaluation mechanisms, and tools (¶1.30; ¶1.31).
- 1.19 **Electricity demand context.** During the last six years, electricity demand has exhibited an annual average growth rate of 4.3%, and it is expected to continue to increase as a result of the GDP growth due to the development of the discovered O&G reserves.<sup>32</sup> This situation presents additional challenges to the country for diversifying the electricity matrix, satisfying the increasing demands, and expanding coverage.<sup>33</sup> Overall, approximately 80% of the population in Guyana has access to electricity (compared to a LAC average of 96%); however, in rural areas (hinterlands) access levels are as low as 29%. In 2017, GPL customer base was 45% residential, 37% industrial, and 18% commercial.
- 1.20 In this sense, it is expected that the DBIS will experience a threefold increase in demand, from 762.2 Gigawatt-hour (GWh) in 2017 to 2,173 GWh by 2035. This substantial increase of domestic demand translates into an installed capacity of 330 MW by 2035. The demand forecast could be doubled if it considers the potential export of electricity to Brazil, which is estimated to be between 250-300 MW of additional capacity that could be required to satisfy the northern Brazilian market of *Boa Vista*.<sup>34</sup>
- 1.21 Therefore, the strong growth in demand, translated in a significant need for new power generation capacity, conditions Guyana not to continue as "business as usual", meaning, expanding with liquid fossil fuels (HFO or LFO) but as mentioned before (¶1.17) to build the studies and policies that can enable the development of alternative domestic available cleaner and cheaper energy sources which could

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<sup>31</sup> The first national energy policy was developed in 1994 and in 2016 the GoG drafted a new energy policy that yet is not approved by cabinet since it does not consider the new O&G discoveries, because it was done before such discoveries.

<sup>32</sup> IMF estimates a 29.8% GDP growth in 2020 and 22.1% in 2021.

<sup>33</sup> Additionally, there is an estimated 70 MW of independent generation not connected to the grid. These producers - mostly industries and large commercial businesses - had to invest in their own generators due to the explained high costs and poor reliability of the interconnected system (estimated to be around 90% diesel and 10% renewables). In fact, according to the Georgetown Chamber of Commerce, Guyana Manufacturing and Services Association, many manufacturing companies have left Guyana due to the high cost of electricity. Therefore, a high reliance on imported fossil fuels is been translated in negatively impacting the development of electricity intensive value-added production/services.

<sup>34</sup> In the framework of the Arco Norte integration project, IDB is studying the possible bilateral interconnection between Guyana and Brazil to attend the unsatisfied demand of *Boa Vista* and the northern area of Brazil.

contribute to the country's over-arching goal of having a cleaner and greener electricity matrix in the long run.<sup>35,36</sup>

- 1.22 **Guyana efforts for the development of RE.** During the past years, the GoG has shown a clear commitment to follow a green development path while becoming an important O&G producer in the region. The GoG took actions in developing a GSDS (¶1.28),<sup>37</sup> that will identify and make policy recommendations on a number of legal and institutional actions that might be carried out to allow the transition to a green state. In the energy sector, it aims to modify the energy matrix by incorporating cleaner solutions. The GoG, has reengaged with the Government of Norway in the use of the existing US\$80 million for the development transformative investments in sustainable renewable generation energy to be connected to the DBIS such as the design and development of a solar PV plant with storage (¶1.38).<sup>38</sup> Additionally, with the support of GRT/FM-13897-GY a RE campaign was recently launched and the GoG is developing studies on RE distributed generation and the expansion study for the diversification of the electricity mix towards a more sustainable energy matrix. Under the same Inter-American Development Bank (IDB) project, the GoG has already started the installation of solar Photovoltaic (PV) systems in public buildings and rural micro-grids, in view of the GoG first actions to further develop RE penetration in Guyana.
- 1.23 **Sector challenges.** In the framework of the current operation and the country's context, Guyana faces two key challenges: (i) to manage the new O&G sector sustainably; and (ii) to diversify the energy sources in electricity generation to reduce the dependency on imported fossil fuels for electricity generation, while introducing indigenous energy sources to the interconnected system.<sup>39</sup>
- 1.24 Given that Guyana has never been an O&G producer and has no capacity for governing the upstream O&G sector, which presents an entirely distinct set of governance challenges from those that Guyana has faced heretofore as an oil importer, there was an urgent need to create a high-level policy-making authority to provide overall governance for the sector.<sup>40</sup> A functional high-level policy-making authority with the capacity to properly manage the nascent sector would align Guyana with international best practices in use by O&G producers.<sup>41</sup> Recent international evidence shows that natural resource wealth has the potential to become a real asset to development when coupled with strong institutions.<sup>42</sup>
- 1.25 Thus, it is a fundamental condition for the sector that the governing institution be able to plan and define short, medium, and long-term actions that pertain to

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<sup>35</sup> Despite of the oil discovery, Guyana does not have a refinery and considering the high investment in building one it is not under the Guyanese government plans to build one. All produced oil is planned to be exported.

<sup>36</sup> The GSDS states as a goal to reorient and diversify Guyana's economy, reducing reliance on traditional sectors and opening new sustainable income and investment opportunities in higher value adding and higher growth sectors.

<sup>37</sup> [Framework of the Guyana Green State Development Strategy and Financing Mechanisms.](#)

<sup>38</sup> Recent conversations estimate that around 30 MW of solar PV energy, with storage can be incorporated to the DBIS.

<sup>39</sup> Indigenous energy sources include the new discovery of NG which is a low carbon technology when compared to existing HFO and LFO use for electricity generation in Guyana. It is expected that NG will be used as a transition fuel towards the development of RE.

<sup>40</sup> The Official Gazette (Extraordinary) of Guyana #120/2018 dated August 2<sup>nd</sup>, 2018 established the creation of the DE to take over responsibilities related to the governance and development of the O&G sector.

<sup>41</sup> Every member of the Organization of Petroleum Exporting Countries (OPEC) and every large producing country outside of OPEC has a high-level authority – generally a ministry – that is tasked with these responsibilities.

<sup>42</sup> The Economics of Natural Resources in Latin America, Chapter 7, [Balza and Espinasa, 2018.](#)

governance and development of the O&G sector. This ability would be reflected in a foundational guiding document that would establish a clear path for the development of the sector in Guyana. Further adding to the strength of this institution is having clear tools and protocols that allow it to manage the existing PSA and establish and manage new agreements that fully take advantage of the O&G reserves that exist in its territory.<sup>43</sup> These tools work to secure that Guyana ultimately benefits as much as possible – given contractual conditions – from the production of oil & gas in its territory. The conversion of medium-term oil wealth into long-term growth hinges on the government's institutional capacity to effectively implement productivity-enhancing reforms and monitoring the proper functioning of contracts and institutions.

- 1.26 In tandem with the O&G sector development, the GoG has started to develop strategies and policies that can present a vision of becoming a green economy by 2035 (§1.28). Therefore, the main problem of reduction of imported fossil fuels while having a cleaner generation matrix is one of the central themes under the GSDS<sup>44</sup> and to which the Policy-based Loan (PBL) will contribute to solve jointly with the GSDS.
- 1.27 The existing National Energy Policy<sup>45</sup> does not account for the recent O&G discoveries, that allow for NG introduction, as it was drafted before such resources were confirmed. Therefore, the country needs to prepare an electricity generation study for optimal use of locally available cleaner energy resources, while developing the policy necessary to govern and foster a diversified and evolving electricity sector for the development of renewables in Guyana.<sup>46</sup>
- 1.28 **Guyana's Sector Strategy.** The GoG has started to develop strategies and policies that can present its vision of becoming a green economy by 2035 while considering the development of the O&G sector and RE for electricity generation. The GSDS with the objective to: (i) reorient and diversify Guyana's economy, (ii) reduce reliance on traditional sectors; and (iii) open new sustainable income and investment opportunities in adding higher value and growth - provides a roadmap for achieving sustainable development goals and related targets and outlines a long-term vision for a prosperous and equitable future. Some of the framework goals related to the energy sector are: (i) establish a sovereign wealth fund for the O&G sector prior to oil production and have a trade balance on imported fossil fuels and oil exports; (ii) remove import duty and tax barriers on the importation of RE equipment, compact fluorescent lamps and light-emitting diode lamps to incentivize and motivate energy efficient behavior; (iii) public education and awareness programs to provide consumers with information and tools to reduce energy consumption and expenditure; (iv) implement building codes and net-metering of residential renewable power; (v) seek to construct and/or promote the construction of small hydro systems at suitable locations such as Moco Moco, Kato and Tumatumari; (vi) power all of the six newly established townships,

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<sup>43</sup> [Guidelines for Good Governance in Emerging O&G Producers 2016. Chatham House. The Royal Institute of International Affairs.](#)

<sup>44</sup> [GSDS 2018.](#)

<sup>45</sup> [Draft National Energy Policy of Guyana - Report 2 - Green Paper.](#)

<sup>46</sup> The presented policy conditions do not pretend to solve the entire problematic and complexity of the electricity matrix diversification but contribute to the GSDS achievement by taking the required initial steps to start building the path towards a cleaner and greener electricity generation matrix in the DBIS.

starting with Bartica, using RE sources; and (vii) reduce dependence on fossil fuels for energy generation through a diversified RE infrastructure including biomass, solar, wind and hydropower.

- 1.29 **GoG response to the identified challenges.** With the aim to address the identified challenges and towards the achievement of the national socioeconomic goals (¶1.2), the GoG has taken important actions, including the creation of the DE to take over responsibilities related to the governance and development of O&G sector, and the development of the GSDS (¶1.28). In addition, the country recently re-engages with Norway under the Guyana REDD+ Investment Fund Program for fostering the further development of the solar technology in the country. The support to strengthen the O&G sector has started (¶3.3), as well as investments in the diversification of the generation mix in rural areas (¶1.35). The GoG is committed to start the transition into a diversified green and inclusive economy and embrace sustainable development, becoming a leading example of a “Green State”.
- 1.30 **Intervention proposal.** The proposed PBL measures follow the immediate needs of building an entirely new O&G sector which requires the strengthening of its governance, as well as management and planning interventions that are implemented in accordance with evolving sector needs. The policy actions for the first tranche prioritize regulatory reforms like the creation of the DE, as the main government entity responsible for the O&G sector. With the model contract for future PSAs and the PSA economic modelling tool, the first tranche builds the initial management and planning instruments to guide the development of the sector while providing operational transparency. In addition, the first tranche includes a draft roadmap that will present the main sequence of actions to be carried out by the DE for building O&G sector governance. It will provide a gradual approach towards the construction of an organizational structure that considers the country’s immediate needs and provides guidelines for the preparation of the DE functions manual with advice for its organizational structure, budget and staff allocation, as well as for the creation of operational protocols and mechanisms for managing the O&G sector, as part of the second tranche conditions. Upon completion of the proposed interventions, Guyana would at least require: (i) further strengthening of its oversight capacity to manage the execution of the PSA; (ii) ability to manage data generated by production and exploration activities; (iii) a strategy for promotion and selection of new operators for exploration and production contracts; (iv) adoption of safety and environmental protection standards; and (v) strategy for the education and training of Guyanese nationals. The Bank, through its different instruments, will continue to support these activities to ensure the sustainable construction of the sector’s architecture and capabilities (¶3.3).
- 1.31 Regarding the electricity sector, it has been historically dependent on fossil fuels and now has the opportunity to foster new low carbon energy sources with domestic NG as it develops RE. To develop this new opportunity, this PBL supports the realization and formulation of the first set of key policy measures that can enable the diversification of the energy matrix. Based on the use of cleaner energy sources while utilizing indigenous natural resources in the DBIS, the first tranche prioritizes the formulation of the technical and policy level initial analysis that can set the bases for the diversification of the electricity matrix. In this sense, this tranche focuses on drafting policy guidelines, as well as a national grid code

and a generation system expansion study (¶1.47). The second tranche follows the first with further advancement on the approval of the national policy for the diversification of the electricity matrix in the DBIS and the adoption of the national grid code by GPL. The first and the second tranches will help to close the gaps of having a policy vision and the technical grounds to make informative decisions to reduce the dependency on imported fossil fuels in the generation matrix while taking the initial implementation actions of the reform. For the electricity sector and beyond the scope of this program, the GoG will still have to develop specific legal and regulatory measures<sup>47</sup> as well as the selection of the electricity matrix scenarios to be implemented, while developing monitoring and evaluation mechanisms. Overall, due to the short period of time considered between the execution of both tranches, the IDB intends to support the further policy advancement and implementation through a Technical Cooperation (TC) and investment grants and loans in the country (¶3.3; ¶1.38).

- 1.32 **Effectiveness of sector policy reforms.** According to the Organization for Economic Cooperation and Development (OECD),<sup>48</sup> regulatory reforms complement fiscal and monetary policies by creating suitable conditions for the sustainable development of countries. Sector policies should evolve at the same pace that economies transform, to ensure that infrastructure does not become a bottleneck but rather a driver of a country's economic development. The way in which infrastructure is used, meaning the services associated with this infrastructure, is what ultimately determines the impact on users. Therefore, it is a key factor in supporting the comprehensive development of economies.
- 1.33 Regulatory framework reforms in the electricity sector may lead to an increase in investments in expanding electricity service coverage as well as new projects to generate power from RE sources, resulting in diversification of the energy matrix and a reduction in greenhouse gas emissions.<sup>49</sup> Well designed and stable sectoral policies are essential for improving the performance of the electricity sector.<sup>50</sup> For the O&G sector, the literature is clear in showing that independent and strong regulation of the sector with technical, well-trained authorities leads to better performance in terms of output, increased investment by private and public actors (domestic or international), better environmental and safety practices, and more optimal use of the natural endowment.<sup>51</sup>
- 1.34 **IDB support for the energy sector in Guyana.** The IDB has been actively supporting the GoG efforts to transform the energy sector through financing for several activities such as rural electrification, institutional strengthening, distribution network rehabilitation, and policy reforms. The IDB support has included rural electrification and institutional strengthening (1103/SF-GY); legal, regulatory and institutional framework strengthening and implementation of sector policies (1938/BL-GY); network rehabilitation and loss reduction (2567/BL-GY, 3238/OC-GY, 3239/BL-GY) and the development of RE (GRT/FM-13897-GY). It is

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<sup>47</sup> Including, independent power purchase framework, public private partnerships frameworks, power purchase agreements, policy promotion mechanism for RE development (tax weavers, import clearance taxes, among others).

<sup>48</sup> OECD (2010), Regulatory Policy and the Road to Sustainable Growth.

<sup>49</sup> The Effects of Power Sector Reform on Energy Services for the Poor (2005). Department of Economic and Social Affairs, United Nations.

<sup>50</sup> [Privatization, Institutional Reform, and Performance in the Latin American Electricity Sector, Balza, Jimenez and Mercado, 2013.](#)

<sup>51</sup> [Balza, Jimenez and Espinasa, 2014;](#) [Balza and Espinasa, 2018;](#) [Cameron and Stanley, 2017.](#)



also helping to transform the O&G sector through financing institutional strengthening and policy reforms: (i) use of gas for power generation (ATN/OC-16533-GY); and (ii) governance, transparency and accountability of the O&G sector (ATN/OC-16532-GY).

- 1.35 An investment operation<sup>52</sup> is under preparation and includes a component for US\$4.5 million that will finance activities geared towards building the capacity of the GoG to manage the O&G sector, including: (i) the design and development of new O&G institutional and regulatory framework; and (ii) high-level training and coaching of government staff, knowledge transfer and workforce development. The same new operation has a component of US\$8.6 million for starting the investment in solar-PV, utility-scale power plants in the rural areas, as a large first effort of GoG for diversification the mix and the substitution of LFO in Guyana.
- 1.36 **Lessons learned for program design.** The design of this operation considered lessons learned from other IDB-financed operations to support policy reforms in the energy sector of other LAC countries. Most recently, these operations include: 3821/OC-CH (Chile); 4234/OC-PN (Panama); 3068/BL-NI (Nicaragua); 2848/OC-SU (Suriname); 2847/OC-PE (Peru); 3619/BL-HO (Honduras); and 3420/OC-EC (Ecuador).
- 1.37 For the design of the policy matrix of this operation, the following lessons learned were considered: (i) provide technical assistance to the GoG for the identification, preparation, and implementation of the policy commitments, seeking to enhance the impact of institutional and policy sector reforms proposed for the program; (ii) design the program's policy commitments to be developed sequentially and with clearly defined schedules and the institutions responsible for their accomplishment and implementation; (iii) prioritize substantive policy commitments such as the creation of the new DE and the design of sector policies; (iv) identify and implement institutional and policy measure changes considering the outcomes of other IDB's financed projects and TC and the ongoing dialogue with local sector authorities; and (v) involve in all stages of program design, in addition to the Executing Agency (EA), other relevant sector institutions, such as the DE, MoPI and GPL.
- 1.38 **Coordination with other donors.** The Bank is coordinating with other donors to ensure complementarity and avoid duplication of efforts. In the O&G sector management, as well as in the electricity sector, the Bank is in permanent dialogue with the World Bank, currently supporting the fiscal framework of O&G in collaboration with the International Monetary Fund (IMF); with the European Union, the IDBG has an ongoing co-financed investment operation that strengthens GPL and the electricity distribution network; with Islamic Development Bank, under a parallel finance with the IDB for distribution and transmission network upgrades; with the United Nations to support the development of the GSDD; with Caribbean Community and German Corporation for International Cooperation in their support towards electricity access in the rural areas; and with other development partners, like Norway, in the framework of the GoG interest in pursuing a transformative RE development under the DBIS generation with a solar PV plant.

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<sup>52</sup> GY-L1066 Energy Matrix Diversification and Institutional Strengthening of the DE that is expected to be approved in November 2018.



- 1.39 **Strategic alignment.** The program is aligned with the IDB Group Country Strategy with the Cooperative Republic of Guyana 2017-2021 (GN-2905), as it supports: (i) establishing a modern national strategy and planning framework; and (ii) strengthening public policies and the framework for managing natural resource revenues. This program is included in Update of Annex II of the 2018 Operational Program Report (document GN-2915-2). The operation is consistent with the Update to the Institutional Strategy 2010-2020 (document AB-3008), and is aligned with the development challenge of productivity and innovation, by supporting the design and development of a robust management framework for the O&G sector and the development of RE. The program is aligned with the crosscutting area of (i) institutional capacity and rule of law, as the program will strengthen both planning and governance; and (ii) productivity and innovation, with the support to the DE and the development of renewables. In addition, the project will contribute to the Corporate Results Framework 2016-2019 (GN-2727-6) under the indicator of government agencies benefited by projects that strengthen technological and managerial tools through: (i) improving public service delivery with the creation of the DE; (ii) establishing contract models needed to manage transparent legal arrangements between the public and private sectors; and (iii) the diversification of the electricity generation matrix with alternative cleaner and indigenous energy sources (NG and RE).
- 1.40 The program is consistent with the Energy Sector Framework (document GN-2830-3), under the thematic lines of sustainability, security, and governance by driving policy reforms that promote: (i) sustainable development of the sector; and (ii) diversification of the energy mix using renewable and nonconventional RE sources. The operation is also consistent with the Climate Change Sector Framework (document GN-2835-3), since the proposed energy policy reforms entail a reduction in greenhouse gas emissions. The program is also aligned with the priority areas of the IDB Infrastructure Strategy: Sustainable Infrastructure for Competitiveness and Inclusive Growth (document GN-2710-5), with actions that promote the development of infrastructure for more reliable, efficient systems.
- 1.41 **Consistency with the Public Utilities Policy.** The program is consistent with the objectives of the Public Utilities Policy (document GN-2716-6). The program complies with the policy's principles by strengthening the institutional structure of the sector by separating functions, and establishing regulations that promote investment in RE, nonconventional RE, and energy efficiency. To ensure that this operation to support policy reforms complies with the specific conditions established in Section IV of the Public Utilities Policy (document GN-2716-6), cost-benefit estimates of the reforms included in the proposed program were carried out, as was an analysis of its financial sustainability, which are provided in the [Analysis of Compliance with the Public Utilities Policy \(PUP\)](#).

## **B. Objective, Components and Cost**

- 1.42 **General objective.** The general objective is to support the strengthening and sustainability of the energy sector in Guyana by contributing to the development of the O&G sector and the development of cleaner energy sources for electricity generation. The specific objectives are to: (i) develop a management and planning framework for the O&G sector; and (ii) contribute towards the development of the

policy framework to diversify the electricity generation matrix. The general objective will be achieved through the following actions:

- 1.43 **Component I. Macroeconomic stability.** This component seeks to maintain a macroeconomic context that is consistent with the objectives as defined in the Policy Matrix. The component in line with the program's objectives, will provide ongoing monitoring to ensure alignment with the policy matrix.
- 1.44 **Component II. Establishment of a governance structure for the O&G Sector.** This component seeks to start developing a management and planning framework for the O&G sector. This will contribute to improve the management and standard mechanisms to safeguard the adequate development and operationalization of the O&G sector.<sup>53</sup> This component includes the strengthening of O&G governance with the establishment and operation of the DE. The component supports the DE in designing actions to build the O&G institutional framework, the drafting of a model contract for future PSAs, the building of a tool that models and simulates the economics of the PSA (given different price, production, cost and fiscal parameters), the development of contract administration procedures and protocols, and the preparation of a O&G depletion policy.
- 1.45 The agreed-upon policy commitments for the first tranche are: (1) creation of the DE within the Ministry of the Presidency to take over responsibilities related to the governance and development of the O&G sector; (2) approval by the DE of the draft roadmap to develop Guyana's O&G institutional framework. The roadmap will contribute to the decision-making process that supports the deployment of key government entities responsible for managing Guyana's O&G sector; (3) design of a model contract for future PSAs by the DE and presented to the Ministry of the Presidency. The model contract shall include key financial aspects, commercial discovery clauses, development and production arrangements, concession period, mandatory work program, management committees, valuation methods, production sharing, cost recovery, taxation, and royalties; and (4) design of a PSA economic modelling digital toolkit by the DE which will provide an economic model of the Stabroek PSA with the ability to conduct scenario analyses. The above policy commitments are based upon industry international experiences and are well-recognized as foundational blocks for the establishment of a properly functioning sector in benefit of both resource-owner state and operational companies. These commitments allow Guyana to guide the sector at a high-level, to monitor the proper execution of the existing Stabroek PSA, and to negotiate on a equal footing with future partners the exploration and production of oil & gas in Guyana.
- 1.46 The agreed-upon policy commitments for the second tranche are: (1) a DE functions manual establishing its organizational structure, budget and staff allocation, approved by the Ministry of the Presidency; (2) a PSA set of protocols and mechanisms for contract management including: (a) administrative procedures; (b) accounting, control and verification processes; and (c) certification guidelines, are approved by the DE; and (3) an O&G depletion policy is designed

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<sup>53</sup> This operation does not include conditions to strength fiscal management conditions. This is managed by another development partner. The World Bank's First Programmatic Financial and Fiscal Stability Development Policy Credit (P165425) includes a trigger to establish a fund with associated rules for savings, expending and investing oil revenue.

by the DE and presented for approval to the Ministry of the Presidency. This policy will provide the bases to identify optimal production profiles.

- 1.47 **Component III. Policies for sustainable electricity generation.** This component seeks to contribute towards the development of the policy framework to diversify the electricity generation matrix. Policy measures considered in this component will strengthen the electricity sector to achieve a sustainable electricity generation matrix in terms of economic, environmental, and technical aspects that will satisfy the growing demand. This component will support the design and approval of a national policy that addresses the strategic aim of electricity diversification towards the concerns related to the dependence on imported fossil fuels (¶1.14). Being NG a cleaner fuel and indigenous natural resource that together with the development of RE can diversify Guyana's energy matrix; the component will support with a technical and analytical study on alternative combinations of electricity generation technologies for new capacity additions and replacement of existing polluting turbines. Additionally, while the policy will address the strategic view and objective towards the electricity diversification, the component also supports the development and approval of a practical national grid code for a stronger and more reliable energy system planning and operation.<sup>54</sup>
- 1.48 In this sense, based on the GoG ability to carry out the policy measures and considering the country's circumstances and stage of the electricity generation diversification reform, the agreed-upon policy commitments for the first tranche are: (1) preparation of a study on the generation system expansion 2019-2035, for an integral development and diversification of the electricity generation matrix of the DBIS by the MoPI;<sup>55</sup> (2) Elaboration of the draft Policy Guidelines for the Diversification of the Electricity Generation Matrix under the DBIS by the MoPI; and (3) Elaboration and presentation of the draft of National Grid Code by Guyana Power & Light Inc. to the MoPI. The draft code document shall incorporate complementary or new technical, administrative and/or procedural actions in the areas of: planning, interconnection, operations, minimum technical requirements and metering.
- 1.49 These first tranche of conditions provide the analytical and conceptual bases for the second tranche that aims to a balanced and sustained adoption of previous measures. The policy commitments for the second tranche are: (1) Policy document for the Diversification of the Electricity Generation Matrix under the DBIS is approved by the MoPI; and (2) National Grid code is adopted by Guyana Power & Light Inc.

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<sup>54</sup> The National Grid Code will consider different codes such as: (i) planning code; (ii) interconnection code; (iii) operational code; (iv) minimum technical requirement code; and (v) metering code. The individual codes will be integral and designed to support and complement one another. This correlation between the Grid Code components ensures that the standards and procedures are consistent throughout the entire Grid Code and facilitates the enforcement and regulation of these standards.

<sup>55</sup> The study sets the guidelines for the development of the most adequate electrical infrastructure for generation and transmission expansion in the country in order to: (i) reflect changes in demand assumptions resulting from the expected oil revenues; (ii) reflect changes resulting from the use of domestic natural gas in electricity generation; (iii) further refine the findings with any recent information from GPL's power system, and the expected investments from the utility in the coming years in transmission and distribution; (iv) refine alternatives for the development of RE generation technologies within the context of the GSDS; and (v) select the most favorable generation program and develop an action plan for its execution up to 2035.

## C. Key Results Indicators

- 1.50 **Expected results.** The expected results are: (i) management and planning framework for the O&G sector improved; (ii) improvement in the policy framework to diversify the electricity framework; and (iii) improved planning framework for the diversification of the electricity generation matrix. The program has the impacts of reduction in dependency on imports of fossil fuels for electricity generation. The achievement of program objectives will be measured taking as benchmarks the indicators and targets included in the results matrix, which reflects the scope of the operation. Table 2 presents the expected impacts and outcomes and their indicators.

**Table 2. Expected Impacts, Outcomes and Indicators**

| Impacts  | Indicators  |
|--|---|
| Reduction in dependency on imports of fossil fuels for electricity generation            | Liquid fuels imported barrels   |
| Outcomes   | Indicators  |
| Management and planning framework for the O&G sector improved.                           | Sectoral plan to develop the O&G sector approved by the DE.                       |
|  | PSA economic modelling toolkit tested by the DE                                   |
|  | Cost accounting rules based on PSA contract management protocols implemented.     |
| Improved planning framework for the diversification of the electricity generation matrix | National Grid Code for the electricity sector implemented by Guyana Power & Light |
|  | Scenarios for the diversification of the electricity generation matrix defined.   |

- 1.51 **Program beneficiaries.** Guyana will benefit from the establishment of a new energy institutional structure with a functional DE. This department, with a dedicated focus to the O&G sector, will be able to perform its responsibilities per a well-defined roadmap that identifies critical activities pertinent to the fostering of O&G and provide guidance to the DE for requesting and coordinating donor support and will provide transparency and accountability in the management of the PSA. The country's population will thus benefit from a strategic development of a sector that will provide significant revenues to the government in benefit of its citizens.
- 1.52 The country's population in all energy-demanding sectors will benefit from the development of a sustainable electricity matrix through increased proportions of RE and NG in the generation system, as well as the development of a policy for the long-term vision of the further development of RE in Guyana under a matrix that is less polluting and more efficient. The overall customers of GPL can benefit from lower generation costs translated into a more affordable electricity service.

## **II. FINANCING STRUCTURE AND MAIN RISKS**

### **A. Financing Instruments**

- 2.1 This operation is structured as a multi-tranche PBL for US\$11.64 million, to be disbursed in two tranches, in accordance with “Policy-based Loans: Guidelines for Preparation and Implementation” (CS-3633-1), each for 50% of the amount of the operation, in exchange for the fulfillment of the policy commitments included in the policy matrix and its [Means of Verification Matrix](#). According to CS-3633-1, a multi-tranche approach is appropriate when the details of key steps in a medium-term reform process are already established. This multi-tranche approach was selected since the government wants to use the conditions of the operation as a means to signal its commitment to the medium-term reform change agenda and for keeping first steps of implementation on schedule.
- 2.2 Loan dimensioning was based on the criterion set out in paragraph 3.27(b) of these guidelines, which refers to the country’s broad fiscal resource needs. For 2018, the central government’s financing requirements are equivalent to 6.9% of GDP and 6.7% for 2019. The amount of this operation is intended to cover part of that financing need (2.3% of the total financing requirements for 2018 and 2.2% for 2019).<sup>56</sup> Financing for this operation will be as follows: 50% from the regular Ordinary Capital (OC) resources and 50% from concessional OC resources.

### **B. Environmental and Social Safeguard Risks**

- 2.3 According to Directive B.13 of the Environment and Safeguards Compliance Policy (document GN-2208-20 and Operational Policy OP-703), this operation requires no environmental and social classification. The proposed reforms will not generate adverse direct environmental or social impacts, and the operation is not financing studies or works for the purpose of generating or transmitting electricity.

### **C. Fiduciary Risk**

- 2.4 The operation does not pose fiduciary risks, since it provides unrestricted funds for budget support within a solid fiscal policy framework. Guyana has an extensive track record of managing external loan resources and no financial management risks are anticipated. The Ministry of Finance (MoF) has experience executing reform processes and will support the sector authorities that are leading the process in the energy sector for which this PBL is providing resources.

### **D. Other Key Issues and Risks**

- 2.5 As part of the program’s design, a risk management assessment was conducted jointly with the beneficiary entities. This operation is considered to have a medium risk level, since it has broad political support and a clear commitment from the Guyanese Government for the sustainability of the policies agreed upon for this program.

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<sup>56</sup> Financing need is defined as the sum of debt repayments (maturing debt) and the budget deficit.

- 2.6 The risk assessment revealed the following medium level risk and their corresponding mitigation measures: (i) fiscal sustainability. There is a medium level risk that the country's economic growth could be affected, due to unexpected external shocks such as significant decreases in commodity prices and natural disasters. This risk will be mostly mitigated by strengthening the macro fiscal framework, where oil-related government revenues are expected to become an important share. The prudent management of these resources may contribute to stabilize resources available for the budget and economic diversification; (ii) development of the program. There is a medium level risk that the government will not have the technical capacity to carry out the broad program which will affect the timing and maturity of the reforms. This risk will be mitigated by providing technical assistance for capacity building through the TCs in execution including ATN/OC-16533-GY and ATN/OC-16532-GY. In addition to technical knowledge and training, the TCs will support: (a) project management capacity; (b) change management; and (c) action plans; and (iii) duplication effort. There is the medium level risk of duplication of efforts by other development partners. To mitigate it, the IDB is working closely in coordination with the MoF, MoPI and the DE to ensure donor coordination complementarity and avoid duplication of efforts. The MoF will be chairing the coordination.

### **III. IMPLEMENTATION AND MANAGEMENT PLAN**

#### **A. Summary of Implementation Arrangements**

- 3.1 The borrower will be the Co-operative Republic of Guyana and the EA will be the MoF. The MoF will conduct periodical analysis and monitoring meetings to coordinate with the MoPI and the DE in order to fulfill the policy commitments and consolidate the reforms. The EA, in coordination with MoPI and the DE, will be responsible for: (i) the fulfillment of policy conditions; (ii) providing evidence that the agreed-upon policy conditions have been met as per the means of verifications matrix; and (iii) compiling and providing information that will enable the Guyanese Government and the Bank to measure and evaluate the program's results. Donor coordination is chaired by DE with monthly coordination meetings where development partners participates to ensure complementarity and avoid duplication of efforts in the energy sector.
- 3.2 Special contractual conditions prior to the disbursements of the financing. The disbursement of the funds in each tranche will be contingent on fulfillment of the policy reform measures described in the program's components and in the Policy Matrix (Annex II), and any other conditions specified in the loan contract. This fulfillment will be confirmed through the instruments identified in the Means of Verification Matrix and the [Monitoring and Evaluation Arrangements](#). The Bank can request an external audit of the program if it sees fit.
- 3.3 To support fulfillment and further implementation of the policy commitments established for the program, the Bank approved non-reimbursable TC funding through ATN/OC16533-GY and ATN/OC 16532-GY. Specifically, these TCs under execution support the building out of a robust institutional arrangement for the governance of the O&G sector by providing: (i) a proposal for governance structures that maximize benefits from O&G production to the owner-nation, such

as the creation of the DE and the draft of the Roadmap document; and (ii) strategic and technical advisory services to the DE. Additionally, the TC GY-T1153 is under preparation to continue the support for the O&G sector development and sustainable electricity generation. Furthermore, existing operation GRT/FM-13897-GY supports the preparation of the study of the generation system expansion 2019-2035.

## **B. Summary of Arrangements for Monitoring Results**

- 3.4 The provisions detailed in the policy, means of verification, and results matrices constitute the key parameters for supervising and evaluating the program's outcomes. The EA will send to the IDB evidence of the fulfilled policy commitments in accordance with the [Means of Verification Matrix](#) (¶3.1). The IDB will monitor program execution from its Country Office in Guyana, as well as from the Department of Infrastructure and Energy Sector (INE). A detailed monitoring and evaluation plan have been prepared and includes the mechanisms to verify that program outcomes and objectives have been achieved. This plan provides for monitoring and coordination meetings with the government agencies involved in executing policy reforms, to follow up on the status and results of reform efforts. The GoG and the Bank agreed to hold periodic meetings for monitoring and evaluation of the results matrix. Before each disbursement, the Bank will prepare a progress report to review the program's performance, the progress made on the reforms, and the fulfillment of the policy commitments.
- 3.5 Pursuant to the guidelines of IDB document OP-1242-5, the program team will prepare a project completion report at the end of the loan operation. The report will assess the extent to which the program's expected outcomes were achieved.

## **IV. POLICY LETTER**

- 4.1 The Guyanese Government and the Bank have agreed upon the macroeconomic and energy sector policies to be supported by the program. These commitments are reflected in the Policy Matrix and the Results Matrix. The [Policy Letter](#), which the Borrower delivered to the Bank, outlines the main components of the strategy for this PBL and confirms the government's commitment to comply with the objectives and actions set out in this PBL.

| Development Effectiveness Matrix   |   |   |
|--|---|---|
| Summary  |   | GY-L1067  |
| I. Corporate and Country Priorities  |   |   |
| 1. IDB Development Objectives  | Yes   |   |
| Development Challenges & Cross-cutting Themes  | -Productivity and Innovation<br>-Institutional Capacity and the Rule of Law   |   |
| Country Development Results Indicators   | -Government agencies benefited by projects that strengthen technological and managerial tools to improve public service delivery (#)* |   |
| 2. Country Development Objectives  | Yes   |   |
| Country Strategy Results Matrix  | GN-2905   | 1.1 Establish a modern national strategy and planning framework; and 4.1 Support investment in infrastructure for private sector growth.  |
| Country Program Results Matrix   | GN-2915-2   | The intervention is included in the 2018 Operational Program.   |
| Relevance of this project to country development challenges (If not aligned to country strategy or country program)  |   |   |
| II. Development Outcomes - Evaluability  |   | Evaluable   |
| 3. Evidence-based Assessment & Solution  | 7.1   |   |
| 3.1 Program Diagnosis  | 2.4   |   |
| 3.2 Proposed Interventions or Solutions  | 1.7   |   |
| 3.3 Results Matrix Quality   | 3.0   |   |
| 4. Ex ante Economic Analysis   | N/A   |   |
| 5. Monitoring and Evaluation   | 7.0   |   |
| 5.1 Monitoring Mechanisms  | 2.5   |   |
| 5.2 Evaluation Plan  | 4.5   |   |
| III. Risks & Mitigation Monitoring Matrix  |   |   |
| Overall risks rate = magnitude of risks*likelihood   | Medium  |   |
| Identified risks have been rated for magnitude and likelihood  | Yes   |   |
| Mitigation measures have been identified for major risks   | Yes   |   |
| Mitigation measures have indicators for tracking their implementation  | Yes   |   |
| Environmental & social risk classification   | B.13  |   |
| IV. IDB's Role - Additionality   |   |   |
| The project relies on the use of country systems   |   |   |
| Fiduciary (VPC/FMP Criteria)   |   |   |
| Non-Fiduciary  |   |   |
| The IDB's involvement promotes additional improvements of the intended beneficiaries and/or public sector entity in the following dimensions:                            |   |   |
| Additional (to project preparation) technical assistance was provided to the public sector entity prior to approval to increase the likelihood of success of the project | Yes   | To support fulfillment of the policy commitments, the Bank approved TC ATN/OC 16533-GY and ATN/OC16532-GY. These TC support the building out of a robust institutional arrangement for the governance of the oil & gas sector by providing: (i) a proposal for governance structures that maximize benefits from O&G production to the owner-nation, such as the creation of the DE and the draft of the Roadmap document; and (ii) strategic and technical advisory services to the DE. Additionally, TC GY-T1153 is under preparation to continue the support for the O&G sector development and sustainable electricity generation. Furthermore, existing operation GRT/FM-13897-GY supports update of the study of the generation system expansion 2019-2035. |

Note: (\*) Indicates contribution to the corresponding CRF's Country Development Results Indicator.

*The project is a multi-tranche policy-based loan with two consecutive tranches. The general objective is to support the strengthening and sustainability of the energy sector in Guyana by contributing to the development of the Oil and Gas (O&G) sector and the development of cleaner energy sources for electricity generation. The specific objectives are to: (i) develop a management and planning framework for the O&G sector; and (ii) contribute towards the development of the policy framework to diversify the electricity generation matrix.*

*The documentation provides a good description of the energy sector, including a summary of recent developments related to the discoveries of oil and gas, and the current institutional context of the electricity sector and the new O&G sector. Two key challenges are identified: 1) managing the new O&G sector sustainably; and 2) diversifying the energy sources in electricity generation, while sustainably introducing renewable energy (RE) and natural gas (NG) to the interconnected system.*

*The proposed policy interventions are clearly linked to the two challenges and factors identified. The results matrix (RM) reflects the objectives of the operation and shows a clear vertical logic. The RM includes SMART indicators at the level of products, outcomes, and impacts, with their respective baseline values, targets, and means to collect the information.*

*The monitoring & evaluation plan proposes a Before-and-After evaluation.*

*The risks identified in the risk matrix seem reasonable and are classified as Medium risk (3). Risks include means of mitigation and compliance indicators.*



**POLICY MATRIX**  
**GUYANA**  
**STRENGTHENING THE ENERGY SECTOR**

**Objective.** The general objective is to support the strengthening and sustainability of the energy sector in Guyana by contributing to the development of the O&G sector and the development of cleaner energy sources for electricity generation. The specific objectives are to: (i) develop a management and planning framework for the O&G sector; and (ii) contribute towards the development of the policy framework to diversify the electricity generation matrix.

| Topics  | Objectives   | Policy Measures<br>Tranche I (2018)  | Status <sup>1</sup>   | Policy Measures<br>Tranche II (2019)<br>Status   |
|---|--|--|---|--|
| <b>Component I. Macroeconomic stability</b>   |  |  |   |  |
| Macroeconomic Policy  | To maintain a macroeconomic context that is consistent with the objectives as defined in the Policy Matrix | The Government of Guyana maintains a stable macroeconomic context consistent with the program's goals and the policy matrix  | Fulfilled   | The Government of Guyana maintains a stable macroeconomic context consistent with the program's goals and the policy matrix  |
| <b>Component II. Establishment of a governance structure for the O&amp;G sector</b> |  |  |   |  |
| Structure of the O&G sector   | To develop a management and planning framework for the O&G sector  | 1. Creation of the DE within the Ministry of the Presidency to take over responsibilities related to the governance and development of the O&G sector  | Fulfilled   | 1. DE functions manual establishing its organizational structure, budget and staff allocation, approved by the Ministry of the Presidency  |
|   |  | 2. Approval by DE of the draft roadmap to develop Guyana's O&G institutional framework. The roadmap will contribute to the decision-making process that supports the deployment of key government entities responsible for managing Guyana's O&G sector  | In the process of being fulfilled, expected to be fulfilled on Q4, 2018 |  |
|   |  | 3. Design of a model contract for future PSA by the DE and presented to the Ministry of the Presidency. The model contract shall include key financial aspects, commercial discovery clauses, development and production arrangements, concession period, mandatory work program, management committees, valuation methods, production sharing, cost recovery, taxation, and royalties | In the process of being fulfilled, expected to be fulfilled on Q4, 2018 | 2. PSA set of protocols and mechanisms for contract management including: (i) administrative procedures; (ii) accounting, control and verification processes; and (iii) certification guidelines, are approved by the DE |
|   |  | 4. Design of a PSA economic modelling digital toolkit by the DE which will provide an economic model of the Stabroek PSA with the ability to conduct scenario analysis   | In the process of being fulfilled, expected to be fulfilled on Q4, 2018 | 3. O&G depletion policy is designed by the DE and presented for approval to the Ministry of the Presidency. This policy will provide the bases to identify optimal production profiles                                   |

<sup>1</sup> This information is merely indicative as of the date of this document. As set forth in document CS-3633-2 (Policy-based Loans: Guidelines for Preparation and Implementation), compliance with all the conditions specified for disbursement, including the maintenance of an appropriate macroeconomic policy framework, will be verified by the Bank at the time of the request for the corresponding disbursement made by the Borrower and duly reflected in the Disbursement Eligibility Memorandum.

| Component III. Policies for sustainable electricity generation |  |   |   |  |
|--|--|---|---|--|
| Sustainable electricity generation                             | To contribute towards the development of the policy framework to diversify the electricity generation matrix | 1. Preparation of the study on the generation system expansion 2019-2035, for an integral development and diversification of the electricity generation matrix of the DBIS by the MoPI  | Fulfilled   | 1. Policy document for the Diversification of the Electricity Generation Matrix under the DBIS is approved by the MoPI |
|  |  | 2. Elaboration of the Draft Policy Guidelines for the Diversification of the Electricity Generation Matrix under the DBIS by the MoPI   | In the process of being fulfilled, expected to be fulfilled on Q4, 2018 |  |
|  |  | 3. Elaboration and presentation of the draft of National Grid Code by Guyana Power & Light Inc. to the MoPI. The Draft Code document shall incorporate complementary or new technical, administrative and/or procedural actions in the areas of: planning, interconnection, operations, minimum technical requirements and metering | In the process of being fulfilled, expected to be fulfilled on Q4, 2018 | 2. National Grid code is adopted by Guyana Power & Light Inc   |

DOCUMENT OF THE INTER-AMERICAN DEVELOPMENT BANK

PROPOSED RESOLUTION DE-\_\_\_/18

Guyana. Loan \_\_\_\_/BL-GY to the Co-operative Republic of Guyana  
Strengthening the Energy Sector

The Board of Executive Directors

RESOLVES:

That the President of the Bank, or such representative as he shall designate, is authorized, in the name and on behalf of the Bank, to enter into such contract or contracts as may be necessary with the Co-operative Republic of Guyana, as Borrower, for the purpose of granting it a financing to cooperate in the execution of the program "Strengthening the Energy Sector". Such financing will be chargeable to the Bank's Ordinary Capital (OC) resources in the following manner: (i) up to the amount of US\$5,820,000, subject to concessional financial terms and conditions ("Concessional OC"); and (ii) up to the amount of US\$5,820,000, subject to financial terms and conditions applicable to loan operations financed from the Bank's regular program of OC resources ("Regular OC"), as indicated in the Project Summary of the Loan Proposal, and subject to the Special Contractual Conditions of said Project Summary.

(Adopted on \_\_\_\_\_, 2018)