BELIZE ELECTRICITY LIMITED

2024 Full Tariff Review Proceedings

Rate Case Submission to the Public Utilities Commission for FTP 2024-2028

January 30, 2024

1 INTRODUCTION

1.1 CORPORATE STATUS

Belize Electricity Limited (BEL) is duly authorized to generate and supply electricity to consumers throughout the country of Belize. The Company is a public liability company incorporated and domiciled in Belize. The Government of Belize (GOB) holds 32.58% of the issued and outstanding shares of the Company, and the Social Security Board (SSB) holds 31.27%, resulting in a total public sector ownership interest of 63.85%. Fortis Cayman Inc. holds 33.30% interest and over 1,500 small shareholders own the remaining 2.85% of ordinary shares.

1.2 MARKET POSITION

BEL is positioned by law as the Single Buyer in the national electricity market. The Company owns the national electricity grid and is the only entity authorized to acquire electricity in bulk and retail it to customers. The grid connects all major municipalities within Belize via approximately 2,077 miles of transmission and primary distribution lines and is supplied by local Independent Power Producers (IPP) utilizing hydroelectricity, biomass, solar energy sources, and fossil fuel; grid supply is further secured and anchored by interconnection with Mexico. BEL itself does not compete in the generation sector of the electricity market but still owns and operates two diesel generation facilities: a 19MW gas turbine being used as a standby plant for energy security and reliability, and an off-grid power station that supplies the island of Caye Caulker.

The Company serves just over 110,000 customer accounts, supplying a national peak demand of 127.2 MW (in October 2023) and total electricity use of 659,273 MWh in 2023. The electricity load served by BEL is estimated to be approximately 97% of the total electrical load of persons and entities within the country using electricity. However, with the introduction of distributed generation technology, the Company's market share and position could change significantly over the medium to long term.

1.3 REGULATORY FRAMEWORK

The Electricity Act, Chapter 221 of the Laws of Belize, and its subsidiary legislations, provides for the regulation of electricity services in Belize, specifically empowering the Public Utilities Commission (PUC) to govern the energy sector through, *inter alia*, the setting of tariffs, and charges, and quality of service standards. Statutory Instrument No. 145 of 2005, and its subsequent amendments, governs the tariffs, rates, charges, and fees for the transmission and supply of electricity and for existing and new services to be charged by the Company to consumers in Belize and the mechanisms, formulas, and procedures whereby such tariffs, rates, charges, and fees are calculated and determined.

The Company undergoes Full-Tariff Review Proceedings (FTRP), every four years, as well as Annual Tariff Review Proceedings (ARPs). These tariff review proceedings determine the Mean Electricity Rate (MER), and Tariffs and Fees based on three major cost components comprising BEL's Revenue Requirement, also known as the Tariff Basket Revenue (TBR). Theses components are as follows:

(1) The Cost of Power ("COP") which includes the capacity costs and variable cost of generation based on the latest forecasts and assumptions at the time of review.
(2) The Value Added of Delivery ("VAD"); the VAD component of the tariff allows the Company to recover its operating expenses including taxes and regulatory fees, prudent capital investments through depreciation, and a reasonable rate of return on those prudent investments as represented by the Regulated Asset Value (RAV).
(3) Rate adjustments based on corrections for differences between the PUC Approved Tariff Basket Revenue (BEL Revenue Requirement) and the realized Tariff basket Revenue (actual revenue collected by BEL as per audited financials) during any review proceeding.

1.3.1 Draft Generation Procurement Regulations

These regulations were issued by the PUC in 2020 but have not yet been endorsed by the Minister of Public Utilities. They outline the process and procedures for the acquisition of new electricity generation capacity and the upgrading of existing generation capacity primarily by means of competitive bidding.

The proposed legislation complements the existing market structure in as far as it allows for diversity and competition in the generation sector of the electricity market and, if properly administered, will support long-term generation infrastructure planning and development.

BEL has already registered, and hereby repeats, its main concerns with the regulations in their current form: (1) certain provisions which unevenly exclude BEL from administering the process based on conflict of interest but do not do the same for others (GOB or PUC), and (2) certain provisions which place the PUC in a technical/executory role contrary to their appropriate oversight role.

1.3.2 Electricity Licensing Regulations: SI No. 39 of 2024

These regulations were issued by the PUC in 2023. The regulations were enacted into law as SI No. 39 in March of 2024. They provide the legal framework for opening the electricity market to more participants and accommodating the shift from a single buyer to a more competitive market model.

Presently, consumers are limited to 75 KW of off-grid, self-generation capacity without license; but the regulations increase the permissible self-generation capacity without license and allow for grid connection as back up support. The regulations also provide for and supports further market segmentation by introducing network licenses for the development of alternative electricity delivery systems (separate from BEL's own grid).

BEL's own strategy anticipates and embraces competitors. **The Company's main concern is the need for robust interconnection standards and appropriate pricing regimes that allow for other players to interconnect with the grid in a safe and efficient manner and to pay appropriately for BEL's grid services**. These grid services fee will allow BEL to continue to invest in upgrading and expanding the grid infrastructure, further supporting the growth of the electricity market. The Company will continue to liaise with the PUC to close this regulatory gap and allow for the effective implementation of the licensing regulations.

1.4 FTP 2020 Performance Review

The 2020 Full Tariff Period (FTP) commenced 1 July 2020 and concludes 30 June 2024. BEL collected $240 MN on average annually in electricity revenues between 2020 and 2023 to finance investments and operations. The Company highlights some of its results below:

1.4.1 Universal Access

The Company invested $37 MN in distribution system expansion, connecting an average of 2000 new customers annually between 2020 and 2023 and increasing electricity sales by over 12%.

Table I: Electricity Sales and Customer Accounts

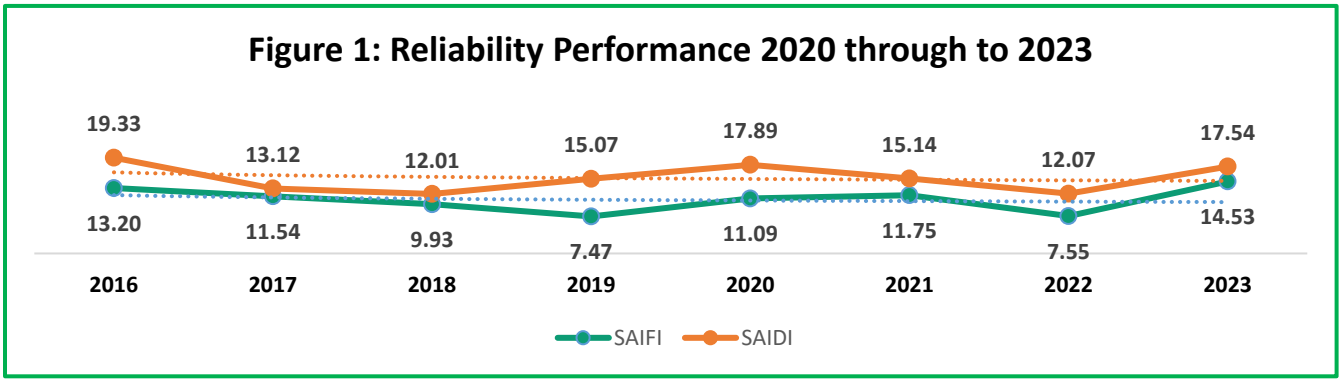
Years	2016	2017	2018	2019	2020	2021	2022	2023
No. Accounts	90,635	94,465	97,714	100,971	103,822	107,292	108,589	110,378
Sales MWH	540,921	552,478	554,434	588,351	539,269	560,793	601,815	659,273

1.4.2 Reliability

Figure 1 shows the reliability performance[1] under the influence and control of the utility has been stable and/or improving in the current 2020 FTP compared to the previous 2016 FTP. Vegetation management has been particularly challenging with overgrown trees and tree debris encroaching on power lines and causing outages; this work is largely carried out by contractors who have been difficult to source. In the upcoming 2024 FTP the Company will focus on improving performance in this area through proactive management of vegetation to mitigate associated risks effectively. The Company plans to implement advanced technological solutions such as drone-based line inspection, GIS for mapping and analysing vegetation distribution in proximity to power lines, establishment of a vegetation management unit to implement clearing strategies and safe arborist techniques, and establishing longer-term agreements with our contractors to promote continuity and consistency in

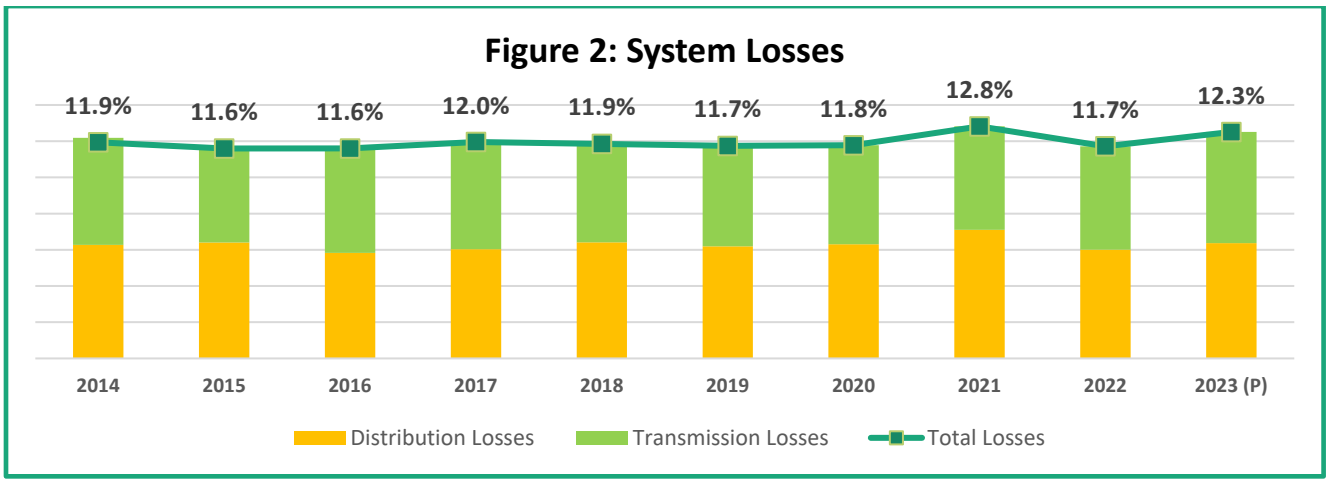
[1] Excludes outages caused by factors outside the control of the utility – failures of Independent Power Producers, acts of vandalism and hurricanes (major event days) and outages lasting less than 5 minutes.

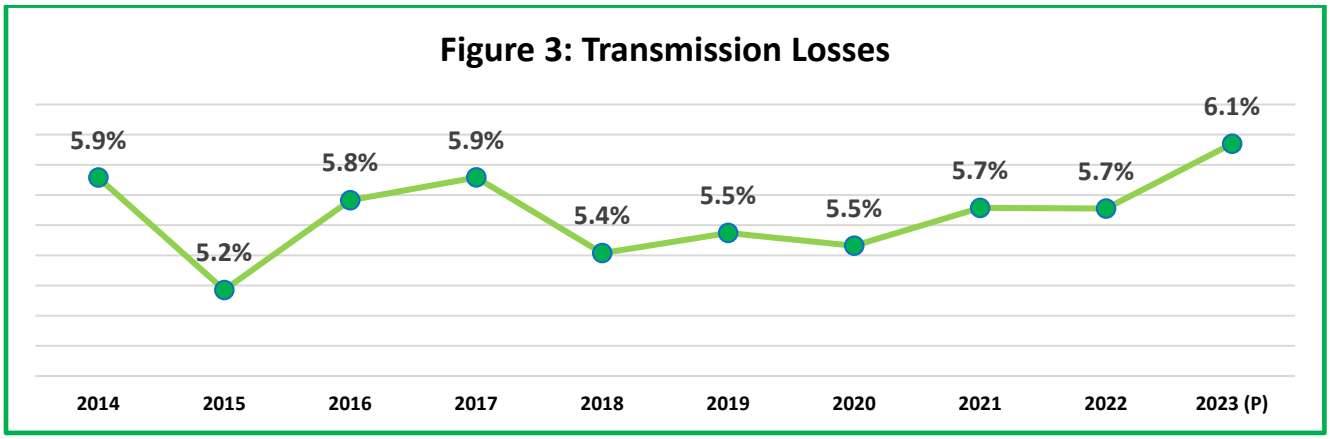
maintenance efforts

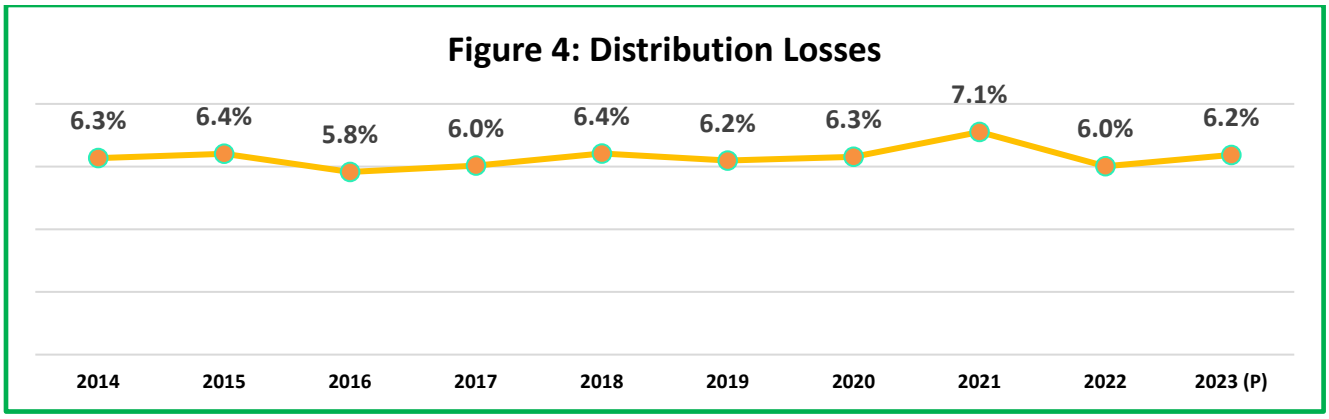


1.4.3 Transmission & Distribution Efficiency (Losses)

Average total system losses over the past 10 years were 11.95% compared to the average of 11% for the Caribbean countries with population densities of 5 to 10 times (on average) more than Belize. This consisted of average transmission losses of 5.67% and average distribution losses of 6.28%.







1.4.4 Service Delivery

The Company has managed to maintain satisfactory levels of service delivery across key service and support service elements; however, there remains much room for improvement. Some of the constraints faced include procurement delays with critical materials and equipment, inefficient processes, and insufficient resources. These will be addressed in the upcoming FTP through the re-engineering of procurement services, the digitalization of processes, and expansion of staff resources and capacity building for contractors.

Table II: Service Delivery Metrics

Metrics	2016	2017	2018	2019	2020	2021	2022	2023
Avg. Days to Complete Customer Initiated Requests	2.9	3.0	2.8	2.8	4.8	4.6	2.5	3.6
Avg. Days to Complete New Service Connections	1.1	3.1	2.4	2.2	4.2	2.9	1.9	2.3
Avg. Days to Complete New Service Connections (LV works)	N/a	N/a	46.0	35.6	23.6	25.6	19.6	15.6
Avg. Days to Complete Streetlight Repairs	6.8	26.4	9.9	9.4	11.2	18.1	7.8	7.5
Avg. Customer Call Wait Time (Seconds)	27.8	27.1	11.9	16.9	45.2	26.2	135.7	81.7
% of Abandoned Customer Calls	12.9%	10.4%	4.8%	5.0%	19.4%	3.5%	31.0%	36.9%
No. of Unbilled Accounts	11	8	4	2	3	2	4	9
Avg. Days from Meter Reading to Bill Delivery	6.9	8.5	8.9	6.8	3.8	3.0	3.0	3.0
Avg. No. of Monthly Inaccurate Billing	83	33	16	15	25	22	22	18
Avg. Days to Process customer claims	26.9	25.0	6.6	7.7	14.6	11.6	15.1	44.5
No. of customer complaints/1000 customers	7	6	6	6	6	5	5	4
Avg. Trouble Call Response Time (minutes)	N/a	N/a	63.1	74.6	79.9	70.4	65.3	66.2

1.4.5 Investments

The Company ramped up its capital investments during the 2020 FTP, increasing average annual asset expenditures from $35 MN in the 2016 FTP to $52 MN from 2020 through to 2023. Expenditures were concentrated on improving and expanding the transmission and distribution network in support of increased electricity demand and to improve the quality and reliability of power supply.

Table III: Investment History

$'000	2016	2017	2018	2019	2020	2021	2022	2023
Generation	180	-	194	-	2,116	1,402	12,380	4,823
Transmission Network	5,963	7,272	4,956	11,831	7,751	8,634	17,948	27,220
Distribution Network	23,158	18,751	17,197	18,460	18,453	21,667	30,748	26,306
Operations Equipment	3,111	998	1,623	18,154	2,903	4,423	4,418	5,158
Land & Buildings	317	520	400	2,187	814	1,094	2,331	1,525
Transportation	1,629	1,160	1,633	561	2,206	1,189	1,704	58
Total	**34,357**	**28,700**	**26,003**	**51,193**	**34,242**	**38,409**	**69,529**	**65,089**

1.4.6 Energy Supply Management

The Company sourced less energy from renewables this FTP than previously. Production at the hydroelectric facilities has been affected by drought – likely the impact of climate change and a continuing constraint underscoring the need for increasing generation capacity with diversified sources. Average price per unit of electricity generated/purchased in this FTP was $0.2251 compared to $0.2462 reflective of adaptive management of local energy sources as well as reduced local demand and significantly lower CFE prices during the pandemic between April 2020 and June 2021.

Table IV: Historical Dispatch Performance

MWh	2016	2017	2018	2019	2020	2021	2022	2023
Hydro	260,503	282,159	247,612	74,569	241,986	157,326	238,766	176,490
Biomass	78,886	82,339	93,834	91,920	81,333	57,508	93,781	67,907
Solar	-	573	593	650	568	595	925	944
Fossil Fuel	31,845	34,950	53,899	118,320	19,555	50,409	28,535	78,006
CFE Imports	243,429	230,138	235,155	383,726	270,239	380,195	323,311	430,666
Renewable	**55.2%**	**57.9%**	**54.2%**	**25.0%**	**52.8%**	**33.3%**	**48.7%**	**32.5%**
$COP/kWh	**0.2127**	**0.2239**	**0.2649**	**0.2803**	**0.1929**	**0.2095**	**0.2367**	**0.2542**

1.5 FTRP 2024 Application Overview

In accordance with the Electricity (Tariffs, Fees, and Charges) Byelaws, S.I. 145 of 2005 as amended by S.I. 116 of 2009, Belize Electricity Limited (BEL) hereby submits its rate case proposal for the 2024 Full Tariff Review Proceedings (FTRP). Summarily, BEL proposes that:

(1) Prevailing electricity tariffs remain in place to keep the mean electricity rate at 40 cents per kilowatt hour, supported by the introduction of new tariffs and prices for electric vehicles, distributed generation, and tourism customers to stimulate growth in these high potential markets.
(2) Variances between actual costs incurred by BEL and revenues collected through the electricity rates accumulate in the regulatory account balance and be recoverable in future periods when cost of power is sufficiently low and sales high so that corrections do not cause a rate increase.
(3) At least 60 MW of utility-scale photovoltaic solar generation capacity and 40 MW of battery energy storage solution be developed and interconnected to the national grid within the review period.
(4) Approximately $504.5 MN in capital expenditures over the next five years focused on the interconnection of new generation to assist in curtailing price volatility and assuring our ability to maintain electricity prices at rates indicated above, transmission and substation expansion and upgrades for enhanced reliability, urban and rural electrification, grid modernization to improve reliability and integrate grid-edge technologies, and facilities expansion and upgrades among others.

2 Economic & Market Outlook

2.1 Key Economic Factors

2.1.1 Global Economic Outlook

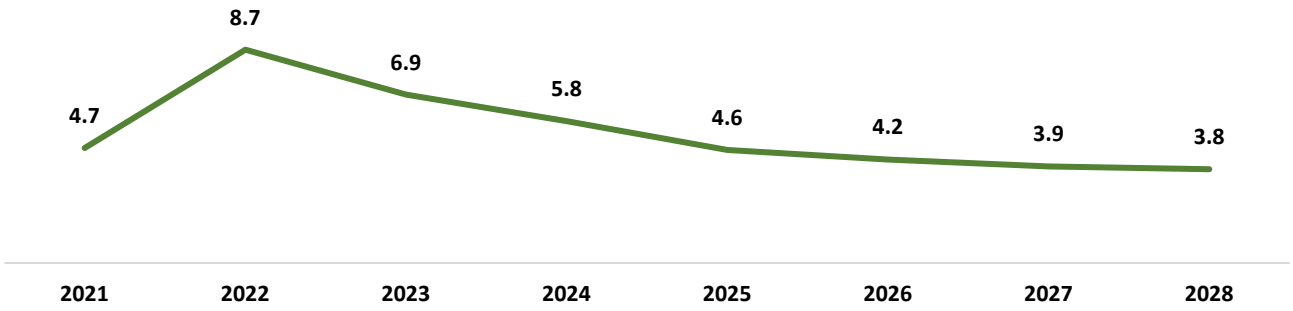
The International Monetary Fund (IMF) forecasts a slowing down of global growth from 3.5 percent in 2022 to 3.0 percent in 2023 and 2.9 percent in 2024. Advanced economies are expected to slow from 2.6 percent in 2022 to 1.5 percent in 2023 and 1.4 percent in 2024 consequent to governments tightening monetary policy to abate inflationary pressures. More germane to the Company's planning context, the United States and Europe, together accounting for more than 80% of Belize's tourism overnight stays, is expecting stable, positive economic growth between 1.5% and 2% on average from 2024 through to 2028.

Table V: GDP Growth Forecast

Year	World	United States	United Kingdom	Euro Area
2021	6.3	5.9	7.6	5.6
2022	3.5	2.1	4.1	3.3
2023	3.0	2.1	0.5	0.7
2024	2.9	1.5	0.6	1.2
2025	3.2	1.8	2.0	1.8
2026	3.2	2.1	2.1	1.7
2027	3.1	2.1	1.8	1.5
2028	3.1	2.1	1.5	1.3

The IMF projects global inflation declining steadily, from 8.7 percent in 2022 to 6.9 percent in 2023 and 5.8 percent in 2024, due to tighter monetary policy and lower international commodity prices. Core inflation is generally projected to decline more gradually, returning to target in 2025 in most cases. Global inflation is expected to influence prices for heavy fuel oil and diesel which in turn influences the Company's dispatching decisions and underscores the Company's push for increased renewables in the energy supply mix as soon as possible within the next 5 years.

Figure 5: Global Inflation %



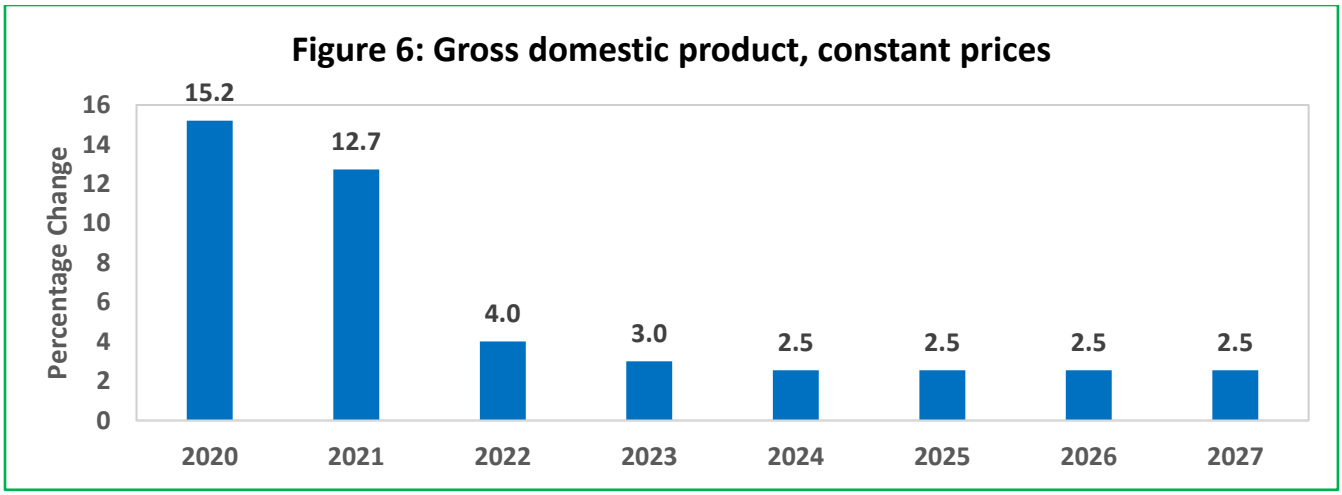
2.1.2 Belize Economic Outlook

Belize's economy grew by 12.1% in 2022 compared to 2021, and the International Monetary Fund (IMF)[2] projects it will grow by 2.4% in 2023, stabilizing at 2% over the medium term as spare capacity is exhausted. This outlook is underpinned by evidence of tourism activity normalizing to pre-pandemic levels and continued growth in the business process outsourcing sector.

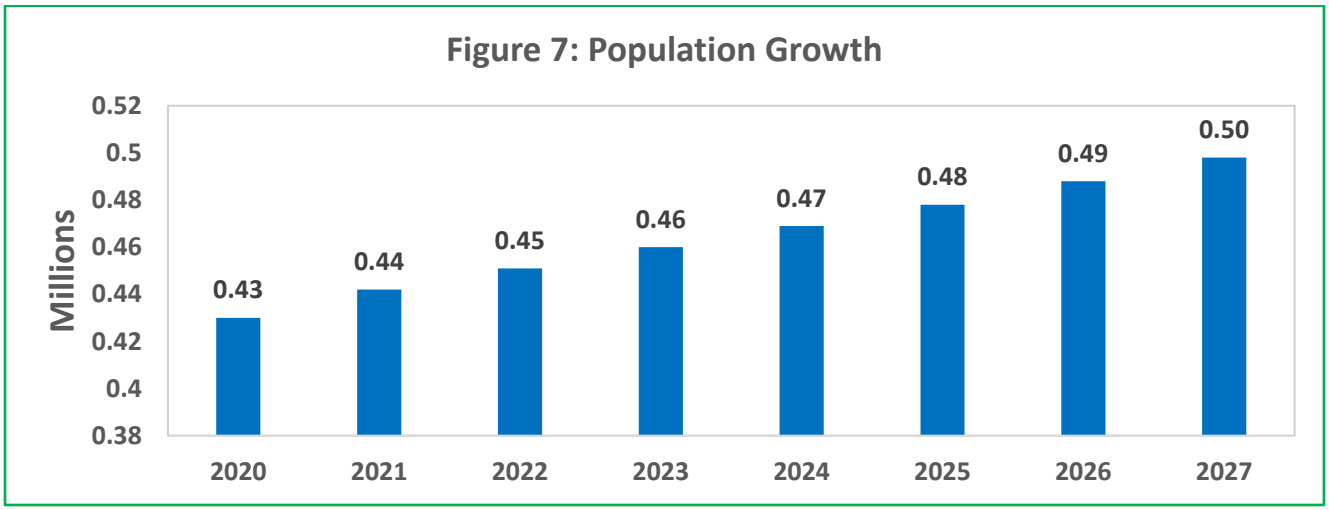
Average inflation is also projected to moderate to 1.2 percent over the medium term, improving purchasing power and stimulating consumer demand locally.

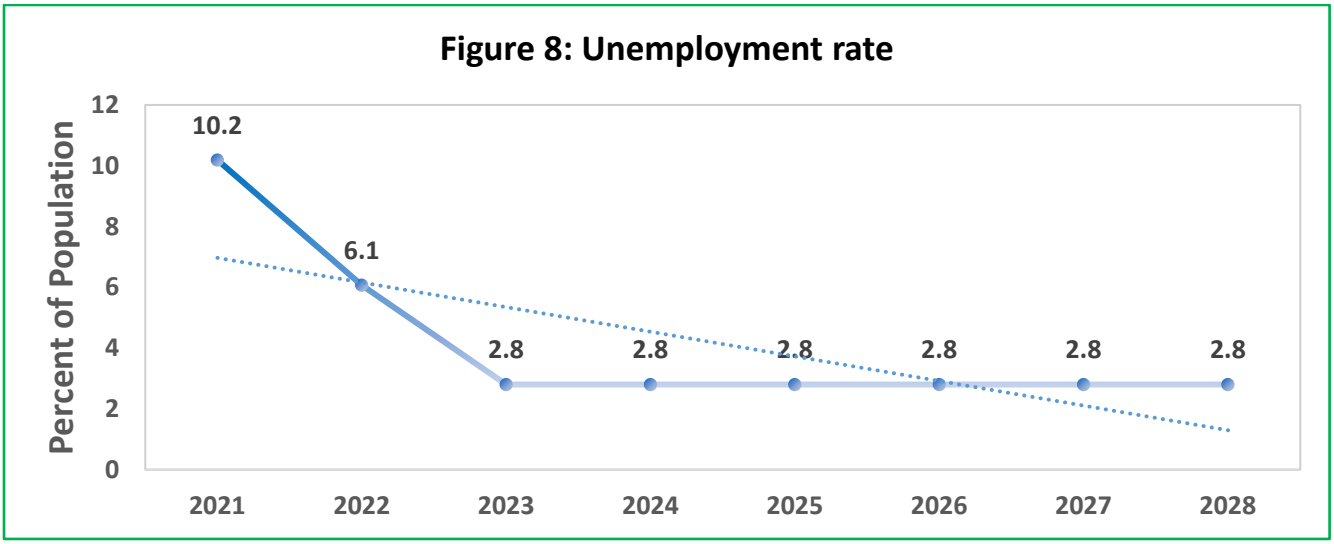
Furthermore, the Government is expected to increase public infrastructure spending by 0.8 percent of GDP from 2025 onwards. These realities signal and support a growing demand for electricity services in Belize. Downside risks include a sharp slowdown in advanced economies, further increases in commodity prices, and climate-related disasters.

[2] IMF 2023 Article IV Consultation Belize



Complementarily, population growth is expected to rise steadily to half-million by 2027 while unemployment rates remain below 3% supporting a positive consumption outlook.





2.2 KEY MARKET CONSIDERATIONS

2.2.1 Industry Opportunities & Threats

At the core of the "green energy" revolution is the growing global fear over the impacts of climate change. Consumers, especially millennials and those from more developed countries, are increasingly concerned about their carbon footprint and demanding that the energy they consume is 'cleaner' and more renewable and that they are given greater choice and control over how they consume energy. Service providers in the Tourism Industry, especially resorts, who cater to visitors from these developed countries are already proactively responding to the "green energy" trend and making a case to market Belize as a "green country".

These changing consumer preferences have driven recent major advances in green and fringe-of-grid generation technologies – principally, Solar PV and distributed generation (DG), electric vehicles (EV), and automated metering infrastructure (AMI) – which present attractive opportunities for growth and profitability for traditional as well as new industry players.

2.2.2 Utility Scale Solar

Utility-scale solar is a near-immediate solution to volatile cost of power prices and is cost-competitive with other renewables already in the mix (hydroelectricity and biomass co-generation), and significantly cheaper than fossil fuel alternatives. The cost to install solar has dropped by 89% in the last decade; and energy generated from Solar PV systems is now often cheaper than energy generated from Coal-fired power plants. Moreover, unlike traditional renewable generation technology – like hydroelectricity and biomass co-generation facilities – which require complex infrastructure design and construction process that take years to complete, utility-scale solar can be developed and deployed within several months. BEL's capital investment plan provides for the interconnection of at least 60MW utility scale solar by 2028, with the first plan scheduled to be online by mid-2025.

2.2.3 Distributed Generation & Microgrids

The range of DG technologies include solar PV (on rooftops or setup as micro-grids), micro wind turbines, small diesel generators, and run-of-the-river, mini- and micro-hydro plants, and battery storage. Solar PV systems have emerged as the most promising of all because of their positive environmental impact, declining costs, and simplicity and ease of installation, and are widely considered as the pre-eminent energy solution for evolving customer preferences around cleaner energy and energy independence from the grid network. Additionally, as installations are at or near the site of use, it eliminates much of the losses associated with transmitting and distributing through power lines. Several residential and commercial customers have already made the investment in DG technologies and this market will continue to grow as the technology proves itself a viable alternative to the traditional grid-only options, and more so if the current favourable volumetric pricing regime remains in place.

BEL's 2024 FTRP submission proposes the implementation of an alternative rate design for DG customers in line with international best practice, specifically for the introduction of a fixed fee for capacity services to DG customers ensuring fair distribution of costs to maintain and operate the grid among all users and an energy fee that approximates the variable cost of energy as well as a feed-in tariff to compensate DG customers for their exports to the grid (see Section 4 Pricing Strategy). The fixed fee will contribute.

2.2.4 Electric Vehicles

The primary stimuli for the adoption of EV technology consist of the following elements: government policy; market factors, such as price and vehicle offerings; and a nationally distributed electric vehicle charging network (EVCN).

The value proposition to government is clear: (i) Emissions reductions in line with commitments made under the Paris Agreement and Belize's Nationally Determined Contributions, (ii) Avoiding increased global import of secondary ("used") market dated vehicle technology, (iii) Enhanced energy security through significant reductions in the dependence on fossil fuel imports and the consequent high susceptibility to volatile global market prices and foreign exchange exposure.

Vehicle manufacturers globally continue to increase vehicle availability and options, thus improving the viability of electric options for drivers. The sustained decline in battery prices continues to drive EV prices down with global EV and ICE cost convergence expected by 2025. This, along with reduced fuel and maintenance costs, further enhances the demand side value proposition to buyers.

The rolling out of a national EVCN is widely considered critical to jumpstarting a viable EV economy: Drivers are primarily concerned with having infrastructure that can support both daily driving (especially if they operate a fleet or do not have access to their own private charger) and occasional long-distance trips. Delivering a public charging network alleviates these concerns and lets prospective EV drivers know that charging outside their homes will be affordable, safe, and widely available for use. Private buyers will be more willing to buy full battery electric vehicles (BEV) and get more value from plug in electric vehicles (PHEV). Corporate/government buyers will not need to install/ develop their own private EVCN, thus lowering the cost of deploying fleets. Dealers will be more willing to bring in and service EVs in response to increased demand. Vehicle manufacturers will be willing to supply dealerships to support a progressive marketplace in the global context.

BEL has a crucial role within this context through support an enabling ecosystem for adoption through infrastructure development, ensuring adequate supply in light of EV uptake and grid integration to manage demand effectively, developing and advocating for the deployment of fair tariff structures and policies. BEL has already installed 12 charging stations countrywide between major population centres and is working with the Government of Belize to further enhance the network with charging depots for electric buses that the Government is acquiring as part of an pilot project to transition the public

transport system to electric mobilitybased on its economic viability[3]. BEL's 2024 FTRP submission also proposes a pricing regime for co-investments in the EVCN and for EV charging (see Section 4 Pricing Strategy).

2.2.5 Advanced Metering Infrastructure (AMI)

AMI enables two-way communication between utilities and customers through an integrated system of smart meters, communications networks, and data management systems. It provides substantial benefits to utilities and customers, and is especially suited for countries like Belize, with geographically-dispersed, low-density service areas.

These benefits include: the ability to read meters, connect and disconnect service, proactively identify, and notify customers of unusual usage patterns in advance of bills, detect tampering, identify, and isolate outages, and monitor voltage automatically and remotely. With the ability to detect and respond to outages more quickly, the duration and impact of power interruptions can be minimized, ensuring more reliable energy supply for all customers. This enhanced grid reliability contributes to economic productivity, the success of industry and social well-being by avoiding disruptions to essential services and keeping public spaces lit.

Furthermore, utilities can offer time-based rates, direct load control, pre-pay billing plans and incentive programs to encourage customers to reduce peak demand and manage energy consumption and costs. In addition, customers can use functionalities through smart phones and in-home displays/smart thermostats to manage their own costs (demand-side management). With real-time monitoring of energy usage, customers will be able to better understand and manage their energy consumption patterns. With increased public awareness of the benefits of this technology, this can lead to more efficient energy usage.

Currently, the entire island of Caye Caulker is monitored using AMI technology and BEL's capital investment plan provides for the expansion of the network countrywide, following the development and approval of a business case for the same.

AMI systems are also essential to facilitating integration of renewable energy sources into the grid by providing real-time data on energy generation and consumption. This supports the transition to a more resilient energy system aligning with global efforts to mitigate climate change.

[3] Belize National Energy Policy 2023 developed by the Ministry of Public Utilities, Energy, Logistics and E-Governance

3 ELEMENTS OF BEL'S RATE CASE

3.1 REGULATORY ACCOUNT BALANCE (RAB)

BEL submits that total allowable actual costs – verified by audited accounting records – exceeded actual revenues collected by $46.297 MN for the period 1 July 2020 through to 30 June 2023. This sum represents the verifiable regulatory account balance at the time of filing and differs from the PUC's calculation as presented in the PUC's Final Decision on ARP 2023. BEL reiterates its claim and insists the PUC carefully review this balance considering BEL's analysis submitted as Annex 2 to its 2023 Amendment filing as it is critical that the Company and the PUC arrive at a consensus on costs to be carried forward in the 2024 FTP.

For the avoidance of any doubt, BEL reiterates that, based on its own assessment, the RAB stood at $46.297 MN as at June 30, 2023 and that this amount plus the variance between the Revenue Requirement and the Realized Revenue for the remaining ATP July 1, 2023 to June 30, 2024, which will be determined after the end of the ATP, is to be carried forward into the 2024 FTP to be collected by appropriate adjustments to the rates within the 2024 FTP.

Table VI: Regulatory Account Balance (RAB)

$'000	2018|2019	2019|2020	2020|2021	2021|2022	2022|2023
Revenue Components of TBR					
Value Added of Delivery (VAD)					
OPEX	-	-	32,525	33,301	33,507
Return	-	-	38,606	39,717	32,325
Depreciation	-	-	17,493	18,545	16,989
Taxes/License Fees	-	-	4,706	5,655	6,426
Sub-Total (VAD)	-	-	93,330	97,219	89,247
Reference Cost of Power	-	-	120,093	158,424	172,665
Less: Other Income	-	-	(4,255)	(4,300)	(4,855)
Tariff Basket Revenue	**-**	**246,258**	**209,169**	**251,343**	**257,057**
Realized Revenues	-	243,410	222,913	235,332	251,243
Variance	35,369	2,848	(13,744)	16,011	5,814
RAB	**-**	**38,217**	**24,472**	**40,483**	**46,297**

3.2 OPERATING EXPENSES

BEL's actual operating expenses (OPEX) has exceeded the PUC approved OPEX threshold by an average of $2 to $4 MN between 2020 and 2023. This gap will only continue to widen as the Company serves more customers and must expand staffing and contractor resources to maintain service delivery standards.

Additionally, in support of its strategy to build a modern energy services infrastructure, the Company will invest approximately $20 MN in computer software acquisition and development to support

generation scheduling and dispatch optimization, field services management (mobile workforce), advanced metering infrastructure, procurement and inventory management, and other business support functions. Historically, the PUC has not recognized investments in intangible assets as recoverable through depreciation or as attracting a return, even though increasingly utility operations rely heavily on software support. This means that, for the most part, these expenditures are treated as operating expenses but the practical effect of this has not been realized through increases to the OPEX baseline allowance.

The empirical evidence is clear that BEL has been performing at comparatively competitive levels of efficiency with the region as defined by operating cost inputs relative to outputs such electricity sales (kWh) and assets-in-service being as shown below.

Figure 9: Avg OPEX per kWh sold US$

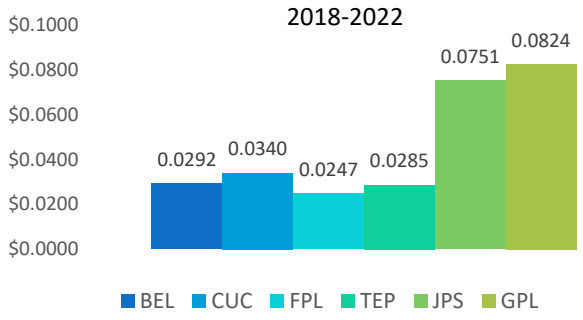
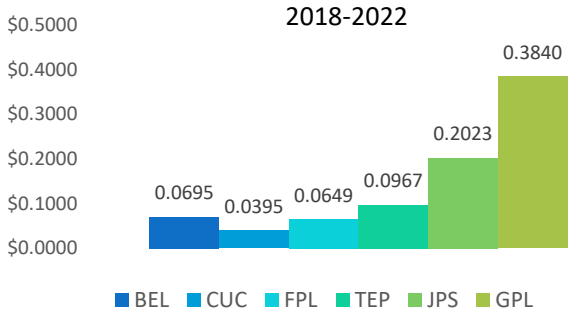


Figure 10: Avg OPEX per US$1 Fixed Asset



Moreover, over the past 15 years, as expected in a capital-intensive industry where the level of assets in service is driven by sales, BEL's OPEX as a percentage of its net fixed assets has remained fairly constant at an average of 6.47% with a standard deviation of 0.58%; likewise, the OPEX to MWh sales ratio (expressed as a percentage) has remained fairly constant at 5.97% with a standard deviation of 0.46%.

Figure 11: OPEX as % of Net Fixed Assets

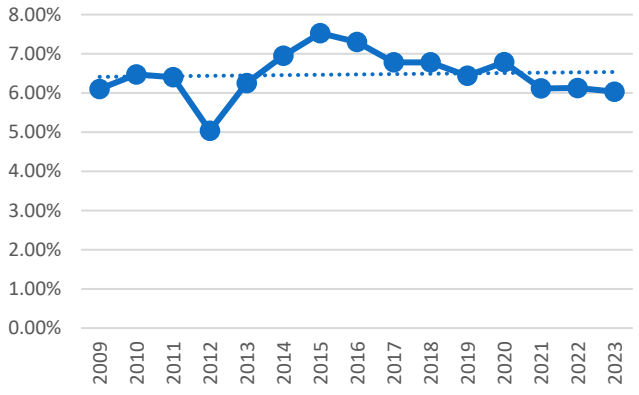
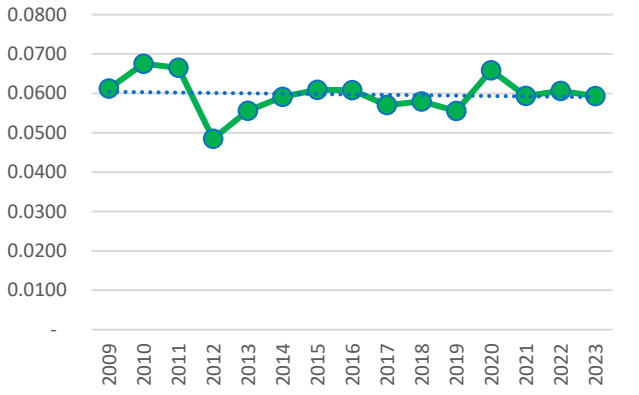


Figure 12: OPEX to MWh Sales Ratio



BEL is therefore proposing that its OPEX annual allowance be trued up to its estimated 2024 operating expenses and thereafter increased at a rate equal to the rate of increase in the net fixed assets (or

regulated asset value) or sales thereafter. This adjustment to OPEX would better provide for actual costs of delivery for this element of VAD.

3.3 INVESTMENT RECOVERY

BEL plans to invest $504.5 MN of capital into the expansion, reinforcement, and modernization of the national grid system over the next five years. This translates to investment recovery provisions of $34.5 MN on average annually within the FTP as represented by the depreciation forecast in the Schedule 2 below. These investments are strategically designed around BEL's vision to build a modern energy services infrastructure, providing for higher levels of supply reliability, greater grid control automation, remote grid control, infrastructure expansion and resilience, and the interconnection of new generation sources among other key expenditures. Table VII sets out the major projects underlining the depreciation schedule (investment recovery), with further details given in Appendix A.

Table VII: Major Capital Projects

	ESTIMATED COSTS ($)	
PROJECTS	**2024-2028**	**2024**
Generation Expansion		
Battery Energy Storage Solutions Project	**TO BE FINANCED BY GOB [$120M-$140M]**	
Gas Turbine Repowering	20,226,058	20,226,058
San Pedro Mobile GT	44,000,000	44,000,000
Dispatch & Generation Planning Software	2,014,726	1,356,024
Transmission System Expansion		
2nd Submarine Interconnection - Mainland to San Pedro	53,833,020	5,823,000
Belize District Metropolitan Area Grid Upgrade	39,586,000	636,000
New La Democracia-Dangriga 115 kV Interconnection	35,566,500	1,566,500
Caye Caulker Submarine Interconnection	22,238,612	22,238,612
New 115kV Circuit to Belmopan and Substation Upgrade	6,652,320	2,252,320
Engineering Studies	2,650,000	938,366
ROW Easement Land Acquisition	1,584,000	316,000
Connection of New Generation		
Utility-Scale Solar PV Interconnections Country-Wide	7,529,360	29,360
Independence Interconnection for GT Plant	2,500,000	-
Transmission & Substations Upgrade		
BAPCOL Substation & Interconnection (Upgrade & Expansion)	7,537,850	3,537,850
Belcogen Substation Upgrade (New Transformers)	3,600,000	-
San Pedro Substation Standardization	3,553,340	-
Corozal Substation Standardization	3,453,760	153,760
San Ignacio Substation Upgrade (New Transformers)	3,420,000	-
Chan Chen Substation Upgrade (New Transformers)	3,300,000	-
Independence Substation Upgrade (New Transformers)	3,150,000	-
Dangriga Substation Upgrade (New Transformers)	3,000,000	-

Transmission Line Upgrade Project (Fiber Glass Poles)	2,162,000	-
Belize City Substation Upgrade Project	1,967,693	1,967,693
Replacement of Transmission Line Structures Country-Wide	1,691,566	1,138,391
Other Substation Standardization & Redundancy	1,050,225	226,380
Facilities Expansion & Upgrade		
New Operations Headquarters - John Smith Road	20,205,240	404,105
Drive-Thru Cashiering Facility (Coney Drive)	3,197,108	1,015,000
Construction of New San Ignacio Operations Facility	3,134,208	1,567,104
Construction of New Independence Operations Facility	2,204,508	1,102,254
Facilities Renovation	1,105,046	1,105,046
New Customer Connections		
Urban & Peri-Urban Electrification	44,548,412	8,062,140
Rural Electrification (Micro-Grid)	11,208,076	5,565,777
Rural Electrification (Standard)	1,300,000	1,300,000
Distribution System Reliability Improvement		
Reliability Improvement for Distribution Operations	12,858,472	4,167,062
Standards & Safety	10,343,115	2,334,381
Replacement of Rotten & Burnt Poles	8,089,691	1,854,919
Placencia Submarine Replacement	3,654,000	374,000
Belmopan Feeder #4 Separation	1,220,000	938,000
Grid Modernization		
Smart Grid (Country-wide Rollout AMI)	33,830,000	1,990,000
Redundant Telecommunications Infrastructure	6,193,375	2,786,275
DG & EV Programs	3,000,000	915,000
GIS & Field Service Management System	2,678,503	962,749
Other Grid Modernization Projects	1,053,192	703,192
Information Technology & Cybersecurity		
Digital Work Environment	7,099,221	3,051,480
Cybersecurity & Business Continuity Projects/Programs	6,037,915	2,075,000
OT System & Network Upgrade	5,129,676	2,840,296
Digital Customer Service	1,431,792	781,146
Operations Support		
New Vehicles & Upgrades	19,554,225	2,012,083
Specialized Work Equipment	2,927,570	827,570
Streetlights		
New & Replacement LED Street Lights	8,684,245	4,840,836
Other Projects	7,570,305	5,733,605
GRAND TOTAL	**504,524,923**	**165,715,333**

3.4 RETURN ON INVESTMENT

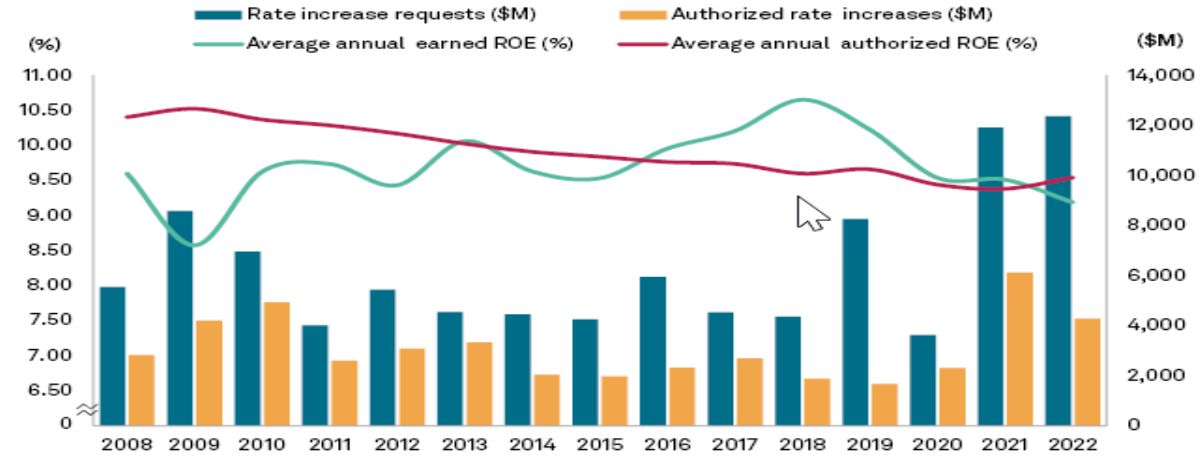
The regulations provide that electricity rates should be set to allow investors to "…secure a reasonable rate of return on investment when operating in a manner compatible with international standards of an efficiently operated power system of similar characteristics to that of Belize." Return on investment to equity investors is commonly measured using the return on equity (ROE) metric calculated as the annual net income divided by the average of the equity position in the given year and prior year. Table VIII below shows the return on equity performance for BEL shareholders over the past two FTPs.

Table VIII: Average Historical Return on Equity

Year	2016	2017	2018	2019	2020	2021	2022	2023
Net Income	27,292	17,773	- 3,587	2,997	46,661	34,284	15,343	6,981
Average Equity	361,947	360,541	350,724	343,527	363,011	384,055	387,782	392,148
ROE	7.5%	4.9%	-1.0%	0.9%	12.9%	8.9%	4.0%	1.8%

By comparison, the average ROE authorized by regulators for investor-owned electric utilities in the United States ranged between 8% and 10% and utilities on average earned or exceeded that guarantee.

Figure 13: Earned vs. authorized ROE by electric utility operating subsidiary



Data as of May 10, 2023.
Includes a sample of US investor-owned utility operating subsidiaries tracked by Regulatory Research Associates.
Source: Regulatory Research Associates, a group within S&P Global Commodity Insights.

The regulatory practice in Belize, however, is to ignore actual return on equity performance and instead implement the legal requirement for a reasonable return by applying a target rate on the regulated asset value (RAV). The RAV is the portion of BEL's physical assets in service that the PUC deems to be "used and useful" for the purposes of providing electricity services to customers. The PUC also sets a target capital structure, a maximum share of debt and equity to finance operations and growth; it is then left for the utility to plan for its own financial performance within those parameters.

The PUC had set a target rate of return of 10% for FTP 2020, with a minimum guarantee of 8% and a maximum of 12%. During the FTP, in the 2022 Annual Review Proceedings, the PUC revised BEL's target rate of return downwards to 8% applicable to 2022|2023 ATP and to 8.5% applicable to 2023|2024 ATP.

The PUC's justification, summarily, was that BEL was in a healthy financial position and that the amendments did not deprive BEL of its opportunity to realize a reasonable rate of return in compliance with the Electricity Act (see PUC Initial Decision 2022 ARP). It is important to reiterate here that a reasonable rate of return on investment to equity holders is measured by the ROE, not the percentage return on assets which is shared between debt and equity holders. In deciding whether the legal requirement for a reasonable return is being met, the rate of return should at least be equal to the Weighted Average Cost of Capital (WACC) so that both equity and debt holders are adequately provided for in the electricity rates. The National Association of Regulatory Utility Commissioners (NARUC) in the United States puts it like this:

"If the authorized ROR is set equal to the WACC, investors will provide capital with the expectation of receiving an adequate return. If the authorized ROR is set at a level lower than the WACC, the utility will be unable to raise capital at a reasonable cost and ultimately may be unable to raise sufficient capital to meet customer demands for service. Therefore, it is in the best interests of customers that the authorized ROR be set equal to the WACC."

There are no active financial markets in Belize, so it is not possible to apply the standard approaches to calculating WACC. Instead, BEL assumes a required rate of return on equity at 10%, equal to that received by regulated utilities in other jurisdictions (Ibid Figure 12) and a cost of debt of 6.5%. It is important to note that while BEL's average effective interest rate is closer to 5.5%, this is reflective of historically low levels of borrowing compared to equity financing (with retained earnings) in a more favourable interest rate environment. Going forward, interest rates are expected to increase: for example, in 2023, BEL was offered a loan facility from the Inter-American Development Bank at rates near 7.0%. Applying a weight of 60% of capital provided by debt and 40% provided by equity, BEL estimates its WACC at 8%. However, emphasis must be placed on the fact that the realized ROE has been well below that reasonably expected for shareholders – this is in part because earnings have been deferred (regulatory account balance) but also because certain operating cost have not been adequately provided for in the rates (*see Section 3.2 Operating Expenses*).

BEL proffers that while the PUC's target rate of 8.5% in ARP 23|24 is reasonable, it is insufficient if the level of operating expenses allowed is not increased in line with BEL's 2023 actuals and forecasted figure – failing this adjustment then the target ROR should be reset at 10% for this FTP to provide for the shortfall in earnings due to understated OPEX allowance. Furthermore, BEL maintains its objections to any performance penalty for project implementation in the form of a reduced rate of return as does not align with sound principles of performance-based regulation and further erodes shareholder's opportunity to make a reasonable return as guaranteed by law.

3.5 TAXES & LICENSE FEES

Taxes and Licenses fees are calculated at PUC prescribed rates applied to the tariff basket revenues. The applicable rates are set out in the table below.

Table IX: Taxes and License Fees Rates

ATP	20|21	21|22	22|23	23|24	24|25	25|26	26|27	27|28
Tax Rate %	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.75
License Fees %	0.50	0.50	0.75	1.00	1.00	1.00	1.00	1.00
Total %	2.25	2.25	2.5	2.75	2.75	2.75	2.75	2.75

3.6 COST OF POWER

BEL is guided by its *Least Cost Expansion Plan (LCEP)* which will increase the in-country firm capacity margin from a deficit of 25% to a surplus of 6% by 2028 through the addition of 60 MW of utility scale solar supported by 33 MW of gas-fired generation (12 MW capacity upgrade to the Westlake GT facility and 21 MW new generation) and 40 MW of battery energy storage solutions. The schedule of interconnection is presented below in Table X and the Figure 13 shows how the plan progressively closes the generation shortage gap over the next five years.

TABLE X: Schedule of Generation Capacity Additions

Peak Demand vs In-Country Firm Capacity (MW)	2021 (A)	2022 (A)	2023 (P)	2024	2025	2026	2027	2028
BECOL - Mollejon & Chalillo	32	35	35	35	35	35	35	35
BECOL - Vaca	19	19	19	19	19	19	19	19
BAPCOL	22.5	22.5	22.5	22.5	22.5	22.5	0	0
GT & Mobiles	19	19	19	35.5	35.5	35.5	35.5	35.5
GT SP/DGA	0	0	0	21	21	21	21	21
Battery Storage	0	0	0	0	10	20	30	40
Solar	0	0	0	0	6	12	18	18
Peak Demand	103.5	110.3	127.2	133.0	138.9	145.2	151.7	158.5
% Reserve (In-Country Firm Capacity)	-10.6%	-13.5%	-24.9%	0.0%	7.2%	13.6%	4.5%	6.3%

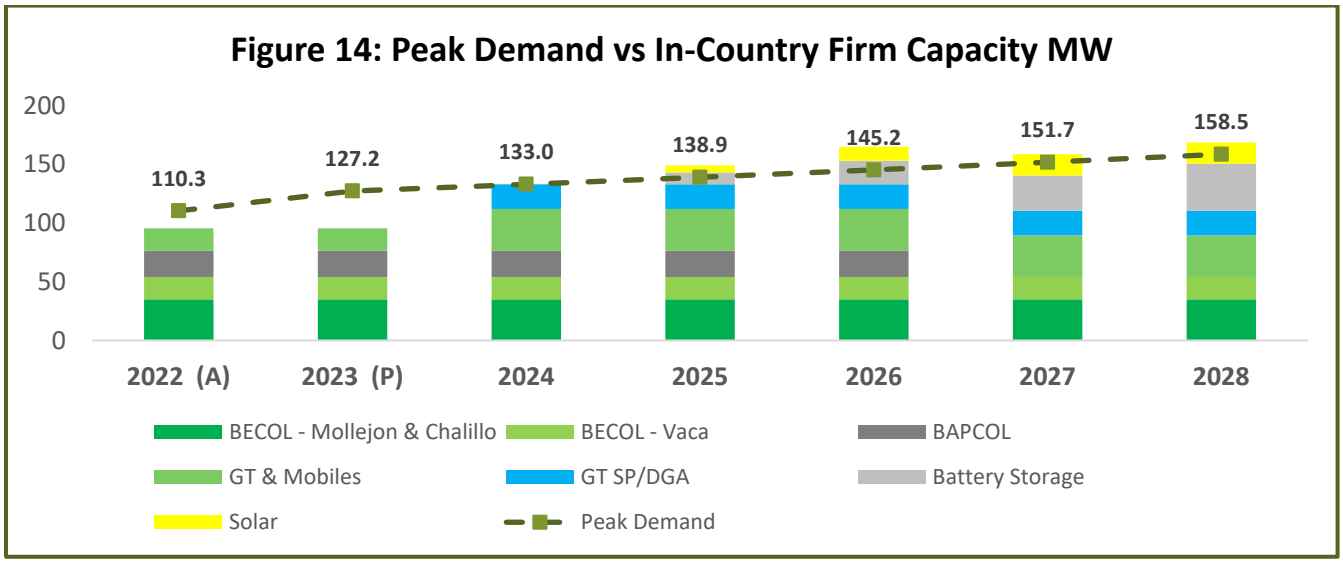


Table XI below presents the generation dispatch plan over the upcoming FTP running from 1 September 2024 through to 30 June 2028. The assumptions underpinning the dispatch plan are as follows:

- ***Hydroelectric and Biomass Plants***: Actual production over the past decade was analyzed to create three production profiles – high, medium, and low production – reflecting water management under changing hydrological conditions over time for hydroelectric plants, and biomass output for co-generation facilities. For its baseline, BEL assumes medium output over the FTP for all three hydroelectric and both biomass plants. (*See FTRP 2024 Workbook, EnergySupplyProfile tab for analysis*). These facilities are "must take" and purchases are maximized around assumed availability with prices reflecting contractual commitments.
- ***Solar facilities***: A capacity factor, based on a Maskall solar feasibility study, is applied to the facility generation capacity to arrive at the production output for the period and prices are set at an average of 16 cents per kWh which the PUC has previously indicated as acceptable LCOE for utility scale solar facilities.
- ***Energy imports***: CFE purchases and fossil fuel generation are maximized on a least cost basis up to their capacity and assumed availability after the "must take" commitments are fulfilled from the renewable power facilities. In its submission, BEL adopts optimistic prices for energy imports from CFE in line with CFE's forecast energy prices for 2024; it is important to note that this is in contrast with the Company's own business plan, which adopts a more conservative outlook with CFE prices for operations planning.
- ***Battery Energy Storage Solutions (BESS)***: The dispatch plan assumes that the first 10 MW instalment of BESS will be brought online in mid-2025, followed by three deployments of 10 MW each at the start of each year thereafter.

TABLE XI: Production (Dispatch) Outlook

MWh Production	2023|2024	2024|2025	2025|2026	2026|2027	2027|2028
Fortis Belize (Mollejon/Chalillo)	113,546	137,870	152,567	152,567	152,567
Fortis Belize (Vaca)	60,961	69,400	76,626	76,626	76,626
CFE	432,793	433,620	424,911	425,460	424,040
Hydro Maya Limited	13,298	11,337	11,774	11,774	11,774
Belcogen	52,793	64,298	64,364	64,364	64,364
BAPCOL	52,906	90,840	54,376	18,807	836
Santander	22,749	29,105	34,754	34,754	34,754
Westlake Gas Turbine	21,419	-	-	-	-
Disel Mobiles (CCK and Other)	15,099	-	-	-	-
JICA Solar	433	585	586	586	586
PSF Solar	626	971	1,330	1,330	1,330
New Solar	-	-	68,784	114,518	137,203
GT SP/DGA	-	-	-	38,139	81,829
Total Production	**786,622**	**838,026**	**890,073**	**938,925**	**985,909**
Total Costs $'000	**189,936**	**189,894**	**191,164**	**196,163**	**200,869**
Cost per kWh	**0.2415**	**0.2266**	**0.2148**	**0.2089**	**0.2037**

3.7 Other Revenues

Other revenues include fees from service installations, rental income for distribution property (pole sharing) and other miscellaneous payments rendered by customers (reconnection fees, transfer fees etc.). Other revenues/income has been relatively stable over the outgoing FTP between $4.5 MN and $4.9 MN annually and BEL's submission forecast a stable annual figure of $4.9 MN over the upcoming FTP.

4 Redesigned Services & Pricing Proposals

4.1 Amended Tariffs for Traditional Customer Classes

The production (dispatch) outlook in Table XI above underscores the importance of getting cheaper renewable sources of energy supply online to reduce cost of power. On the other hand, until these sources of energy are brought online, BEL will be faced with increasing unit cost of power as demand increases, since higher demand will have to be met by increasingly more expensive supply sources. In 2023, the confluence of unprecedented increases in demand caused by the prolonged heatwave and low hydroelectric power output from Fortis Belize due to an extended drought forced the Company to resort to its fossil fuel sources, driving up the cost of power.

BEL is proposing to introduce an additional consumption bucket for Residential and Commercial I Customers with a tariff that is two cents higher than the existing final bucket, that is, for consumption above 300 kWh per month (highlighted below), *if there is a delay in the rollout of utility-scale solar beyond the 2025 timeline*. This proposed adjustment to the existing tariff structure aligns more closely with "cost causation" principles which provides that the customer categories and blocks that are responsible for accessing higher cost of power due to high energy needs would hold responsibility for their contributions to the overall cost.

The increasing tariffs in the inverted block rate system used for Residential and Commercial classifications also reflect the fact that, in economic dispatch mode (the default dispatching modality), the cheapest sources of electricity to the grid are dispatched first so that higher quantities of demand are met by increasingly more expensive supply sources. The inverted block rate system encourages energy conservation by disincentivizing waste. Introducing a further block for high-demand Residential and Commercial I Customers helps to shift costs equitably to those causing the costs without causing financial burden on the median consumer.

Likewise, Commercial II Customers benefit from a lower tariff if they consume over 20,000 kWh. BEL further proposes to remove the 'Above 20,000 kWh' bucket for the Commercial II customer class so that all consumption above 10,000 kWh is billed at the same tariff ($0.39) *if there is a delay in the rollout of utility-scale solar beyond the 2025 timeline*.

Table XII: Proposed Tariffs for Annual Tariff Period July 1, 2023, to June 2024

Customer Class	Service Type/Consumption Block	2024|2028 Jul-Jun
Residential Social	Minimum Charge - Social	5.00
	Soc. - First 60 kWhs	0.22
Com I	Minimum Charge - Residential	10.00
	Res. -LV - First 50 kWh	0.33
	Res. -LV - 51 - 200 kWh	0.38
	Res. -LV- 201-300 Kwh	0.43
	Res. -LV- Above 300 kWh	0.45
	Com1 - LV - Service Charge	10.00
	Com1 -LV - First 50 kWh	0.33
	Com1 -LV - 51 - 200 kWh	0.38
	Com1 -LV- 201-300 kWh	0.43
	Com1- LV- Above 300 kWh	0.45
Com II	Com. - HV - Service Charge	150.00
	Com. - HV - First 10,000 kWh	0.41
	Com. - HV - Above 10,000 kWh	0.39
Ind	Service Charge	250.00
	Energy	0.26
	Demand (per KVA)	23.00
St Lights	Energy	0.45

4.2 NEW SERVICES

BEL is in the process of redesigning existing products and services and launching new products and services embracing fringe-of-grid technologies to respond to rising consumer demand for more customized energy solutions.

4.2.1 On-Grid Service

The traditional core on-grid electricity service now offered to the traditional Customer categories will be differentiated and expanded into an array of customized services:

- For Residential and Commercial Customers using conventional meters
- For Industrial Customers connected to primary distribution system
- Connection using AMI-based smart metering for Residential and Commercial Customers
- AMI-based Time-of-Use metering for Commercial and Industrial Customers

- AMI-based pre-paid metering on request or for Customers with a persistently low credit rating (as determined by BEL)
- Grid-connected LED street, roadway, and park lighting service

4.2.2 Grid-Tied Service (PVGRID)

This new service is aimed mainly at commercial and large residential Customers as well as parks and playgrounds. Energy will be supplied from Solar PV installed by BEL (through its DG business unit/subsidiary) with the grid as backup and metered using AMI meters.

The rate design for grid-tied DG should reflect the cost structure – a variable price component for the variable energy costs and a fixed price component for the fixed reliability costs. This is based on the cost of service and cost reflectivity principle, and it ensures that customers contribute to the utility's fixed cost regardless of their level of consumption. Otherwise, the non-DG customers will disproportionately bear the cost of operating and maintaining the grid that DG customers depend upon for reliability of supply. Table XIII below shows BEL's proposed rate for grid-tied DG consumers.

Table XIII: Proposed Grid-Tied DG Rates

Category	Rate
Demand Charge (per KVA per month)	30.00
Peak Energy Charge (per kWh)	0.3500
Off-Peak Energy Charge (per kWh)	0.3000
Feed-in Tariff (per kWh)	0.1300

4.2.3 Electric Vehicle (EV) Charging Station Service

This service will be made available to BEL-owned and third party-owned public and commercial EV charging stations as well as own-use EV charging stations installed on private property. The terms of service will be determined by an EV Charging Station Interconnection Standard which will be included as part of the Distribution Grid Code being developed by the Company.

The proposed tariff structure for EV charging stations assumes that the capital costs of the charging stations being deployed by BEL are absorbed into VAD and distributed across all customers and not recovered from charging station owners/users only. This is a reasonable proposal since the network is anticipated to benefit all customers as the technology gradually becomes ubiquitous. At the outset, BEL intends to track associated costs separately to be able to segment in the future if a different pricing structure is to be implemented.

The actual retail charges to final consumers by the charge point owners/operators (CPO) could be subject to further regulation or left unregulated and subject to competitive tactics of the CPOs. Table XIV below shows BEL proposed rate for Electric Vehicles.

Table XIV: Proposed EV Rates

Category	Rate
Demand Charge (per KVA per month)	30.00
Peak Energy Charge (per kWh)	0.3500
Off-Peak Energy Charge (per kWh)	0.3000

4.2.4 Wholesale Interconnection Service

This service is aimed at stimulating connection of major agro-productive zones such as the Spanish Lookout community (SPLC) and tourism locales such as Caye Chapel and Stake Bank which are currently off grid. While it is essentially motivated by a strategic decision aimed at regularizing electricity services in the Spanish Lookout Community (SPLC), it will also ensure equal access to sustainably priced energy solutions for key sectors that drive economic growth. The commercial arrangement will be underpinned by a Wholesale Interconnection Agreement that will provide for sale and purchase in both directions (trading). The connection to the grid may be done directly to the primary distribution system or via a dedicated substation.

Table XV below shows the proposed rate structure.

Table XV: Proposed Wholesale Interconnection Tariff

Category	First 10 Years	After 10 Years
Demand Charge (per KVA per month)	25.00	8.33
Peak Energy Charge (per kWh)	0.3000	0.3000
Off-Peak Energy Charge (per kWh)	0.2600	0.2600
Feed-in Tariff (per kWh)	0.1300	0.1300

4.3 TOURISM TARIFF

Service providers in the Tourism Industry, especially resorts, who cater to visitors from developed countries are already proactively responding to the “green energy” trend and making a case to market Belize as a “green country.” Through the provision of an incentivised tourism rate to attract sales, BEL anticipates that this new class of customers will account for an increasing proportion of BEL’s commercial customer base. Improved performance in this sector will translate to greater indirect and induced benefits to complementary services in the economy and support BEL’s growth strategy.

The proposed tariff applies only to tourism service providers with DG/Solar PV installations.

Table XVI: Proposed Tourism Tariff

Category	Rate
Demand Charge (per KVA per month)	30.00
Peak Energy Charge (per kWh)	0.3500
Off-Peak Energy Charge (per kWh)	0.3000

SCHEDULES

BEL's filing includes the following schedules:

- Schedule 1
- Schedule 2
- Schedule 3
- Schedule 4
- Schedule 5
- Schedule 6
- Schedule 7

Schedule 1

Belize Electricity Limited (BEL)
Annual Corrections - July 1, 2022 - June 30, 2023

General Corrections - July 1, 2021 - June 30, 2022

Approved Tariff Basket Revenue - $:	**267,055,288**
Realized Tariff Basket Revenue - $:	**251,243,157**
Variance (Total Approved less Total Realize) -$:	**15,812,131**
Prior Period Corrections Outstanding -$:	**31,032,023**
Regulatory Account Balance -$	**46,844,155**

Schedule 2

Belize Electricity Limited (BEL)

Rate Review for FTRP 2024|2028

Approved Regulated Asset Value (RAV) for Full Tariff Period (FTP) September 1, 2024 to June 30, 2028

Regulated Asset Value (RAV) as at December 31 of each year - $:

Year	2023	2024	2025	2026	2027	2028
Starting RAV	404,060,182	434,406,114	470,471,930	584,613,935	659,669,169	723,211,484
Depreciation	19,948,374	29,606,377	32,966,219	36,216,225	39,220,652	41,473,433
Work In Progress	89,740,078	70,332,890	66,420,625	62,944,584	58,698,629	49,346,715
Additions	81,002,165	192,030,023	112,723,694	107,083,349	98,736,584	76,538,142
Net Contributed Capital	1,168,631	265,348	3,805,285	(2,739,653)	(1,249,715)	(1,951,872)
Ending RAV	434,406,114	470,471,930	584,613,935	659,669,169	723,211,484	769,905,571

Schedule 3

Belize Electricity Limited (BEL)

Updated Cost of Power (COP) Parameters and Demand for Full Tariff Period (FTP) July 1, 2024 to June 30, 2028

Rate Review for FTRP 2024|2028

Approved Generation and Purchase of Power and Reference Cost of Power (COP), and Demand for each ATP of the FTP:

Year	2024|2025	2025|2026	2026|2027	2027/2028
KWHrs Purchased and Generated - KWHrs	838,026,092	890,072,844	938,925,458	985,908,814
Reference Cost of Power - $	189,893,977	191,163,836	196,162,777	200,869,148
Approved Consumption/Demand - KWHrs	733,297,198	780,124,227	824,402,984	865,883,747
Reference Cost per KwHr Consumed - $/KWHr	0.2590	0.2450	0.2379	0.2320

Belize Electricity Limited (BEL)
Rate Review for FTP 2024|2028
Approved Rate of Return (ROR), OPEX, and Gearing Ratio (G) for Full Tariff Period (FTP) July 1, 2024 to June 30, 2028

Approved Rate of Return (ROR) for each ATP of the FTP %:

Period	2024|2025	2025|2026	2026|2027	2027|2028
ROR Lower Limit	8.0	8.0	8.0	8.0
ROR Target Limit	10.0	10.0	10.0	10.0
ROR Upper Limit	12.0	12.0	12.0	12.0

Approved OPEX for each ATP of the FTP $:

Period	2024|2025	2025|2026	2026|2027	2027|2028
OPEX	8	8	8	8
GEC	9	9	9	9

Approved Gearing Ratio (G) - FTP	0.6

Interest Rate for IDC (after approved Gearing Ratio) - FTP %	8.0

Schedule 5

Belize Electricity Limited (BEL)

Tariff Basket Revenue (TBR) and Mean Electricity Rate (MER) for Full Tariff Period (FTP) September 1, 2024 to June 30, 2028

Tariff Basket Revenue (TBR) and Revenue Components for each ATP of the FTP and Mean Electricity Rate for the FTP -$:

Year	2024|2025	2025|2026	2026|2027	2027/2028	Total FTP
Revenue Components of TBR:					
Value added of Delivery (VAD)					
OPEX	46,347,414	47,737,836	49,169,972	50,645,071	193,900,293
Return	47,047,193	58,461,393	65,966,917	72,321,148	243,796,652
Depreciateion	29,606,377	32,966,219	36,216,225	39,220,652	138,009,473
Taxes/License Fees	8,708,239	9,201,241	9,687,237	10,126,675	37,723,392
Sub-Total (VAD)	131,709,224	148,366,689	161,040,351	172,313,546	613,429,810
Reference Cost of Power	189,893,977	191,163,836	196,162,777	200,869,148	778,089,739
Corrections - FTP	11,711,039	11,711,039	11,711,039	11,711,039	46,844,155
Less: Other Income	(4,939,959)	(4,939,959)	(4,939,959)	(4,939,959)	(19,759,838)
Tariff Basket Revenue	328,374,280	346,301,605	363,974,207	379,953,774	1,418,603,865
Demand [MWhs]	733,297	780,124	824,403	865,884	3,203,708
MER - July 1, 2024 - June 30, 2028	0.4478	0.4439	0.4415	0.4388	0.4428
Direct Cost of Delivery (COD) - $:	0.1677	0.1784	0.1836	0.1873	0.1797
Corrections + Taxes - Other Income - $:	0.0211	0.0205	0.0200	0.0195	0.0202
Cost of Power (COP) - $:	0.2590	0.2450	0.2379	0.2320	0.2429

Schedule 6

Belize Electricity Limited (BEL)
Proposed Tariffs for Full Tariff Period July 1, 2024 to June 30, 2028

Customer Class	Service Type/Consumption Block	2024|2028 Jul-Jun
Social	Minimum Charge - Social	5.00
	Soc. - First 60 kWhs	0.22
Residential	Minimum Charge - Residential	10.00
	Res. -LV - First 50 kWh	0.33
	Res. -LV - 51 - 200 kWh	0.38
	Res. -LV- 201-300 Kwh	0.43
	Res. -LV- Above 300 kWh	0.45
Com I	Com1 - LV - Service Charge	10.00
	Com1 -LV - First 50 kWh	0.33
	Com1 -LV - 51 - 200 kWh	0.38
	Com1 -LV- 201-300 kWh	0.43
	Com1- LV- Above 300 kWh	0.45
Com II	Com. - HV - Service Charge	150.00
	Com. - HV - First 10,000 kWh	0.41
	Com. - HV - Above 10,000 kWh	0.39
Ind	Service Charge	250.00
	Energy	0.26
	Demand (per KVA)	23.00
St Lights	Energy	0.45

Schedule 7

Belize Electricity Limited (BEL)

Approved Fees and Charges effective July 1, 2024

Service Fees and Charges/Penalties		
Description	**Customer Classification**	**Fee/Charge ($,%)**
New Connection		200.00
Temporary Supply		200.00
Service Upgrade/Service Relocation		55.00
Move In/Activation/Transfer		40.00
Temporary Disconnection by Request	Social	10.00
Reconnection (after Temporary Disconnection by Request)	Residential, Commercial 1 & 2	15.00
	Commercial 2 with CT Meter & Industrial	100.00
Reconnection (Disconnection for Non-payment)	Social	10.00
	Residential, & Commercial 1	15.00
	Commercial 2	25.00
	Commercial 2 with CT Meter & Industrial	150.00
Reconnection at Pole (Disconnection for Non-Payment or Tampering)		150.00
Returned Cheque		25.00
Replacement of damaged meter		150.00
Replacement of damager meter cover		50.00
Replacement of Meter due to Service/Meter Tampering		40.00
Pole Rental (Monthly Fees per attachment per Pole)	Telecommunications Operations (PSTN, Etc)	2.75
	Cable Operators - Cities/Towns	1.50
	Cable Operators - Rural	1.20
Late Payment Penalty (Applied to Arrears over 30 days less Deposit)	Commercial 2, Industrial	0.83% / Month
Deposits:		
Service Size	**Customer Classification**	**Fee/Charge ($)**
60 Amps Service	Residential	50.00
	Commercial 1	100.00
100 Amps Service - 45 kVA Dedicated Service	Residential	100.00
	Commercial 1	200.00
	Commercial 2	1,000.00
112.5 kVA Dedicated Service		3,000.00
225 kVA Dedicated Service		8,000.00
500 kVA Dedicated Service		15,000.00
1000 kVA Dedicated Service		30,000.00

APPENDIX A

A. Major Infrastructure Projects

Caye Caulker Submarine Interconnection

The submarine interconnection between Ambergris Caye and Caye Caulker is expected to be completed by the end of Q3 2024. The project experienced numerous delays since the feasibility study and environmental and social impact assessment were completed in December 2018.

The decision was made to revisit the load forecast and design after the island experienced an unexpected surge in demand at the start of January 2020 at the same time the front end engineering design was scheduled to start. The reforecast confirmed that the projected load demand of Caye Caulker had doubled from 4 MVA to 8 MVA in 2040. The project scope and design concept were consequently revised to double the cable capacity, change the route of the submarine cable resulting in a longer length to avoid landing near the forest reserve at the northern tip of the island, building a full-fledged substation on the north island of Caye Caulker, and adjusting the feeder interconnection configuration. The project budget was consequently revised from $17.3M to $26.0M.

The submarine cable was delivered to Belize since early July 2023; however, numerous difficulties were encountered in procuring suitable contractors to lay the cable and to build the switching station and substation due to lack of interest and unresponsiveness of suppliers. Special waivers have had to be obtained from the Caribbean Development Bank (CDB) to negotiate directly with suppliers. The project is now scheduled to be completed by the end of Q3 2024. Total expenditure on the project to date is $12.1M, and the estimated cost of the remaining works is $22.2M.

Second Submarine Cable Interconnection between San Pedro and Grid

BEL is planning to install a second submarine cable between the mainland and San Pedro to bolster the capacity and reliability of power supply to serve burgeoning demand in both San Pedro and Caye Caulker. The capacity limit of the existing interconnection is expected to be breached within the next two years given the recent spikes in demand due to heatwave impacts on top of high organic growth. Moreover, the interconnection with Caye Caulker will be completed by the end of Q2 2024 adding Caye Caulker's demand to the overall load on the interconnection.

The new cable is expected to be rated at 69 KV or 115 KV with sufficient capacity to serve the power supply needs of San Pedro, Caye Caulker, and the islands further to the south of Caye Caulker, including Caye Chapel, Long Caye, and even St. George's Caye. Preliminary investigations have determined that the most feasible route for the new cable is near the route of the existing cable but terminating along the northern half of San Pedro where there are currently higher levels of and therefore more potential for tourism and commercial growth.

The cost of the project is estimated at $53.8M and is scheduled for completion by the end of 2026. The feasibility study (already underway) and design and engineering are scheduled to be completed by the end of this year (2024) along with the ordering of the long lead equipment.

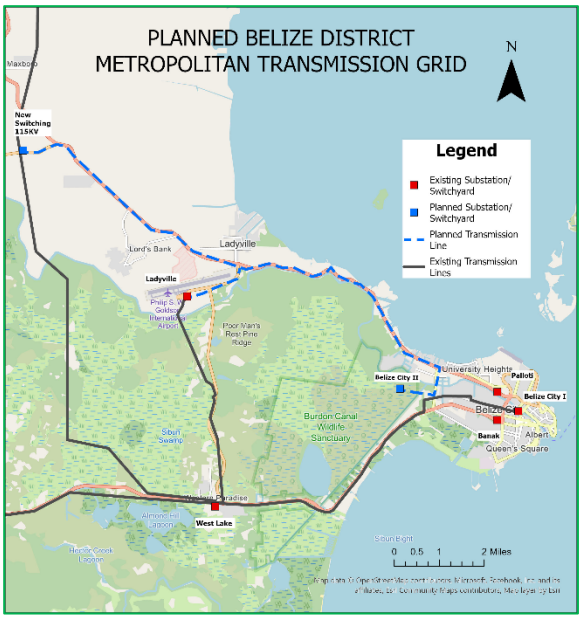
Magazine Road Substation Upgrade and Belize City Feeder Expansion

The major portion of the Belize City demand is supplied at 6.6 kV from the Magazine Road 115/6.6 kV substation. The substation connects to aged switchgear housed in the old power station building that supplies six feeders (3 covering the northside and 3 covering the south side).

The substation is currently being upgraded to incorporate new indoor switchgear being built on the substation compound with provisions for eight outgoing feeders. It also provides for the installation of four regulator banks (each supporting two feeders) to replace the existing two regulator banks. This project is well underway; all long lead equipment have been delivered awaiting completion of the civil works and the switchgear housing; and it is expected to be completed by the end of Q2 2024.

Additionally, two new feeders are being carved out from portions of existing feeders in Belize City to reduce feeder loads below 3 MW: a new Feeder #7 from portions of Belize City Feeder #3 and Feeder #5, and a new Feeder #8 from portions of Belize City Feeder #2 and Feeder #4. These are scheduled to be commissioned within Q3 2024 and will further improve reliability of supply in the distribution system.

Belize District Metropolitan Area Grid Upgrade



The Belize City peak demand on the 6.6 kV distribution system is projected to exceed the capacity of the Magazine Road substation by 2025. Moreover, the substation is supplied from a single 115 kV transmission feed from Westlake (Mile 8 George Price Highway).

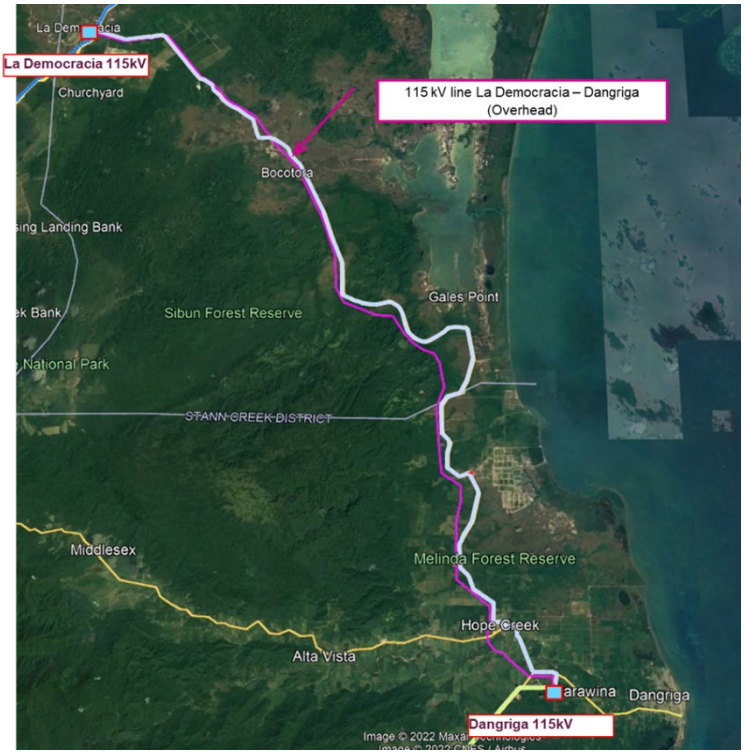
BEL plans to set up a new 115/22 kV substation ("Belize City II/Lake I") to be fed from a new switching station to be located along the 10L transmission line between Maskall and Westlake ("North Ladyville Switching Station"). This substation will replace the temporary substation that was built in Belize City west of Chetumal St (in 2023) to facilitate the upgrade of the Magazine Road substation by providing an alternate supply route to the Belize City 6.6 kV system through the Pallotti and Banak substations. It will also take up the 22 kV load along the George Price Highway up to Westlake where most of the load growth in Belize City is occurring.

The entire project consists of the new Lake I 115/22 kV substation described above plus a new North Ladyville 115 kV switching station along the Maskall-Westlake transmission line segment and a new 115 kV transmission line segment connecting the North Ladyville switching station to the new Lake I substation, with the possibility of underground portions through certain areas. The estimated cost of the project is $39.6M. The feasibility study and engineering are scheduled to be completed by the end of 2025 and the circuit is expected to be commissioned by 2028.

New La Democracia-Dangriga 115 kV Interconnection

The 69 kV transmission line from La Democracia to Dangriga is the critical link between the transmission grid and the southern zone of the country. Any outage that affects this link isolates all three southern service areas (Dangriga, Punta Gorda, and Independence, which includes the major tourist destination of Placencia), as well as the Bapcol power plant and the Hydro Maya hydroelectric plant. However, this line has had a relatively poor reliability performance over the past decade, which has severely impacted the Company's reputation and resulted in many commercial and tourism Customers having to make major investments in backup generation and protective equipment. This link will become even more critical with the planned transfer of the mobile GT to Independence between 2026 and 2027.

BEL plans to build a new 115 kV overhead transmission line from La Democracia to Dangriga to improve system reliability and transfer capacity to/from the southern part of the transmission system. The line is expected to have a total length of about 35 to 39 miles depending on the actual ROW obtained and to generally follow the Coastal Plain Highway out of La Democracia until Hope Creek where it will remain to the west of the Hummingbird Highway until it reaches the Dangriga Substation. The Dangriga substation will be upgraded to ring bus configuration on the 69 kV side to accommodate the new circuit.



The total project cost is estimated at $35.6M. The feasibility study and engineering are scheduled to be completed by the early 2025 and the circuit is expected to be commissioned before the end of 2027.

Placencia Submarine Cable Replacement

The Placencia peninsula is the most significant tourist destination in southern Belize with a 2023 heatwave-driven peak demand of 5.15 MW (5.58 MVA) and a pre-heatwave demand of 3.5 MW. The load is forecasted to reach 8.4 MVA in the next 15 years. Power is supplied to the area from Independence Feeder #2 via two submarine cables that span the Placencia Lagoon: one further north ("Surfside"), rated at 9.7 MVA, and operating at 22 kV; and the other installed 32 years ago near Malacate Beach ("Malacate"), rated at 1.2 MVA, and operating at 6.6 kV.

The Placencia Submarine Cable Replacement project involves substantially increasing the transfer capacity of the Malacate interconnection to at least 8.5 MVA and the upgrading of the operating voltage level from 6.6 kV to 22 kV. This will automatically provide full redundancy between the two circuits.

The first phase of this project will involve converting the 6.6kV portion of Independence Feeder #2 to 22KV and increasing the feeder capacity by reconductoring the primary voltage lines with larger conductors and replacing the existing transformers with more modern and efficient ones rated for 22 kV operation. The second phase will involve replacing the existing submarine cable at Malacate with a high-capacity 25KV 500 MCM submarine cable Installation; installing reclosers to enhance the system's reliability by automatically restoring power after a fault and minimizing service interruptions; and adding voltage regulators to the system to improve power quality and ensure that voltage levels remain within acceptable ranges.

The project cost is estimated at $3.654M and the entire upgrade is scheduled to be completed by the end of 2025.

Belmopan Substation and Transmission Upgrade

The Belmopan substation serves the capital city of Belmopan and sits along the central trunk of the BEL grid. It is currently supplied by a single 115kV circuit originating from the Camalote switching station approximately 2.2 miles away. The substation consists of a single 115/22 kV transformer, which connects to a 22 kV bus. A single 22/11 kV transformer taps off the 22 kV bus and supplies the 11 kV distribution system which serves the central area of Belmopan, including the offices of the Government of Belize. Three other feeders originate directly from the 22 kV bus and serve the other parts of the city and rural areas in the Cayo District.

Both the single circuit from Camalote and the substation transformers are critical N-0 vulnerabilities for the supply: the loss of the 115 kV circuit or the 115/22 kV transformer will result in a total service area outage, and the loss of the 22/11 kV transformer will result in a total outage in all of central Belmopan. The 11 kV system will not be expanded, and all new system extensions will be supplied by the 22 kV system. The 11 kV is projected to reach a peak demand of 7.6 MW by 2042 from its current 6.3 MW due to EV and vegetative load growth among existing Customers, and the balance of the load will be supplied by the 22 kV distribution system.

Following the recommendations of the LCEP, BEL plans to upgrade the 115 kV circuit and the Belmopan substation as follows:

1) Re-routing the transmission line between La Democracia and Camalote by adding 2 miles of new 115 kV transmission line from Cotton Tree to the Belmopan substation and adding a breaker at the Belmopan substation. The substation will now be fed from two separate segments of the central trunk of the 115 kV system: from the East through Democracia and from the West through Camalote. This will provide increased grid reliability and resilience against faults on 115kV system.
2) Reconfiguring the substation 115 kV bus bar as a ring bus, which improves reliability and operational flexibility.
3) Adding a second 115/22 kV transformer to increase supply capacity and achieve N-1 reliability at the 22 kV system level, and adding a second 115/11 kV transformer to achieve N-1 reliability in the 11 kV system, which supplies the administrative offices of the GOB and the central areas of Belmopan city.

The cost to install the new line and upgrade the substation is estimated at $6.65M.

Belmopan Feeder #4 Separation into Three Feeders

The planned Belmopan Feeder #4 separation project aims to improve reliability of supply within Belmopan City and surrounding areas in addition to addressing capacity concerns on the feeder by splitting the existing feeder into three separate feeders. This project complements the Belmopan Transmission and Substation Upgrade Project presented above.

Belmopan Feeder #4 is the largest distribution feeder in the country in terms of geographical coverage, originating from the Belmopan substation and extending in three directions: southward along the Hummingbird Highway up to Caves Branch, eastward along the George Price Highway to La Democracia and westward to Blackman Eddy and Los Tambos, spanning a total length of 202 miles. It currently serves over 68% of Customers in the Belmopan area and registered a peak demand of 7.5 MW in 2023 (50% of the peak demand on the entire Belmopan distribution system). It is consistently in the top ten worst performing feeders in the distribution system in terms of reliability because of its extensive coverage.

BEL plans to separate the feeder into three feeders: one heading southward along the Hummingbird Highway, one heading eastward along the George Price Highway, and the other heading westward along the George Price Highway. The capacity of each of the feeders will be upgraded to be able to carry the load of the other two feeders, providing N-1 reliability beyond the substation. Additionally, downstream possible tie points have been identified to support contingency scenarios during emergency situations. The upgraded feeders will also have the capacity to tie into and supply adjacent feeders in contiguous distribution service areas (Dangriga, San Ignacio, and rural Belize District).

The cost of upgrading the 22 kV bus within the substation to accommodate two new feeders and building and installing new line sections and switches to separate the feeders along the routes is estimated at $1.22M.

Rural Electrification & Micro-Grids

BEL's rural electrification efforts over the next two years will be focused on supporting GOB's objectives to supply electricity to villages in the north and south of the country, co-financed with $5 M EURO grant funding from the EU.

BEL is the implementing partner in extending distribution lines to Indian Church and San Carlos in the Orange Walk District and setting up micro-grids in Jalacte, San Vicente, and San Benito Poite in the Toledo District over the period 2024 to 2025. This project will bring electricity to 548 households in these villages and an additional 18 households between San Felipe and Indian Church, and includes the installation of streetlights as well as smart meters for all connections.

Table A.I: BEL/EU Rural Electrification Program 2024-2025

PROJECT LOCATION	*Town/Village*	*DISTRICT*	*# of Households*	*ESTIMATED COST*
2024-2025				**$11,657,549**
North Zone				**$ 3,352,520**
San Felipe to Indian Church	Passes Indian Creek + Farm Land	Orange Walk	18	$1,337,549
Indian Church	Indian Church Village	Orange Walk	105	$ 1,308,195
San Carlos	Santa Clara Village	Orange Walk	65	$ 706,775
South Zone				**$8,305,028**
Jalacte	Jalacte Village	Toledo	152	$3,190,061
San Vicente	San Vicente Village	Toledo	96	$2,013,622
San Benito Poite	San Benito Poite Village	Toledo	130	$ 3,101,345

The original project was conceived to build five (5) micro-grids in the five (5) villages, but had to be reformulated as a combination of line extensions in the north and micro-grids in the south because inflation, especially in the cost of batteries, increased the project cost. Line extensions to the villages in the north are substantially less costly than micro-grids and capture additional loads, which include farms, irrigation plants, and resorts. Moreover, the area to be electrified between San Felipe and Indian Church is the country's largest producer of carrots and tomatoes, in addition to producing other vegetables. Further load growth is expected as GOB is investing in a vegetable and fruit packing plant along the route of the line extensions and local farmers have also expressed an interest in obtaining additional refrigerated containers. The current project formulation therefore meets the objectives of the original EU proposal, while supplying additional demand between San Felipe and Indian Church and significantly supporting the country's agricultural sector.

B. Grid ReLiability & Resilience Improvement Projects & Programs

Substation Standardization and Redundancy

The Company intends to undertake various investments as recommended by the LCEP that are necessary (i) to upgrade substation configurations to provide the space required to carry out maintenance without having to isolate the entire substation, (ii) to prevent overloading of existing transformers, and (iii) to provide firm capacity (N-1 security) at the substations in case of the loss of a single transformer.

Substation Standardization

Substations at Santander, San Pedro, Corozal, Orange Walk will be upgraded to code: replacing wooden poles with more resilient steel structures and adding new feeders, reclosers, and switches and reconfiguring for greater flexibility to minimize outage impacts during maintenance/faults.

Substation N-1 Redundancy

Additional transformers will be installed at Belmopan, San Ignacio, Corozal, Chan Chen, Orange Walk, Belcogen, and Independence reducing vulnerability to significant load-shedding or extended power interruptions associated with outage events characteristic of the current radial transmission system design.

Substation Relay Upgrade

Relays will be upgraded at nine substations (Maskall, West Lake, Camalote, Punta Gorda, Savannah, Dangriga, San Ignacio, and BAL). The upgraded (SEL-411L) relays allow for fast response signals to software used in disturbance monitoring, expediting root cause analysis with high resolution time-series data.

ERCAP (Energy Resilience for Climate Adaptation Project)

ERCAP (Energy Resilience For Climate Adaptation Project) is designed to enhance the resilience of Belize's Energy sector to adverse weather and climate change impacts through demonstrated solutions in specific areas. The project cost was initially budgeted at $11.98M USD, to be jointly funded from a $8M USD grant from the World Bank's Global Environment Facility's (GEF) Special Climate Change Fund (SCCF), a $0.6M USD in-kind contribution from the GOB, and the difference of $3.38M USD provided as counterpart funding from BEL.

The project was started in December 2016 under the management of GOB. However, it was restructured in early 2019, and BEL was given the responsibility for the overall management of the project portfolio, including all activities related to the GOB, in addition to the implementation of electricity sector specific project activities.

ERCAP - Main Components

1) Real-time meteorological and hydrological data available to support dispatch capabilities and to refine forecasting and long-term planning capabilities.
2) Emergency Response and Recovery Plan for the power sector with comprehensive protocols and procedures for rapid response and efficient reconstruction after storm or other major weather-related damage.
3) Upgraded substations in the transmission network to isolate faults and limit impact of system failures (minimize blackouts).
4) Hardened transmission network structures to withstand extreme weather events with minimal damages.
5) Upgraded substations in the distribution network including structural improvements to damaged control buildings and relocation and securing of battery banks against potential flood damage.
6) Backup System Control Center established as an alternate if Belize City center become inoperable

Since the initial disbursement of funds from the SCCF in November 2019, $5.45M USD in grant funds have been disbursed to date: $3.07M USD allocated to BEL and $2.38M USD allocated to BEL. Counterpart financing from BEL and GOB to date are $3.72M USD and $0.6M USD respectively.

The components and activities remaining to be completed under the project are as follows: Bapcol substation and transmission line installation works, 10L transmission line rehabilitation, weather station installation for the Met Office, and the Belcogen transmission line installation. These remaining activities are scheduled to be completed by the end of 2026 at an estimated total cost of $4.38M USD. The total cost of the project will exceed the initial budget of $11.98M USD by $2.18M USD due to inflation and initial cost estimation deviation from actual costs. The difference is being borne by BEL.

Bolstering the Telecommunications Infrastructure

BEL's telecommunications infrastructure is the transport medium that moves the essential data, voice, and video traffic between offices, facilities, substations, and external stakeholders in support of the Company's business operations and mission-critical system, including the SCADA system used in the monitoring and control of the Grid.

Due to the configuration of the underpinning fiber medium, there is currently no redundancy within the fiber network infrastructure: If fiber communication to a critical hub point, such as the Magazine Road Substation is disrupted, then all downstream substations and offices to the west and south of the country lose connection, rendering critical systems and services, including SCADA, unavailable. Over recent years, the fiber network has been plagued with reliability issues, resulting from several factors, including storms, vehicle accidents, and even sabotage.

BEL will develop resiliency in the telecommunications network infrastructure by implementing UHF links, as a redundant communication medium, at critical hub points across the infrastructure. The existing fiber medium will continue to serve as the primary/preferred medium. While the need for a resilient infrastructure is primarily driven by the need to mitigate interruptions in SCADA communications, it is also driven by the need for uninterrupted services in other critical infrastructures, including VHF communication to support uninterrupted two-way radio communication between field crews, IPPs and the System Control Center, corporate communication (voice, video, data) to support business operations at and between offices, and AMI. The project will also address security-related concerns, particularly ensuring that footage from security cameras remains accessible despite interruptions in fiber communications.

The project is scheduled to be completed by 2026 at an estimated cost of $6.19M.

LED Street Lighting

In 2016, BEL embarked on a project to replace approximately 35,000 existing high-pressure sodium (HPS) and mercury vapor (MV) lighting fixtures with more efficient LED fixtures. This project was intended to significantly reduce GOB's public lighting energy consumption and channel the savings towards the installation of additional fixtures on roadways and for improved lighting, visibility and security.

The Company intends to complete the replacement of the approximately 15,600 HPS and MV fixtures remaining in the system by the end of 2024 (as promised to the GOB) at an estimated cost of $4.28M along with the continuing replacement of damaged and malfunctioning LEDs. A total of 3,000 new LED streetlights will also be installed throughout various parts of the country, including 2,500 new 223W fixtures which will be introduced to light up major roadways and boulevards.

The total cost of the replacements and new streetlights over the 2024-2028 plan is budgeted at $8.68M.

New Vehicles

BEL is committed to ensuring that its fleet of utility trucks and vehicles are optimally maintained for the effective execution of daily operation, maintenance and construction works. In line with best practice and the recommendations of a previous study, a maximum age of 12 years for heavy duty trucks and 6 years for light duty vehicles has been adopted to best optimize fleet operation, minimize down-time, and manage maintenance costs.

Of the Company's current fleet, 13 heavy duty vehicles are beyond these prescribed limits, and have been scheduled for replacement over the course of the 5-year business planning period.

Truck Type	Quantity	Year of Manufacture
Double Bucket Truck	6	2003, 2006, 2007, 2008 (2), 2010
Single Bucket Truck	4	2003 (2), 2005, 2008
Digger Derrick (RBD)	1	2010
Pole Trailer	1	1988
Hotline Gears Trailer	1	2003

With the increase in workload and the expansion of the workforce, and to reduce reliance on contractors, the Company plans to purchase new vehicles and equipment as follows:

Truck Type	Quantity	Assigned Department/Service Area
Double Bucket Truck	1	IND
Single Bucket Truck	6	CZL, SPR, CCK, SIG, DGA, PGA
Digger Derrick (RBD)	2	Distribution Operations
Pole Trailer	1	Distribution Operations
Hotline Gears Trailer	1	Distribution Operations

The Company is further committed to replacing as much of its pickups and vans used for transportation of employees and light loads with electric alternatives as soon as practicable within the next five years. This is in keeping with its strategy to promote BEL as a visible first leader in the industry to signal confidence in the product and market.

The total cost of the heavy duty vehicle and light duty replacements and additional work vehicles over the 2024-2028 plan is budgeted at $19.55M.

4.3.1 Modern Warehouse

The Company intends to setup a new modern warehouse at its recently-purchased property along the John Smith Road to replace the existing main warehouse near the Philip Goldson Airport. The new warehouse will provide for indoor and outdoor storage of materials and other inventory items. It will feature a modern efficient layout with adjustable and scalable shelving and automated storage systems (where applicable) as well as LEDs, skylights, smart lighting, and climate controls.

The design, specification, and tendering process for the building of the new warehouse is scheduled to start in 2024 and construction is expected to start by 2025. The building of the warehouse is the first phase of the setting up of a new operations headquarters on 36 acres of the 80-acre John Smith property purchased by the Company in 2022. The preliminary estimated cost to build the operations headquarters, including the warehouse, is $20.2 M.

C. Grid Modernization

BEL's electric grid as it exists was designed for delivery of electricity to Customers in one direction, from centralized generation sources through transmission lines and substations to Customers on distribution feeders. Today, the onset of technologies such as distributed energy resources, battery storage and renewable energy sources coupled with increased Customer demands and expectations for reliable power supply and participative autonomy have radically changed the nature of the power system.

The modern "smart" grid must now be able to accommodate two-way power flow, with countless variable sources of electricity at the distribution level, and constantly changing balances between generation and demand, using advanced distribution technology and communication systems to achieve better real-time visibility and control of the power network. Without these innovations, System Control Center dispatch operators will have no chance of being able to properly manage the safe and reliable operation of the grid and delivery of electricity to Customers.

AMI/Smart Grid

AMI (Advanced Metering Infrastructure) is an integral part of BEL's strategy to modernize its distribution grid into a smart grid. The expected benefits include automation, innovation, and significant process improvements in meter reading and revenue protection, application of time-of-use tariffs and pre-paid metering, outage management and response, demand response and home automation, voltage and power quality monitoring, and capacity planning.

Importantly, as the backbone of the smart grid, AMI will be critical for the visibility and control that will be needed to support the accommodation of rooftop solar and distributed generation, enabling two-way communication between utility and meter or other end device, providing real-time data on system operation down to the Customer level.

A contract was signed with vendor, Landis & Gear, at the end of 2023 to supply an integrated AMI solution consisting of smart meters, a wireless communication infrastructure, a head-end, and supporting data management systems. The project is scheduled to start in Q3 2024 and will replace 100,000 meters countrywide with smart meters capable of two-way communication at an estimated cost of $39.80 M (with $33.83 M expected to be spent over the 2024-2028 plan horizon). The first phase of the project involves installation of the supporting infrastructure and deployment of 17,000 smart meters to Commercial and Large Residential Customers and pilot projects for targeted areas in Belize City, Ladyville, and Independence.

Distribution Grid Automation

Existing switching devices on the distribution system will be motorized and/or replaced with reclosers to enable remote control and automatic operation. Additional reclosers, fault indicators and switching devices enabled with remote communication will also be installed to improve visualization and connectivity. Voltage regulators and capacitor banks will also be outfitted with upgraded controllers for additional metering and control capabilities, ultimately facilitating the expansion of BEL's SCADA system for monitoring, automation, and control on the distribution network.

Network Redundancies

Several projects will be implemented, mainly in the Belize City and Belmopan service areas, for the extension of feeders to provide interconnection opportunities and redundancies in the distribution network within existing service area networks and between contiguous service area networks. This will support future efforts to establish automatic fault isolation and restoration schemes as a key part of system reliability improvement in urban areas.

Grid Sensing & Transformer Monitoring

Grid sensors and distribution transformer monitors will be deployed across the distribution system for real-time monitoring, providing complete visibility of feeders, and improved ability to locate faults, manage losses, and monitor power quality.

GIS and Field Management Services

The first phase of the GIS (Geographical Information Systems) implementation project was completed in 2023 to produce an interactive GIS-based map, showing all distribution feeders, and drillable down to each HV pole structure and their sub-components, including HV conductors between structures, transformers, secondary circuits and structures, and meters. The second phase will be completed in 2024 to update each major component with their performance characteristics, their historical performance (reliability, utilization/loading, efficiency), and operations and maintenance history with relevant imagery data capture, where applicable. Additionally, in 2024, the GIS system will be modernized, leveraging upgrades in the GIS infrastructure and database as well as lessons learnt from utilities worldwide for improved operation and analytics. The projected cost of this upgrade is $0.58M.

GIS will support the rollout of the Field Management Services (formerly, "Mobile Workforce") program which involves equipping technicians with handheld mobile devices, enabling access to the GIS portal, and data capture for standard activities such as new service installations through integration with the Company's CIS (Customer Information System). The program is being fully rolled out in 2024 at a cost of $2.1M. It has been expanded, from its original scope, with expanded functionalities to leverage the power of GIS and communication technologies to improve efficiencies in activities such as service order

communication and dispatching, feeder inspections, distribution project designs and costing, and asset data capture and updating.

The Field Management Services Program also encompasses a pilot AI (Artificial Intelligence) solution to carry out automated feeder inspections on top of GIS using drones as often as 10 to 100 more frequently than manual inspections are now being done. These inspections capture compromised and substandard pole structures as well as vegetation encroachment.

APPENDIX B

In Support of this Application, BEL's filing includes the following appendices:

A. FTRP 2024 Workbook (as an attached Excel file)