



BEE TIMOR-LESTE BUSINESS PLAN

2023-2027



29 Nov 2023



Version Control

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Executive Summary

Bee Timor-Leste (BTL) is Timor-Leste's Water and Sanitation Utility.

BTL *envision to become an excellent Water and Sanitation Public Enterprise.*

The Business Plan (2023-2027) sets out the goals and focus areas of BTL over the coming 5 years to ensure real progress is made toward improving water supply services to the citizens of Timor-Leste.

The focus of BTL over the 2023-2027 period is:

- 1) Building Good Governance and Institutional Strengthening
- 2) Improving water system, sanitation and drainage

By 2027, BTL will have:

- 1) Commenced or completed construction of water supply, sanitation or drainage projects in Baucau, Lospalos, Viqueque, Same, Suai, Aileu, Dili, Gleno, Maliana, Liquica, and Ainaro.
- 2) More than 35,000 customers connected to its water supply networks across Timor-Leste.
- 3) Lifeline tariffs applied to vulnerable customers who have registered with BTL.
- 4) Achieved a bill payment rate of more than 20%
- 5) Annual revenues of more than US\$12m

BTL is dedicated to delivering tangible action to improve water supply, sanitation and drainage infrastructure across Timor-Leste. Through its investments in assets and its own people/systems, BTL hopes to achieve significant health benefits for all citizens, protect and enhance the lives of vulnerable segments of the community including women and the poor, and improve economic productivity across the nation.



Introduction

This Business Plan describes the key focus areas and goals of BTL to 2027. It is designed to guide BTL management over the long-term to achieve BTL’s Vision and contribute to delivery of the Timor-Leste Strategic Development Plan 2011-2030. It is also a plan to build Government and customer confidence in BTL’s work to improve water supply, sanitation, and drainage services.

The Business Plan is one of BTL’s most important strategic planning tools (Figure 1).

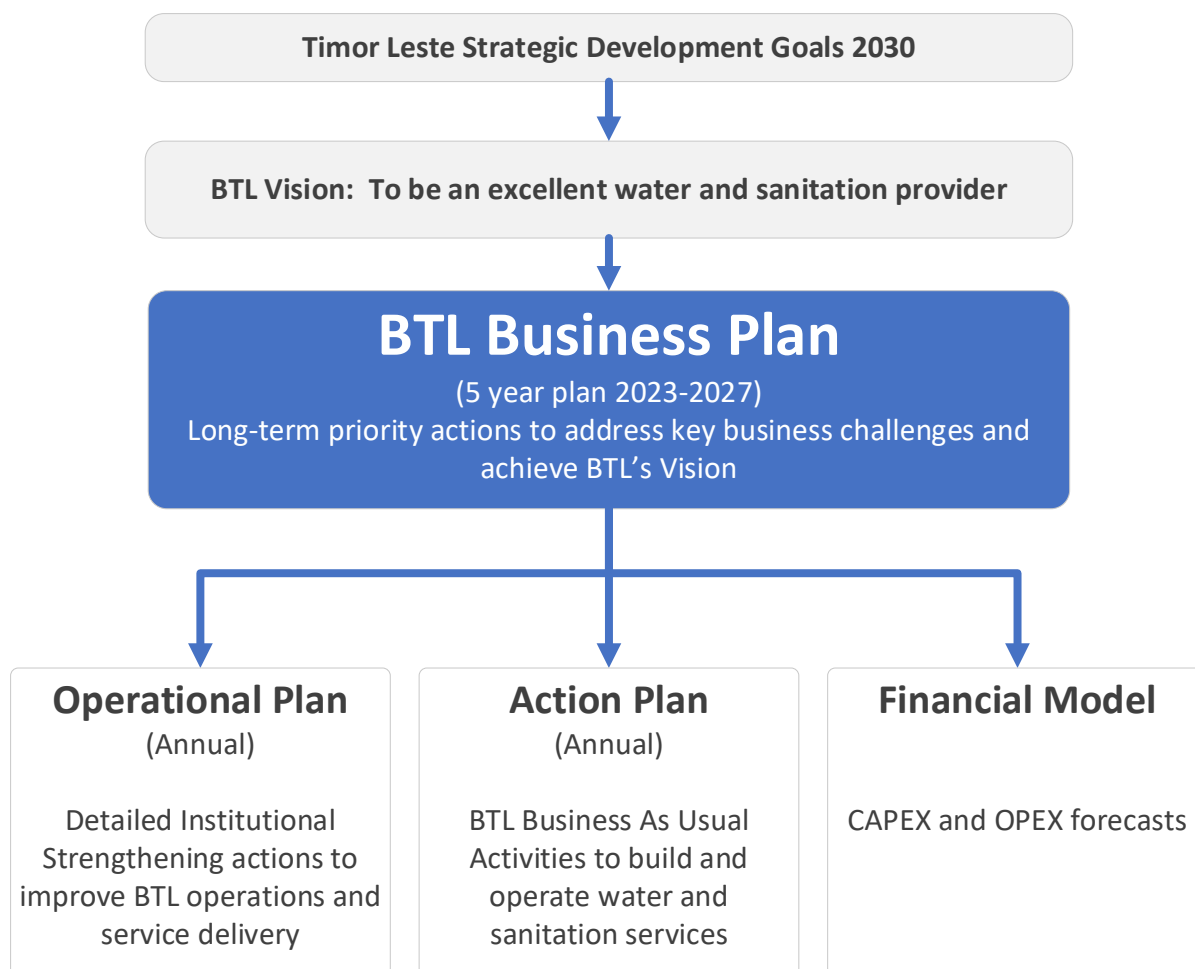


Figure 1 – BTL business planning structure

BTL’s Operational Plan (2023) is included in Appendix B. BTL’s Annual Action Plan (2023) is included in Appendix C. Extracts from BTL’s Financial Model are provided in Appendix D. BTL will soon create a 2-yearly Investment Plan which will be reviewed and approved by the Minister of Public Works (per article 33 of DL 41/2020). This investment plan will include financial analysis and service performance outcomes.



About BTL

BTL was formed and regulated by Decree Law 41/2020, and was operationalized in the first quarter of 2021.

The role of BTL is to provide water supply, sanitation and drainage services to all communities of Timor-Leste. BTL plans to employ up to 515 staff in technical, operational and administrative functions across the nation. BTL has established offices and operational depots in all municipalities, except Oecusse.

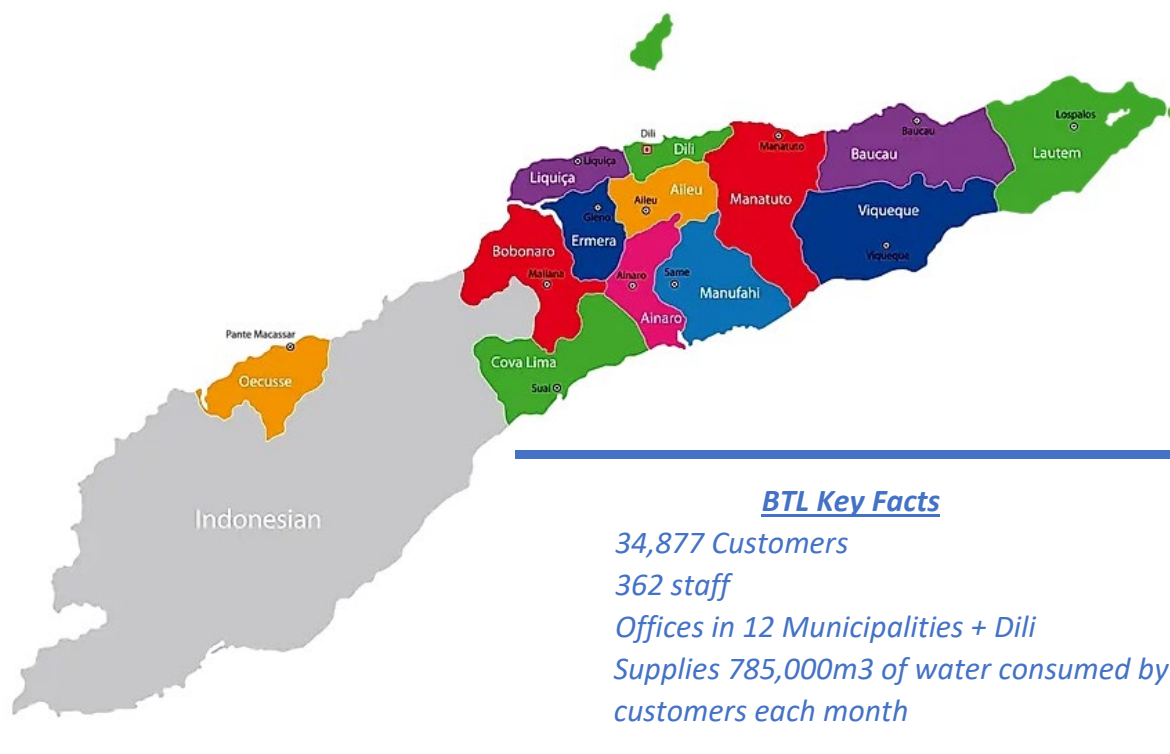


Figure 2 – Key BTL Facts



Vision, Challenges and Priorities

Vision

BTL envisions to become an excellent Water supply and Sanitation Public Enterprise.

To achieve this vision, BTL is working to:

- Increase universal and equitable access to safe drinking water and sanitation services to all populations in all territories;
- Maintain regular, continuous and efficient water supply and sanitation services;
- Promote affordable water and sanitation services that contribute to economic development, social, environmental and technological advancement;
- Improve public health; and
- Promote industrial, commercial and research development.

Challenges

There are many challenges which BTL must overcome to achieve its vision and deliver on its goals (Table 1)

Table 1 - BTL's challenges and commitments

Challenge	Description
Inadequate service provision due to degraded infrastructure	Existing water supply infrastructure is degraded because of a lack of historical investment, and damage during pre-independence conflict. There is significant leakage from the network (which contributes to high rates of Non-Revenue Water), and the water supplied is not fit for drinking. BTL has little to no sanitation infrastructure, and drainage infrastructure was badly damaged in the 2021 floods.
Low customer engagement and connection to BTL systems, and high rates of alternative water supply and/or illegal connections	Despite BTL's efforts to maintain an adequate service, degraded infrastructure and gaps in BTL's processes/systems mean that water supply services (quantity and quality) can be significantly improved to existing customers. Amongst many Timor-Leste citizens there is low trust in the services provided by BTL. Many Timor-Leste citizens use groundwater supplies, have illegal connections, or purchase bottled or tankered water instead of connecting to BTL's water supply network (if the water supply network is available)
Limited BTL skills and capability in providing 24/7 drinking water supply	Many BTL staff are not familiar with 24/7 water supply systems. Response times are lower than are needed to deliver uninterrupted supply, equipment/skills/processes require upgrading, and many key



Achievements in 2022

BTL has achieved many of its targets for 2022. Some of these achievements included:

- The recruitment of remaining staff to bring the total BTL workforce to 339 personnel (17% female and 83% male) across 12 Municipalities, including staff in IT and procurement
- Supply of Personal Protective Equipment to all technical staff to reduce injuries at work, and completion of on-line and in-person training of staff in water system management, water treatment, pump operation and maintenance, meter reading, and training in many other areas
- Setup of BTL's new IT system for Finance. In 2023, additional functions will be completed, including procurement, billing, and Operations and Maintenance
- Continued engagement with the community through community socialization events, social media, BTL's website and newspapers
- Setup of bill payment points in all municipalities, and additional payment points across Dili
- Setup of a customer information centre (hotline) to help receive customer feedback and share information with the public
- Established a database of all materials used and managed by BTL
- Drafted a new tariff structure, for approval by the Council of Ministers
- Registered 2,155 new customers, to bring the total number of customers to 33,085 (6456 customers in Dili, and 16,629 customers in the Municipalities)
- Increased revenues from \$185,282 (2021) to \$446,119 (2022) through better billing, and higher bill payment rates by customers
- Purchased 3 x water trucks to add to BTL's fleet. These will help more people receive BTL treated water
- Purchased 2 x septic tank desludging trucks to improve access to sanitation services
- Produced 15,640,063.64m³ of water.
- Designed upgrades and repairs to the Metinaro desalination system
- Continued to manage the Wastewater Treatment Station System in Tibar – Liquica. Design of upgrades to wastewater treatment in Baucau and Suai will start in 2023.
- Continued to manage public toilets and drainage in Dili
- Continued to design and deliver improved water supply and sanitation across Timor-Leste
 - Designed and implemented new water projects in Sub District Administration capitals and rural areas,
 - Implemented master plan (MP) for six (6) municipal capitals
 - Implemented Detailed Engineering Design (DED) for four (4) municipal capitals and Dili,
 - Concluded data collection in 48 Sub-District Administration Capitals, and completed DED for 10 capitals, with 14 still in procurement. All remaining DEDs are expected to be completed in 2023.
 - Collected data in 8 sucos and aldeis in rural areas and implemented projects in three sucos (Cribas-Manatuto, Gurusa, and Bualale-Quelicai)
 - Continued to deliver 12 of 75 projects from Line Ministries including Infrastructure Fund projects, latrine projects and vulnerable/public laundries in



7 municipalities (Baucau, Ainaro, Manatuto, Manufahi, Ermera, Covalima and Oecusse), and drainage improvement projects in Dili. 40 Line Ministry projects have already been completed, with an estimated 139,422 people now benefitting from improved access to water and sanitation.

- Continued projects carried over from 2021, including water system improvements in Mehara-Tutuala, Maubisse, Soibada and Luro. Contractor problems prevented other projects in Baguia, Quelicai and Hatubuilico from being implemented.
- Explored underground water drilling options to secure water resources, and completed several new bore drillings in Fatuberliu, Suco Leorema, Bazartete and Maubara.
- Implemented emergency project to respond to 2021 floodings
- Prepared environmental licenses for projects financed by development partners
- Improved water treatment system, wastewater and associate drainages in Dili and neighboring municipalities.
- Released 24 projects for the construction of reservoir tanks, with 10 tanks being implemented in Mehara, Luro, Laga, Vermasse, Soibada, Fohorem, Cailaco
- Completed water system improvement projects in Lakoto, Mutudare and Tohumetan, backup bores in Dili, and spring source protection in Weten Manatuto.
- Obtained licences for water and sanitation improvements in Baucau, Same-Manufahi, Lospalos-Lautem, Viqueque and Dili.
- Finalised the feasibility study for water, wastewater and drainage projects in Dili and neighboring Municipalities.

BTL has not delivered on some planned activities in 2021 due to some difficulties in engaging qualified contractors and slower than expected completion of infrastructure plans and designs.



Priorities 2023-2027

BTL has reviewed and prioritized its actions to address its challenges, and has identified where it can best use its limited resources to benefit its customers and the people of Timor-Leste. Summaries of BTL's priorities are provided below. Detailed information on the priorities is included in Appendix A.

BTL Priority Areas 2023-2027

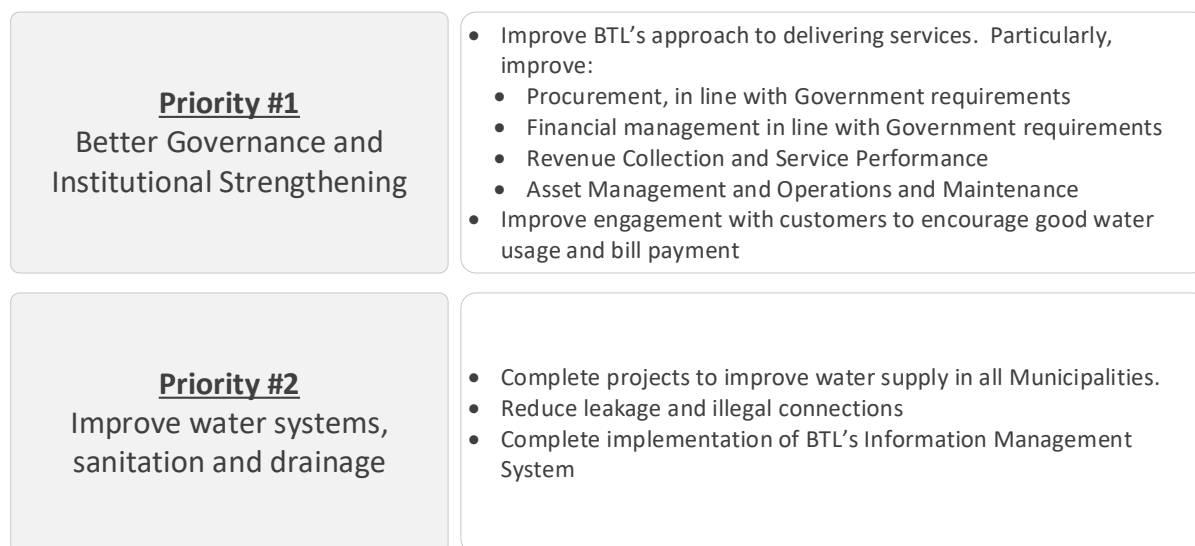


Figure 3 - BTL Business Plan (2023-2027) Priorities



Priority #1: Better Governance and Institutional Strengthening

BTL knows that the delivery of a significantly improved water supply, drainage and sanitation system requires improvement in BTL's approach to governing and managing the services. This is a significant task that will be a feature of BTL's development for many years.

Better Governance and Institutional Strengthening will focus on:

1) **Improving procurement.** BTL is aiming to provide greater transparency, better controls and faster decision making. This is in keeping with the expectations of the Government of Timor Leste.

2) **Improving revenue collection and Service Performance.** BTL has made great improvements in bill generation and collection over 2022. In 2023, improved technology will be used to make bills more accurate, and easier to pay online. BTL wants to make sure that it helps as many customers as possible to pay their water bills on-time and in-full.

3) **Improving Operations and Maintenance.** BTL knows that the only way to improve service levels for customers is by improving its ability to operate and maintain the water network. BTL will continue to invest in staff skills, maintenance programs, illegal connection removals and water treatment technology. Through these actions, customers should see a gradual improvement in the quality and reliability of their water service.





Priority #2: Improve Water Systems, Sanitation and Drainage

BTL will invest in new water supply, drainage and sanitation infrastructure, and repair existing infrastructure over the 2023-2027 period. This will continue building more reliable water supply, and safe/effective sanitation and drainage across many municipalities.

Major Capital Investment Program

BTL's forecast capital investment program to 2031 is shown in Table 2.

Table 2 - BTL Major Works Program

Municipality	Water Supply Infrastructure	Sanitation	Value	Construction Period
Ainaro	Upgrading & extension of water infrastructure	New FSTP ¹	\$525.000,00	2024-27
Aileu	Upgrading & extension of water infrastructure	New FSTP	\$1.194.647,00	2024-27
Atauro²	"Minor" capital investment in water system		\$0	2023-27
Baucau	Upgrading & extension of water infrastructure	New FSTP	\$1.200.000,00m	2023-26
Bobonaro	Maliana - Upgrading & extension of water infrastructure	New FSTP	\$805.000,00	2024-27
Covalima	Suai - Upgrading & extension of water infrastructure	New FSTP	\$940.000,00	2024-27
Dili	Construction of New/Refurbished Bores and Water Treatment systems in East and West Dili water supply zones. Construction of water distribution and reticulation networks to serve an ultimate 45,000 customers in 2030 (30,000 in West Zone, 15,000 in East Zone ³). Construction of chemical disinfectant plant	Sewerage, drainage & UASB ⁴ sewage treatment plant	Water: \$210m ⁵ Sanitation: >\$420m Other \$7m	2023-29
Ermera	Gleno - Upgrading & extension of water infrastructure	New FSTP	\$1.033.735,00	2024-27
Lautém	Los Palos - Upgrading & extension of water infrastructure	New FSTP	\$1.131.322,82	2023-26

¹ FSTP: Fecal Sludge Treatment Plant

² Recently added as a municipality. Service to be determined

³ Customer numbers are subject to sustainable yields from existing and new water resources

⁴ UASB: Up-flow Anaerobic Sludge Blanket; a type of sewage treatment system

⁵ Includes a Government of Timor-Leste contribution of US\$64m



Municipality	Water Supply Infrastructure	Sanitation	Value	Construction Period
Liquiçá	Liquica - Upgrading & extension of water infrastructure	New FSTP	\$855.594,00	2024-27
Manufahi	O&M of Water Supply Infrastructure only		\$1.350.467,83	2023-26
Manatuto	Same - Upgrading & extension of water infrastructure	New FSTP	\$0	
Oecusse⁶	To be determined	New FSTP	\$0	-
Viqueque	Upgrading & extension of water infrastructure		\$1.195.304,68	2023-26
	TOTAL⁷		\$862m⁸	2022-2031

Minor Capital Investment Program

BTL will continue to complete a wide range of minor infrastructure investments across all municipalities. This investment is in addition the funding of major infrastructure works (Table 2). The Government’s investment program is designed to improve access to water supply, drainage and sanitation across Timor-Leste.

Investment Program Management

In total, BTL plans to invest **\$862m** in water supply, sanitation and drainage infrastructure to the end of the decade. This is slightly lower than the value of the investment program noted in the 2022 BTL business Plan, due to more accurate design and project cost estimates. This investment in infrastructure is being carefully managed to ensure Timor-Leste receives good value for money, and that infrastructure delivers the expected benefits.

- Program is built upon and updates the 2022 BTL Business Plan.
- Design and construction is being carefully delivered by skilled domestic and international contractors
- Projects and investment programs are being managed and reviewed through capable management teams, including international experts, the Board of Timor-Leste, and the Ministry of Finance.

⁶ Oecusse may be excluded from BTL’s service area. To be determined

⁷ All totals are subject to final costing estimates currently being prepared

⁸ Includes the value of ongoing investment programs in each Municipality to 2030.



BTL Finances

BTL's finances have been steadily improving since BTL was formed in 2020, as seen in Figure 4.

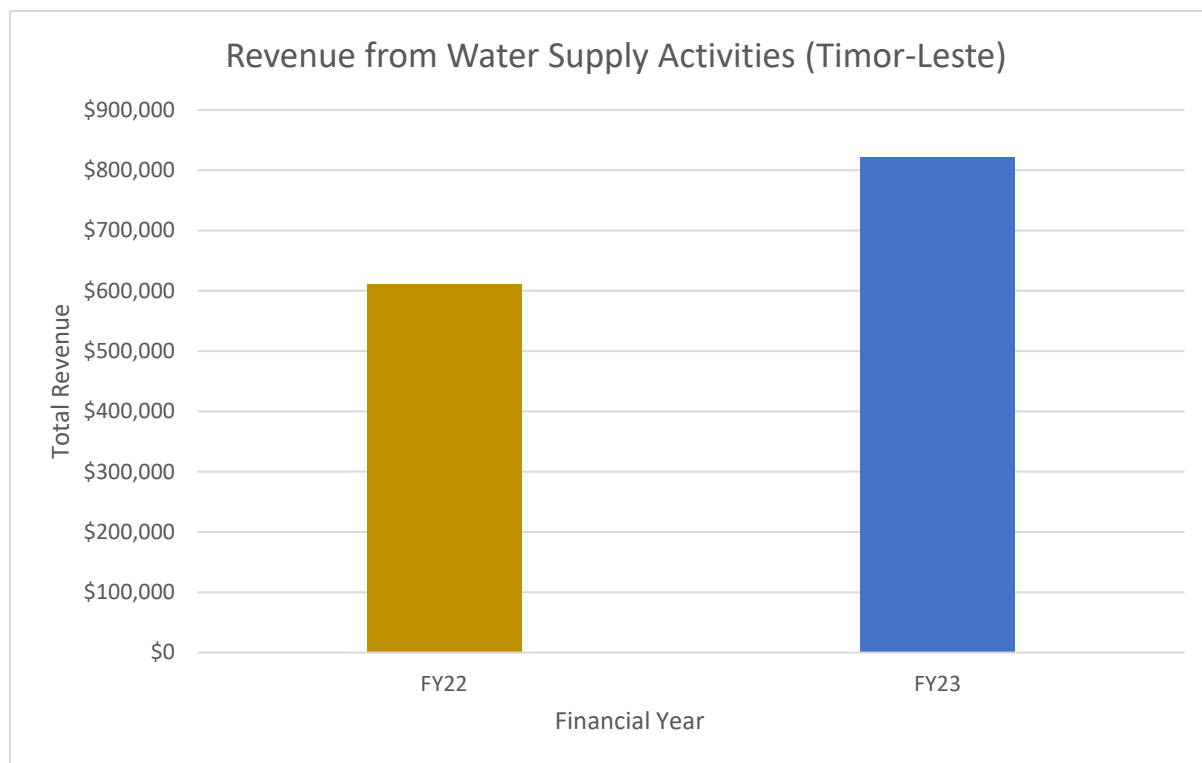


Figure 4 - Water Supply Revenues, DGAS (prior to FY20) and BTL (FY21 onwards)

Notes to Figure 4:

- 1) FY20 revenues includes a transfer of \$150,000 to DGAS from the Government of Timor Leste.
- 2) FY23 includes BTL's revenues to October 2023, and is shown in blue.

Financial Projections 2023-2027

BTL has projected an improving financial position over the coming five years;

- 1) BTL revenues should increase quickly after FY2026 as more customers connect to the new infrastructure, and if tariff structure revisions are approved. By FY2031, BTL could be earning close to US\$25m per annum, which is significantly more than the <US\$1m per annum earned in 2022.
- 2) BTL is predicted to require funding from Government for Operating expenses of approximately US\$10m to US\$12m per annum until FY2026. Requests for subsidies will decline quickly after 2026 as more customers are registered, and billing/payment systems improve.
- 3) BTL can reach an operating profit (excluding tax, capital expenses including depreciation, and financing expenses) by FY2029, subject to successfully connecting new customers, revising tariffs, and delivering a service that customers will pay for.



- 4) BTL will monitor and work to reduce Non-Revenue Water as new infrastructure is constructed. High Non-Revenue Water reduces revenue, may increase Operational Costs, and can reduce service levels.

Financial outcomes are shown below and in Appendix D. Detailed analysis of BTL’s financial position is included in BTL’s Financial Model.

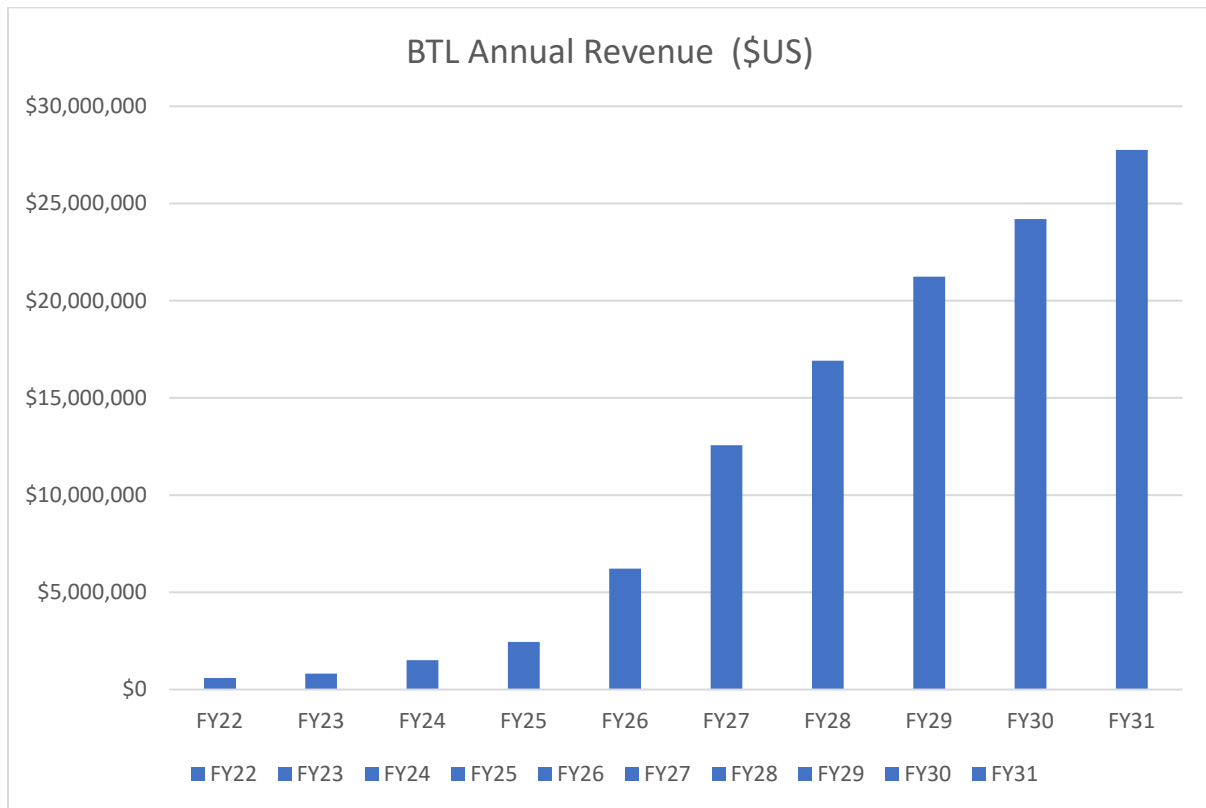


Figure 5 - BTL Revenues to 2031

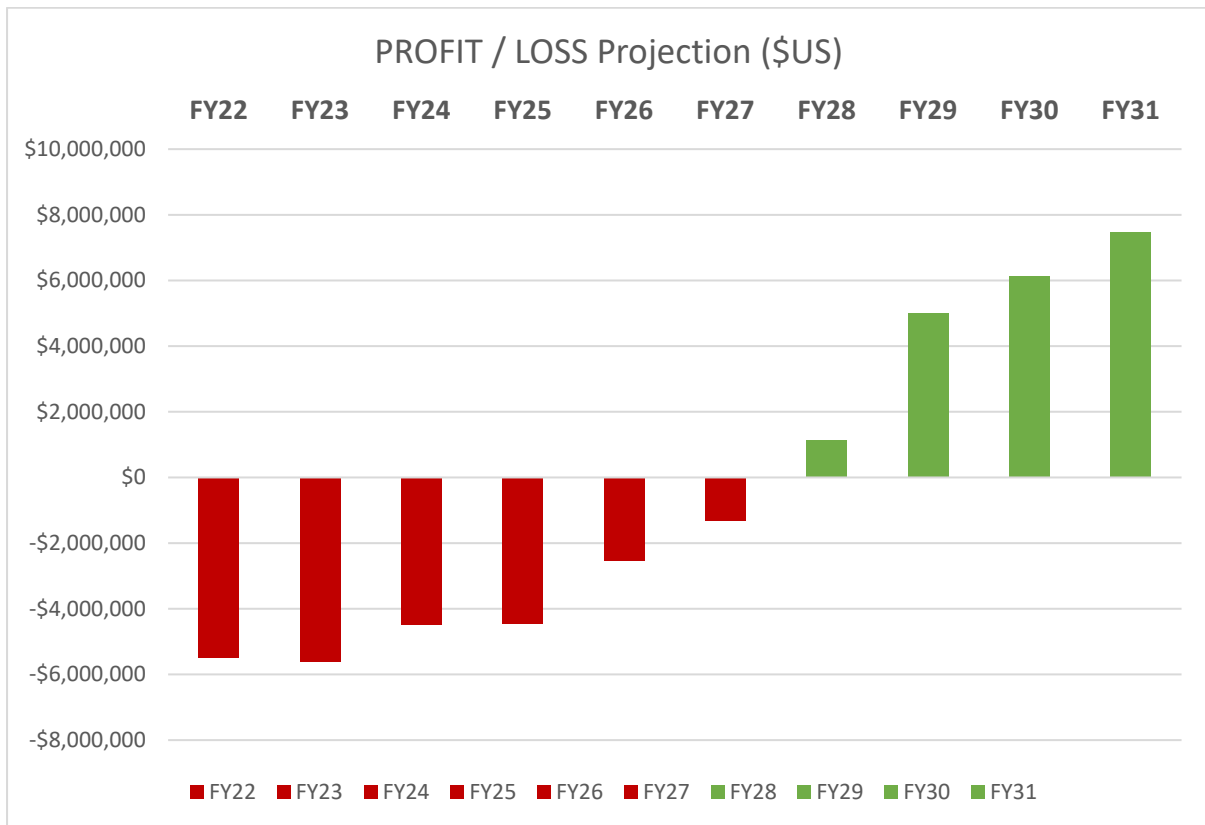


Figure 6 - BTL Operational Profit/Loss to 2031

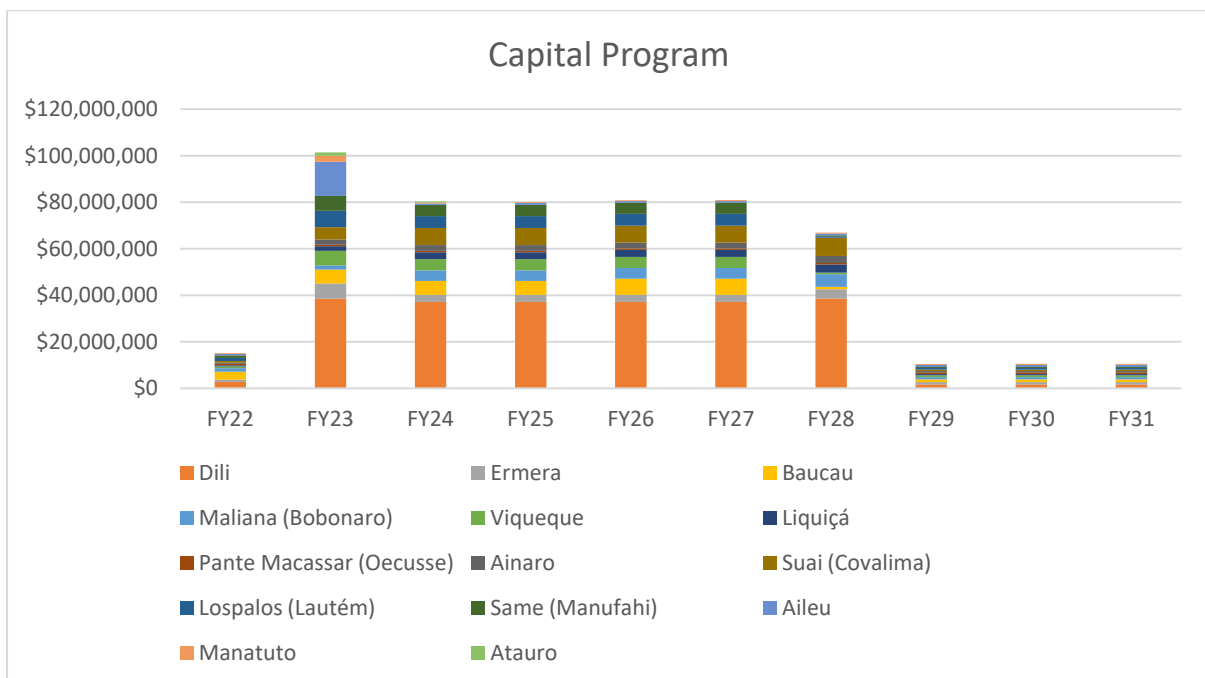


Figure 7 - BTL Capital Plan to 2031 (Major Works Program only)



BTL Performance Goals

BTL has established Key Performance Indicators in each of BTL’s priority action areas. Many of BTL’s KPIs will be confirmed over 2022-2024 as new infrastructure is designed and construction contracts are signed. Because BTL is a young business undergoing significant change, KPI targets will change regularly over the decade to 2030 to account for the progress that BTL makes toward its vision and goals.

Priority Action Area	Goal	Key Performance Indicator	Target
Build Water supply, Sanitation and Drainage Infrastructure	Upgrade and expand service coverage	Number of municipalities with new major water supply/sanitation/drainage construction commenced.	At least 7 by 2024
Connect new customers to BTL infrastructure	Connect new customers as infrastructure is constructed	Number of connected customers	At least 30,000 by 2025
	Protect vulnerable customers	Percentage of vulnerable customers receiving Lifeline Tariff (Note that customers must register as a Vulnerable customer with BTL to receive the Lifeline tariff)	At least 50%
Build Systems, Skills, Capability in BTL	Improve BTL capability	Percentage BTL staff with accredited skills (from Training Matrix)	> 50% by 2027
	Meet the service expectations of BTL customers	Annual performance against Service Charter (from Service Performance Report). Service Performance will vary by municipality.	> 50% by 2024
	Reduce water supply losses	Non-Revenue Water (%)	To Be Determined ⁹
	Improve customer satisfaction	Number of customers who are at least “satisfied” with BTL service (via customer survey)	>30% by 2026
Improve Revenues	Improve BTL’s financial position	Proportion of BTL customers paying bills	15% by 2025
		Gross annual revenues	At least \$6m by 2026

⁹ To be set after Dili Water Supply construction project is commenced



Appendix A – BTL Business Priority Actions

Priority #1: Better Governance and Institutional Strengthening

Document and improve BTL’s procurement process, particularly, using the Information Management System to make procurement more transparent and faster. BTL must fully comply with Government policies and directives related to the procurement of goods and services. In particular, BTL must be able to demonstrate that its procurement processes are robust, and transparent. BTL’s new Information Management System, which was deployed in late 2022 / early 2023, includes procurement processes which will ensure that BTL’s procurement activities are efficient, effective and transparent.

Repair or replace broken meters and improve billing and payment options. BTL is a public entity independent from Government. It is expected to raise sufficient revenues to fund (at least) its Operational and Maintenance expenses through the bills that its customers receive and pay, and other paid services provided by BTL. It will take a long time to capture enough revenue to pay for BTL’s operations costs given the current low rates of customer metering and low rates of customer bill payment. BTL’s Billing and Operations teams are working to increase the number of customers with working meters so that it can charge for the water it supplies to customers.

BTL’s new Information Management System includes technology that allows BTL to read meters using mobile phones/tablets and issue electronic bills. The Information Management System will also make it quick and easy to become registered as a BTL customer. BTL’s customers currently have few options to pay their water and sanitation bills. BTL is exploring ways to allow customers to pay their bills online so that more customers find it easy to pay for the water they consume.

Establish a Service Charter that will set out exactly what level of service customers can expect to receive. As BTL improves its assets and introduces higher tariffs, it must also demonstrate that it is providing a good quality service. A Service Charter provides the minimum level of service that customers can expect from BTL, and describes customers’ rights and responsibilities if service levels are less than this minimum level of service. Service Charters will be different for each municipality, and will be updated when infrastructure is improved in each municipality.

Develop staff skills to get the most value from the new Information Management System. BTL has deployed a new Information Management System over 2022 and early 2023. The system has an extensive range of features, and will help improve performance across all parts of the business. BTL will invest in training its staff so that they use the system properly.

Actively monitor Non-Revenue Water, and take action to identify and remove illegal connections. BTL’s current water network has high levels of leakage, broken (or no) meters and illegal connections. As the new water network is constructed, some customers may seek to connect illegally to avoid paying for high quality water supply. BTL will work to identify where this may be occurring and remove any illegal connections that are found. This will include monitoring each District Metered Area, and actively inspecting customer water connections as part of the meter reading program.



Publish performance reporting so that all customers can see how BTL is performing, and where it can improve. Public disclosure of service helps to build trust amongst customers that services meet certain minimum standards. This encourages customers to pay their bills because they can see that they are receiving and high quality service. BTL will establish regular public reporting, and will report service levels to the regulator ANAS.

Publish 2 yearly investment plans that set out exactly what will be built, when, where, and why. BTL's goal to be an excellent water and sanitation enterprise requires it to have very clear programs of its investment and performance in future. This allows customers and government to understand what is planned, and to provide feedback to BTL to help it improve its services. 2 yearly Investment Plans will be prepared and reviewed by the Minister of Public Works. It will include key initiatives to improve BTL's service performance, capital investment, operations costs and revenue projections.

Improve processes to make it easy and quick to become a BTL customer. This action will aim to enhance BTL's teams and processes so that it is very quick and easy for BTL to register a new customer. This is a critical capability for BTL to master, given the rapid increase in customers that can be expected as new major water and sanitation infrastructure is constructed this decade.

Provide guidance to reduce water consumption. Customers will receive a significantly higher Level of Service when they are connected to the new water supply system. Customers will be moving from an intermittent supply of non-drinking water to an uninterrupted water supply of drinking water. Customers will be billed based on their water consumption. Consequently, practices such as leaving taps open and using high volumes of water to clean houses and clothes may create an expensive bill for the customer. The importance of changing behaviours to reduce consumption will be included in the communications provided to customers, and will be included in educational materials/programs that BTL will establish for residents, businesses and schools.

Support vulnerable customers with special tariff arrangements, and monitoring to keep water bills affordable for everyone. The new water systems will be more expensive to operate. Consequently, BTL will increase its tariffs and be more diligent to bill customers for their water consumption. However, BTL will be extremely careful to monitor how quickly bills grow, and be sure that bills remain affordable. This will include regular surveys of the community. BTL will prioritise it's monitoring of vulnerable customers' consumption and bills, and will work closely with the customer if bills become too expensive. It is critical that vulnerable customers **register** with BTL, and for BTL to approve their application, to allow the lifeline tariff to be applied.

Priority #2: Improve Water Systems, Sanitation and Drainage

BTL is working to finalise the design of water, sanitation and drainage systems across Timor-Leste. Detailed descriptions of projects will be included in future versions of the Business Plan as they are finalized and approved by the Board of BTL.



Appendix B – BTL Operational Plan 2023

BTL Operational Plan 2023

3 March 2023



Introduction

BTL is developing its core capabilities so that it becomes a successful and sustainable Water Utility.

Developing these capabilities will allow it to deliver Timor-Leste's Strategic Development Goals.

The Operational Plan includes tangible actions that can be taken now, to develop its core capabilities, and helps to deliver BTL's Strategic Plan (2021)

The Operational Plan supports delivery of BTL's Business Plan, and complements actions noted in BTL's Annual Action Plan.

BTL's Future Challenges and Response

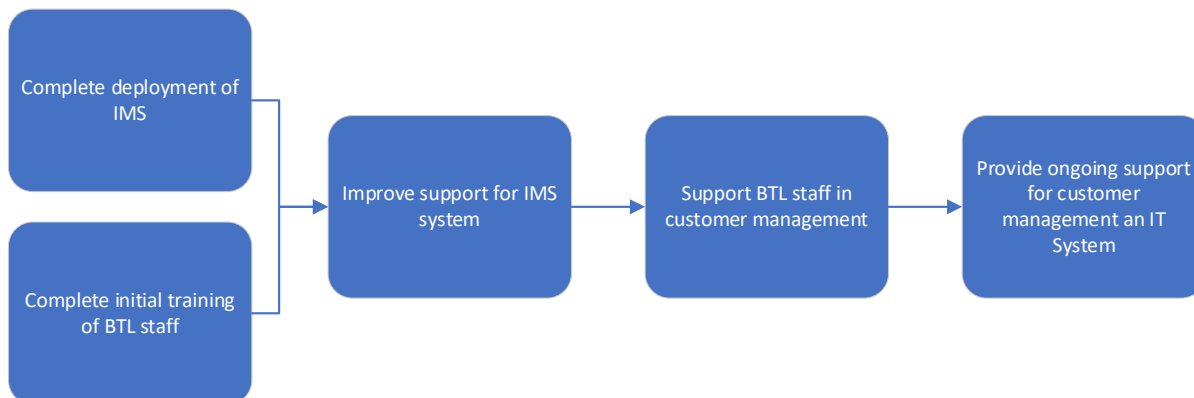
BTL's asset base will expand quickly, as infrastructure projects are constructed over this coming decade. BTL is acquiring the capabilities that it needs to manage these assets, and responding to the challenges that it will face through four (4) Operational Plan Topics:

Priority	Operational Plan Topics	Minimum Outcomes
Better Governance and Institutional Strengthening	Topic 1: Customer Management and IT System Deployment	IT system is operational by May 2023
	Topic 2: Growing BTL revenues	>50% of BTL's customers billed through the IMS by June 2023
	Topic 3: Delivering a 24/7 water supply	Selected areas of BTL's supply networks delivering 24/7 water by December 2023
	Topic 4: Improving Governance and Regulation	BTL and regulator (ANAS) working to manage illegal connection in one zone by December 2023

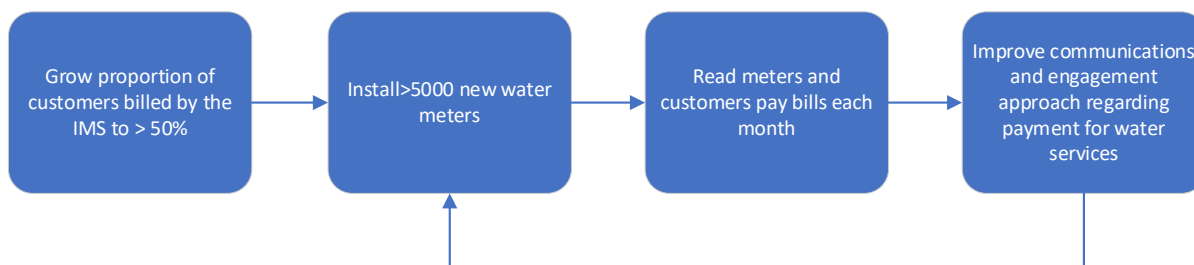
Operational Plan Actions

BTL is completing the following Operational Plan Actions in 2023:

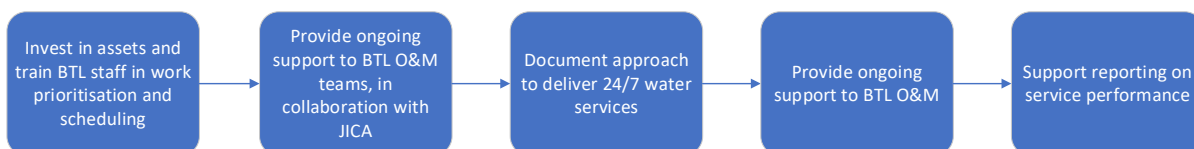
Topic 1 – Customer Management and IT System Deployment



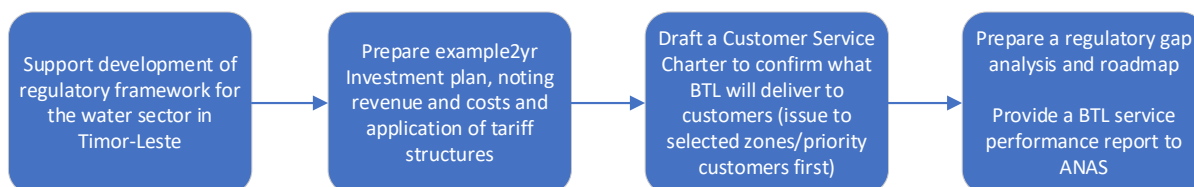
Topic 2 – Growing BTL Revenues



Topic 3 – Delivering a 24/7 Water Supply



Topic 4 – Improving Governance and Regulation



Maintaining the Operational Plan

BTL will update the Operational Plan every **6 months**.

A progress update on the Operational Plan will be provided every 3 months to the BTL executive.



BTL's international experts will attend BTL's offices in Dili every month in 2023 to progress Operational Plan actions.



BTL Business Plan

Operational Plan Roadmap

<u>Topic</u>	Jan to end June	End June to end Sept	End Sept to end Dec
Customer Management and IT System Deployment	<ul style="list-style-type: none"> Complete deployment of IMS Complete initial training of BTL staff 	<ul style="list-style-type: none"> Improve support processes for IMS Guide BTL staff in the use of the IMS for customer data management 	<ul style="list-style-type: none"> Ongoing support to customer management team
Growing BTL Revenues	<ul style="list-style-type: none"> Commence billing through IMS for >50% of BTL's customer base Install new water meters on up to 5000 customer properties (where water quality can be assured) 	<ul style="list-style-type: none"> Improve engagement approach to customers to improve bill payment Establish a new engagement channel (eg BTL Website, call centre, facebook forum etc) 	<ul style="list-style-type: none"> Monitor and improve customer engagement approach
Delivering a 24/7 supply	<ul style="list-style-type: none"> Invest in assets and processes to build toward 24/7 supply in selected zones Train the O&M team in basic O&M (tools, work, goals, timelines), in collaboration with JICA 	<ul style="list-style-type: none"> Monitor/report service levels received by customers Document approach to delivering 24/7 supply 	<ul style="list-style-type: none"> Ongoing support to BTL O&M in delivery of water services (eg documenting processes, arranging training, supporting work scheduling)
Improving Governance and Regulation	<ul style="list-style-type: none"> Support development of regulatory framework for water services 	<ul style="list-style-type: none"> Prepare example 2yr investment plan, as part of the regulatory framework Prepare a Draft Customer Service Charter for selected customers 	<ul style="list-style-type: none"> Fill regulatory gaps Prepare 2023 service performance report to ANAS



Other challenges for BTL to address with other Development Partners

Finance	Procurement	Capital Delivery	Developer Services	Operations and Maintenance	Planning
<ol style="list-style-type: none"> 1. Improve banking systems to align with new IMS 2. Add more channels for customers to pay bills 3. Improve audit systems to manage fraud/theft 4. Improve budgeting and forecasting functions 5. Improve fixed asset register depreciation accounts 	<ol style="list-style-type: none"> 1. Establish standardized parts lists 2. Implement stores/inventory management systems 3. Establish agreements with vehicle and earthmoving equipment suppliers (to reduce cost) 4. Establish agreements with water meter suppliers 	<ol style="list-style-type: none"> 1. Establish engineering and equipment standards for water and sewerage assets 2. Establish long-term supply contracts to support maintenance of water and sewerage networks (to reduce the cost) 	<ol style="list-style-type: none"> 1. Establish standards for water supply to and within properties 2. Establish training programs and registers of qualified private plumbers who can access BTL water and sewerage assets 3. Establish processes for working on or around BTL assets 	<ol style="list-style-type: none"> 1. Develop risk registers and risk management policies 2. Develop scheduled maintenance plans 3. Update BTL asset registers and GIS systems 4. Prepare standardized work method statements 5. Develop facility operations plans 6. Establish Leak Detection Teams 	<ol style="list-style-type: none"> 1. Develop masterplans for all water and sewer systems in all municipalities (refresh every 5 years) 2. Document Water Treatment Plant and Sewer Treatment Plant capacities (refresh every 5 years) 3. Complete Condition Assessment on critical assets every 5 years



Appendix C – BTL Action Plan 2023

DRAFT ANNUAL WORKPLAN 2023								
PLANNED ACTIVITIES		TIME FRAME				RESPONSIBILITY	PLANNED BUDGET (US\$)	STATUS
		2023						
		Q1	Q2	Q3	Q4			
KEY OUTPUTS AND ACTIVITIES	INDICATORS							
PRIORITY AREA 1: GOOD GOVERNANCE AND INSTITUTIONAL STRENGTHENING								
Key Positions (Internal/External recruitment) and Municipalities including drafting Policies and Standard SOPs	DAF, DEI, Audit Specialist, IT Programmers, T.O & T.O WTP, Client Support, Meter Reading, Executive Secretary & Administration					HRAM & DOM, ITM, DAF & Coordinator SE		ACTUAL REVISED PLAN
	Project Supervisor to Administrative Post-Capital					HRAM & DAF, DEI		ACTUAL REVISED PLAN
	Continuation of Employment Contract for 348 Existing Staff in BTL, E.P					HRAM & DAF		ACTUAL REVISED PLAN
	Policy/other guidance - Management Performance Evaluation Policy - Confidentiality Policy - Conflict of Interest Policy - Revise Recruitment Policy - Revise Leave Policy - Develop Office Operational Policy includes induction policy - Depreciation procedure SOP - <i>Career Pathway Policy</i>					HRAM, DAF, & LSC. FAM, EQCM		ACTUAL REVISED PLAN
	Socialization and induction trainings to BTL's staff both national and municipals on policy and regulations including BTL, E.P business plan					HRAM & LSC, DEI, CSM		ACTUAL REVISED PLAN
						EQCM & HSO		ACTUAL REVISED PLAN
ERP online system	IT Programmer specialist assigned					HRAM & DAF		ACTUAL REVISED PLAN
	ERP system go life and implemented in Dili and 11 municipalities					IT Programmers		ACTUAL REVISED PLAN
<i>Establishment of Internal Audi Unit</i>	Internal Audit Specialist assigned					HRAM & FAM		ACTUAL REVISED PLAN
	Audit Unit started its operational and guidance/SOP initiated for internal audit					FAM, DAF & Audit Specialist		ACTUAL REVISED PLAN
	External Audit Firm assigned for 2 weeks					DAF, DPAM, FAM & Audit Specialt		ACTUAL REVISED PLAN



	The Annual Workplan and Budget of the BTL for 2024 prepared on the basis of the norms, standards and procedures developed under the BTL Strategy					II VP CE & DAF & FAM, Audit Specialist		ACTUAL REVISED PLAN
<i>Implementation of Procurement Strategy</i>	Socialization of new procurement regime for all staff in National and Municipals					LSC, PAM, DPAM HRM & DAF		ACTUAL REVISED PLAN
	The Annual Procurement Plan 2023 for BTL prepared on the basis of the norms, standards and procedures developed under the Procurement Strategy					DAF & FAM, PAM, DPAM		ACTUAL REVISED PLAN
<i>BTL Rationalization of functions and staffing in BTL</i>	Rapid appraisal of the structure and functional distribution of the departments					HRAM & DAF		ACTUAL REVISED PLAN
	Proposal for restructuring and functional reassignment, including rationalization of staffing is approved by the President and implementation begins					HRAM & DAF		ACTUAL REVISED PLAN
<i>Create/Initiate Career pathway policy</i>	Carry out needs assessment for capacity building related to water and sanitation function in other departments					HRAM		ACTUAL REVISED PLAN
	Implementation and measurement of results of capacity building					HRAM		
	Policy of career pathway policy approved by EC/BOD					DAF & HRAM		
	<i>KPI indicators in ERP NetSuite system to share information and knowledge developed and launched</i>					HRAM		
<i>Branding and Communication strategy and marketing plans for BTL as well as implementation of the Stakeholder Engagement Strategy approved by Executive Committee (EC)</i>	Billing and payment services such as mobile banking services are launched					ITM, CSM, DOM, MEDIA & COMMUNICATION		ACTUAL REVISED PLAN
	Customer' access to information and grievance redress					MEDIA, ITM & IT Programmer and CSM		ACTUAL REVISED PLAN
	Request for Proposal (RFP) for national/international firms are floated and established					MEDIA & CSM		ACTUAL REVISED PLAN
	Qualified firms asked to develop a branding strategy and to organize events as detailed in the Stakeholder Engagement Strategy approved by the President					PAM & MEDIA		ACTUAL REVISED PLAN
	Socialization, advertising and advocacy					DAF, MEDIA, LSC, CSM		ACTUAL REVISED PLAN
<i>New water tariff is approved and BTL's Plan is implemented</i>	Implementation of the strategy initiated with annual work plans and budgets for 2023 reflecting the strategy					LSC, MEDIA, CSM		ACTUAL REVISED PLAN



	Operationalization of water and sanitation systems based on new tariff					DOM, CSM		ACTUAL REVISED PLAN
<i>BTL's business plan for is revised andt draft investment plan 2023-2027 implemented through the establishment of Client Support Strategy</i>	Initiate investment plan and update business plan for 2023 based on action plan and 2023 budget plan 2023					DAF, FAM, DEI, DOM		ACTUAL REVISED PLAN
	Socialization and disclose information to customers and publics					MEDIA, CSM		ACTUAL REVISED PLAN
<i>establishment of Client Support Strategy</i>	Expand payment center in Dili to enable customers to pay their bills					CSM & DAF		ACTUAL REVISED PLAN
	Establishing of Information Center to support customers through media (promotion using pamphlets)					CSM & MEDIA		ACTUAL REVISED PLAN
	Questionaries on BTL's service are developed and implemented					CSM, DOM		ACTUAL REVISED PLAN
<i>Establishment of CS Payment Center</i>	Customer service and rapid approaches					MEDIA & CSM & DOM		ACTUAL REVISED PLAN
	Customer approach through survey and Direct Interacting					CSM & DOM		ACTUAL REVISED PLAN
	<i>Rehabilitation and extension of Client Support Counter in municipals</i>					CSM, DOM, DEI, DPAM (procurement process)		ACTUAL REVISED PLAN
<i>Initiate Asset Management</i>	Prepare an asset registration: inventory list of assets is available and Identify asset conditions and rating system					PAM, DEI, DOM, FAM		ACTUAL REVISED PLAN
	Management of assets through depreciation accurately at timely intervals and determine the value of assets and their replacement cost					PAM, DEI, DOM, FAM		ACTUAL REVISED PLAN
	Reactivate predictive asset maintenance and ensure database integrity					PAM, DEI, DOM, FAM		ACTUAL REVISED PLAN
PRIORITY AREA 2: IMPROVE WATER SYSTEM, SANITATION AND DRAINAGE								
<i>Improvement and Maintenance of Wastewater Treatment Plant (WWTP)</i>	<i>Update machine to facilitate wastewater treatment plant (WWTP) in Tibar</i>					DOM, SOMM, WSSOM, EQCM & DPAM (Tender process)		ACTUAL REVISED PLAN
	Rehabilitate Tibar WWTP office					DOM, SOMM, PAM & EQCM		ACTUAL REVISED PLAN
	Clean public toilets in Dili, BTL's E.P offices in Dili and municipals					DOM, SOMM & PAM		ACTUAL REVISED PLAN



<i>Maintenance of Public Toilets and Latrines</i>	Rehabilitate public toilets in Dili & Latrines in rural areas					DOM, SOMM & DEI, PAM		ACTUAL REVISIED PLAN
<i>Cleaning of Urban Drainage</i>	Clean drainages in Dili					DOM, SOMM & PAM		ACTUAL REVISIED PLAN
<i>Improvement of the Metinaro Desalination Drinking Water Treatment Plant for Business Plan</i>	Survey, maintenance & repairing the whole systems					DOM, SOMM, WSSOM, PAM & EQCM		ACTUAL REVISIED PLAN
	Draft <i>Business and Operational Plan</i> approved by EC & BOD BTL, E.P					DOM, DEI, CSM, DAF		ACTUAL REVISIED PLAN
	Elaborate legal standard to use sea water for drinking water					LSU		ACTUAL REVISIED PLAN
	Environmental License					LSU, EQCM, DEI		ACTUAL REVISIED PLAN
	Design & construction of a new building (Rehabilitation)					DOM, DEI & DPAM (procurement process)		ACTUAL REVISIED PLAN
	Purchase Heavy Equipment (Trucks), machineries, & gallon / bottles					DOM & DPAM (procurement process)		ACTUAL REVISIED PLAN
	Sales Promotion					DOM & CSM, MEDIA		ACTUAL REVISIED PLAN
<i>Operation and maintenance of water system in capital Dili</i>	Socialization of laws and regulations of the water utilities					DOM, LSC & CS		ACTUAL REVISIED PLAN
	Operation & maintenance and repairing in each of the zone (zone 1-11) Dili					DOM, WSSOM, SOMM		ACTUAL REVISIED PLAN
<i>Improving of water supply and Sanitation systems in the municipalities (Rehabilitation of pump stations, WTP, Reservoirs & Offices</i>	O&M for Urban Water and Sanitation in 11 municipalities including Atauro					DOM, WSSOM, SOMM, Municipal Coordinators		ACTUAL REVISIED PLAN
	O&M for Rural Water and Sanitation in 11 municipalities including Atauro					DOM, WSSOM, SOMM, Municipal Coordinators		ACTUAL REVISIED PLAN
	Rehabilitation of WTP including Reservoirs in municipals					DOM, WSSOM, EQCM, SOM, PAM		ACTUAL REVISIED PLAN
<i>Improvement of treatment system and drinking water quality test in Dili WTP and also municipalities and at laboratory national and municipals</i>	Daily and each month tests in WTP, water quality test for water pumps, quality test for water systems in Dili and municipals					EQCM, HSEO		ACTUAL REVISIED PLAN
	Up-to-date chemical reagent and solvent for water test, laboratory facility, materials and accessories in Dili and municipals					EQCM, HSEO & DPAM (procurement process)		ACTUAL REVISIED PLAN



<i>Risk Assessment, H&S awareness and monitoring</i>	Monthly Risk assessment report, H&S Training, socialization and monitoring including PPE equipment for BTL's staff					EQCM, HSEO, DOM, DEI		ACTUAL REVISED PLAN
<i>Initiate drinking water production for commercial purposes in water system Comoro A</i>	Draft Business Plan and Operational Plan approved by EC & BOD BTL, E.P					EQCM, DEI, DOM, aprovadu husi CE&CA		ACTUAL REVISED PLAN
	Elaborate legal standard for water to be drinking water					LSU & EQCM		ACTUAL REVISED PLAN
	Environmental License					EQCM		ACTUAL REVISED PLAN
<i>Continue implement reappropriation projects from DGAS (2016-2020): 75</i>	75 water supply system (majority retention projects) to finalize the refer projects					DEI, GISRPM, MOI		ACTUAL REVISED PLAN
<i>Continue implement projects in Administration Post Capitals and rural areas (2021)</i>	Water supply projects in 7 Administration Post capital					DEI, GISRPM, MOI		ACTUAL REVISED PLAN
	Operation and Maintenance					DOM, Cordenador Munispus, Supervisor Projetu		ACTUAL REVISED PLAN
	Water supply system in 10 Suco and Aldeia					DEI, GISRPM, MOI		ACTUAL REVISED PLAN
	Operation and Maintenance					DOM, Cordenador Munispus, Supervisor Projetu		ACTUAL REVISED PLAN
<i>Continue implement projects in Administration Post Capitals and rural areas (2022)</i>	Water supply projects in 30 Administration Post capital					DEI, GISRPM, MOI & DPAM (procurement process)		ACTUAL REVISED PLAN
	Operation and Maintenance					DOM, Cordenador Munispus (OM), Supervisor Projetu		ACTUAL REVISED PLAN
	Water supply system in 20 Suco and Aldeia					DEI, GISRPM, MOI & DPAM (procurement process)		ACTUAL REVISED PLAN
	Operation and Maintenance					DOM, Cordenador Munispus (OM), Project Supervisor		ACTUAL REVISED PLAN
<i>Design and implement new projects in Administration Post Capitals and rural areas (2023)</i>	Water supply projects in 29 Administration Post capital					DEI, GISRPM, MOI & DPAM (procurement process)		ACTUAL REVISED PLAN
	Operation and Maintenance					DOM, Cordenador Munispus (OM), Project Supervisor		ACTUAL REVISED PLAN
	Water supply system in 13 Suco and Aldeia					DEI, GISRPM, MOI & DPAM (procurement process)		ACTUAL REVISED PLAN



	Operation and Maintenance					DOM, Cordenador Munispius (OM), Project Supervisor		ACTUAL REVISED PLAN
<i>Projects monitorization (Monitoring and supervision MOI-DEI)</i>	Continue the payment for 13 projects include retention (in Dili in relation to cutting roads)					DEI, GISRPM, MOI & DPAM (procurement process)		ACTUAL REVISED PLAN
	Continue the payment for 10 projects including retention (IF)					DEI, GISRPM, MOI, PMU		ACTUAL REVISED PLAN
<i>Implementation of Economy Recovery Projects (ERP)</i>	Dili Drainage Upgrading Project Implementation for Project No D3,D4, Manleuana River and ToRs for Supervision 2					DEI, GISRPM, MOI & DPAM (procurement process)		ACTUAL REVISED PLAN
<i>Detail Engineering Design to 6 Municipalities</i>	Budget for the Detailed Engineering Design (DED) for 3 municipal capitals; Aileu, Gleno and Liquica through loan from the World Bank					DEI, GISRPM, MOI, DPAM (procurement process)& PMU		ACTUAL REVISED PLAN
	Budget for the Detailed Engineering Design (DED) for 3 municipal capitals; Ainaro, Bobonaro and Covalima-Suai through loan from the World Bank					DEI, GISRPM, MOI, DPAM (procurement process)& PMU		ACTUAL REVISED PLAN
Detailed Engineering Design for water supply in Dili urban capital	Detailed Engineering Design (DED) for water supply in Dili urban capital					DEI, GISRPM, MOI, DPAM (procurement process)& PMU		ACTUAL REVISED PLAN
	DED for water supply and sanitation in 4 municipal capitals Fp/039/Mop-2019					DEI, GISRPM, MOI, DPAM (procurement process)& PMU		ACTUAL REVISED PLAN
<i>Emergency Recovery Projects affected by floods on 4 April 2021, financed by Emergency Fund</i>	PRE emergency rekuperation for water drilling in Dili					DEI, GISRPM, MOI, DPAM (procurement process)		ACTUAL REVISED PLAN
	Emergency supply and construction of gabion for the pipes transmission in Wetan (Municipal of Manatuto)					DEI, GISRPM, MOI, DPAM (procurement process)		ACTUAL REVISED PLAN
	Improve water system – section 3					DEI, GISRPM, MOI, DPAM (procurement process)		ACTUAL REVISED PLAN
<i>Follow Up Project Documents submitted to ANLA Dili drainage project and water supply and sanitation project in municipal capital of Baucau</i>	Environmental license for improvement of Dili drainage project (<i>Dili Drainage Upgrading</i>)					LSU, EQCM, DEI, GISRPM, MOI		ACTUAL REVISED PLAN
	Project Document for environmental license for 6 municipal capitals (Aileu, Gleno, Liquica, no Ainaro, Bobonaro Suai-Covalima) include Dili					LSU, EQCM, DEI, GISRPM, MOI		ACTUAL REVISED PLAN
<i>Monitoring and evaluation of clean water projects</i>	Draft detail ToR for Monitoring and Evaluation Water Construction for firm and tender process					DEI, MOI, GISRPM, DPAM (tender process only)		ACTUAL REVISED PLAN



	Selected Consulting Firm to initiate the work					DEI, MOI, GISRPM		ACTUAL REVISED PLAN
	Submit report to EC					DEI, MOI, GISRPM		ACTUAL REVISED PLAN



BTL Financial Model

A summary of findings and model functionality/operation



BTL uses a Financial Model to support its goal¹⁰ of economic viability and financial balance of the company.

The Financial Model provides a 10-year prediction of financial performance. The model estimates:

- Customer numbers for the various services offered by BTL
- Predicted revenues from these services given the defined tariff structure
- Predicted revenues received from the Government of Timor Leste
- Estimated Operating expenses associated with:
 - Salaries for staff
 - Operational expenses (such as chemicals, power, fuel etc)
 - Asset Maintenance expenses (planned and breakdown)
 - IT system expenses (for the IMS yet to be acquired by BTL)
- Estimated Capital expenses associated with the planned delivery of water and sanitation infrastructure over the coming decade
- Estimated Finance expenses associated with Debt and Depreciation
- Average bills by customer segment

The Financial Model is used by BTL's management accountants to determine BTL's future financial position, and test different assumptions regarding revenue growth and operating costs.

Key features of BTL's financial future

- 1) BTL revenues should increase quickly after FY2026 as more customers connect to the new infrastructure, and if tariff structure revisions are approved. By FY2031, BTL could be earning close to US\$25m per annum, which is significantly more than the <US\$1m per annum earned in 2021 when BTL commenced operations.
- 2) BTL is predicted to require funding from Government for Operating expenses of over US\$4m until FY2026. Requests for subsidies will decline quickly after 2026.
- 3) BTL can reach an operating profit (excluding tax, capital expenses including depreciation, financing expenses) by FY2027 or FY2028, subject to successfully connecting new customers, revising tariffs, and delivering a service that customers will pay for.
- 4) BTL will monitor and work to reduce Non-Revenue Water as new infrastructure is constructed. High Non-Revenue Water reduces revenue, may increase Operational Costs, and can reduce service levels.

Key Charts of BTL's predicted financial position to 2031 are shown in the Financial Model's Dashboard. Extracts from the dashboard are presented below.

¹⁰ Decree Law 41/2020 Article 27



Dashboard Graphs

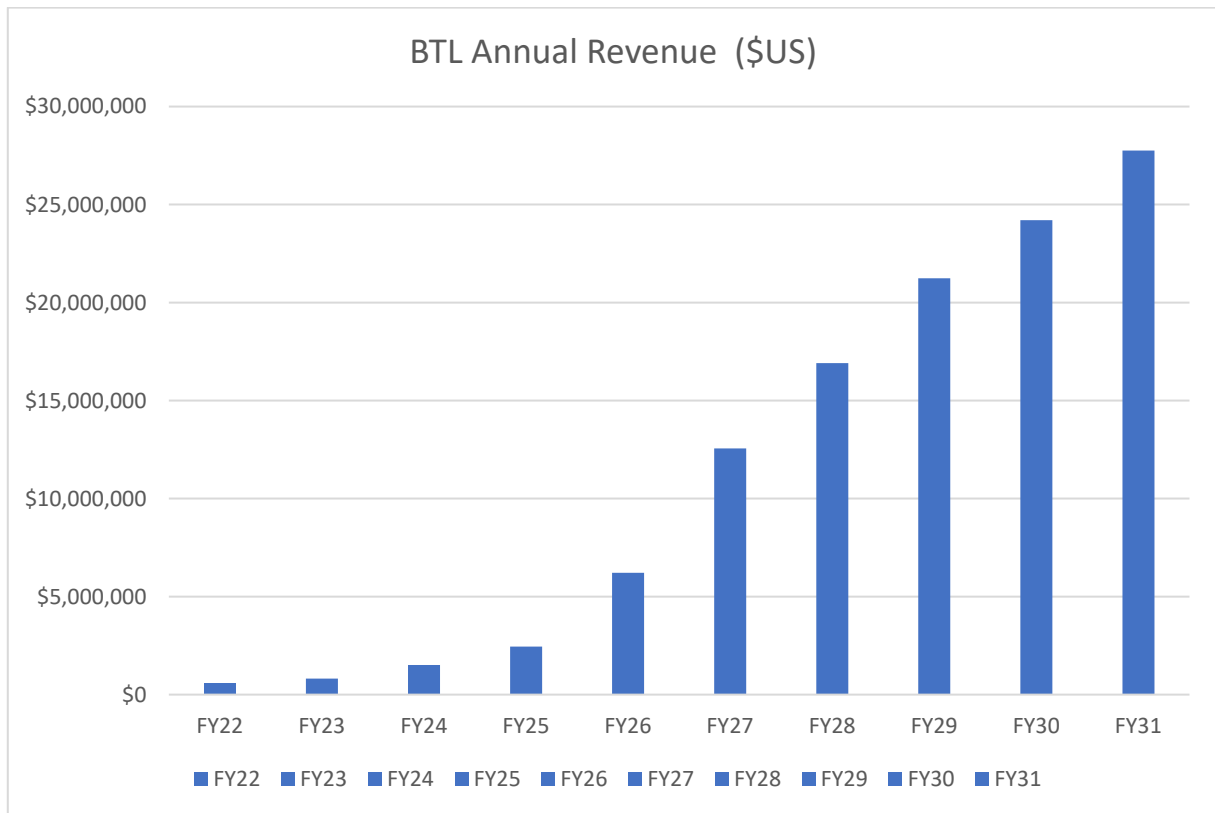


Figure 8 - BTL Revenue Projections

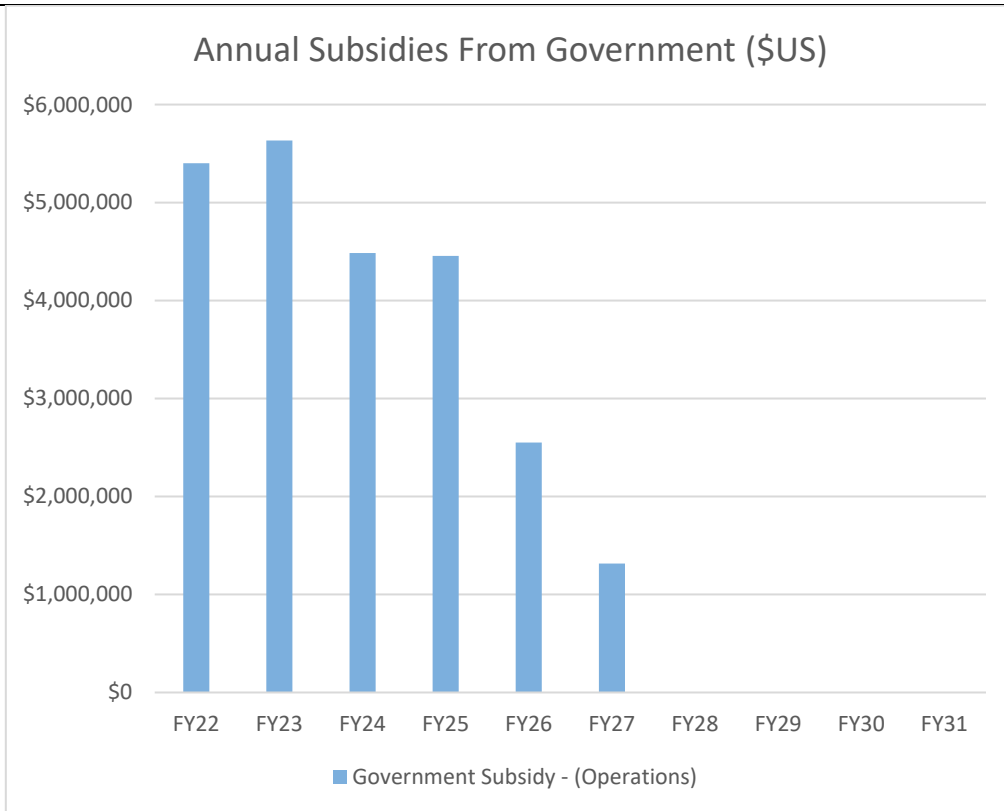


Figure 9 - Funding from Government

	2022	2023	2024	2025	2026
Residential Customers	\$13.69	\$16.19	\$19.23	\$24.73	\$27.00
Residential Fixed Charge	\$4.00	\$5.50	\$7.00	\$8.70	\$8.79
Vulnerable Customers	\$4.66	\$5.39	\$6.37	\$8.91	\$11.14
Non Residential Customers	\$26.30	\$31.41	\$37.62	\$44.93	\$45.37
Industrial	\$21.91	\$26.18	\$31.35	\$37.44	\$37.81
Institutional	\$5.48	\$6.39	\$7.61	\$9.13	\$9.22

Table 3 - Average Monthly Bills by Customer Segment

This assumes acceptance of BTL’s tariff pathway by the Government of Timor-Leste



Report

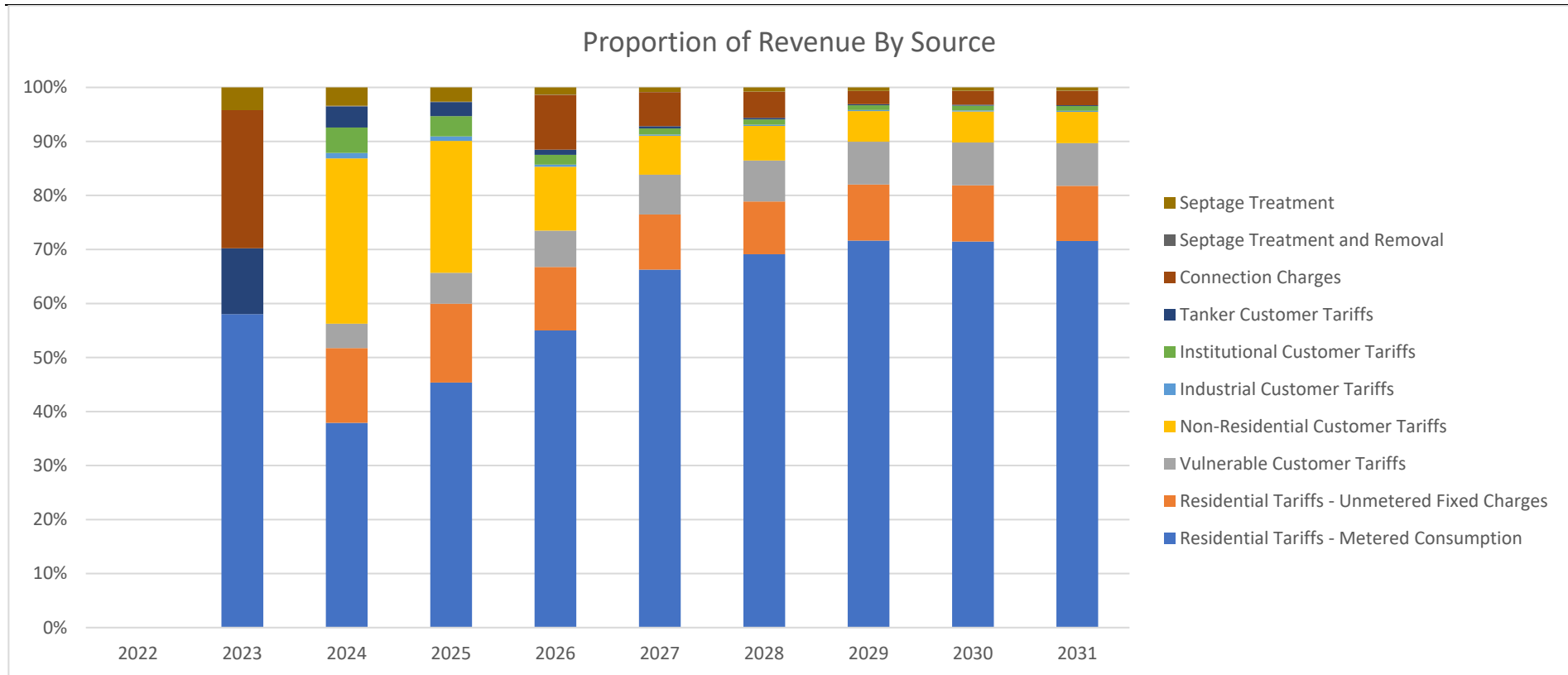


Figure 10 - BTL Source of Revenue



Report

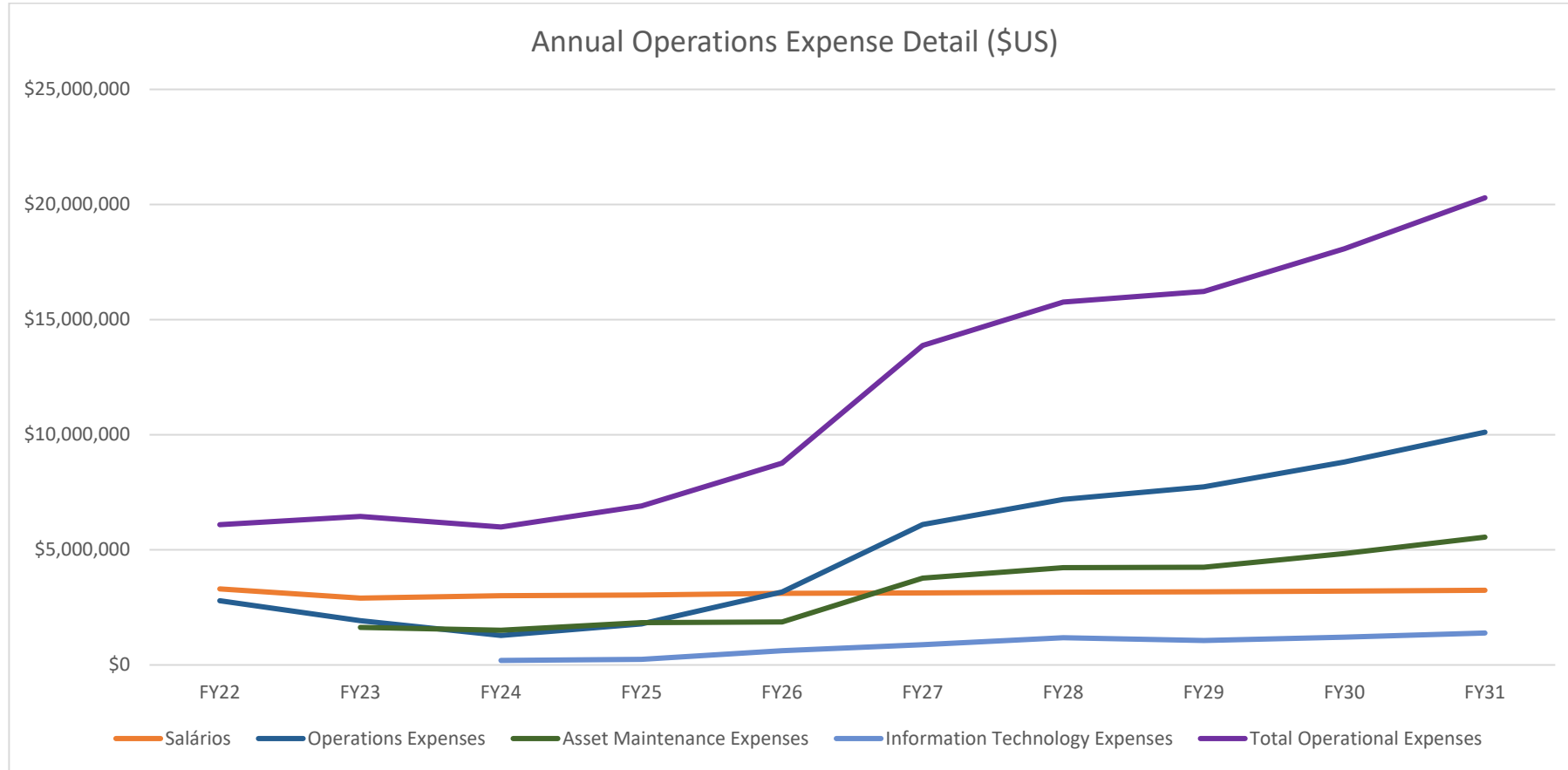


Figure 11 - BTL Operations Expenses

Ref:

Version: 1-1

Document Owner: 2nd Vice President

Release Date: 16/05/2022



Report

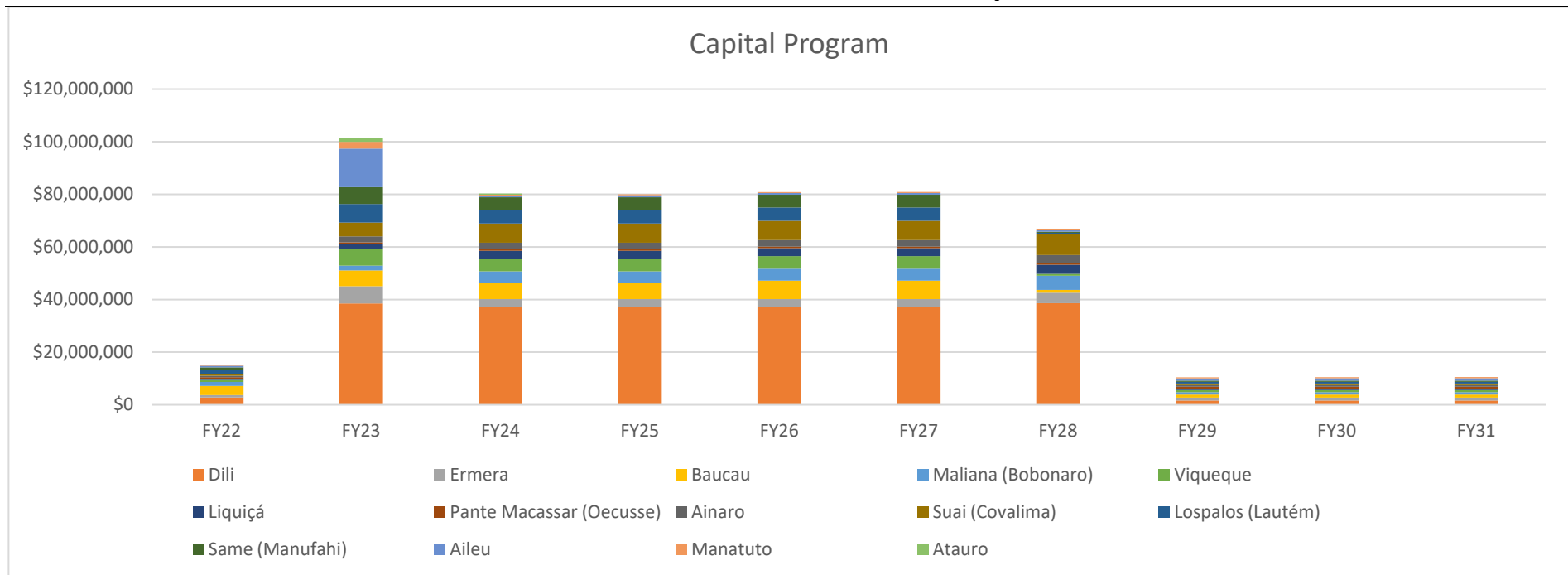


Figure 12 - BTL Capital Program (excluding minor works program)

Background

BTL uses a Financial Model to support its goal of economic viability and financial balance of the company¹¹.

Purpose of the Financial Model

The Financial Model is a tool that allows BTL to predict its future financial position and assess the impact of business decisions which affect its future financial position.

The Financial Model uses a series of assumptions which influence predicted revenue and operating / capital expenses over the next 10 years. These assumptions include the number of connected customers (with and without water meters), the number of customers who pay their bills, average water consumption by customer, tariffs, expenditure on operations and maintenance, capital program expenses etc.

The model produces a basic Income Statement and Balance Sheet summary. It also produces a dashboard which can support BTL's decision making, and can be used to communicate the financial position of BTL to external stakeholders, including the Government of Timor Leste.

The Financial Model is not a tool that supports BTL's day-to-day financial operations.

Structure of the Financial Model

The model has 6 modules, which work together to inform the Income Statement and Balance Sheet.

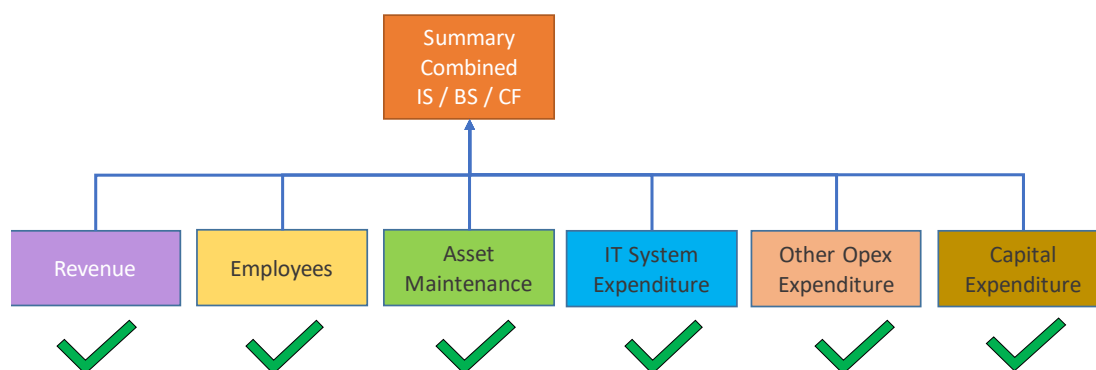


Figure 13 - BTL Financial Model Modules

The model is built in Microsoft Excel, and consists of the following tabs, each of which represents the modules noted in Figure 6 above.

Tab Name	Description and Function
Introduction and Overview	Provides a summary of the purpose of the model, and includes version control.

¹¹ Decree Law 41/2020 Article 27

Factors	<p>Provides most, but not all, assumptions used in the model. Note that some additional assumptions more relevant to each module of the model can be found on each tab.</p> <p>The assumptions are used in the calculations completed in each of the model's tabs.</p> <p>Users of the model should modify the assumptions listed in the Factors Tab to test different business strategies to manage revenues and expenses.</p>
Home	Is the Home Page for the model. This page can be reached by clicking on the Home Tab, or on the links in the top left of each module tab.
Summary	Provides the Income Statement and Balance Sheet for BTL to 2031 with information drawn from each tab of the model. There are no fields which can be directly edited in this Tab.
Dashboard	Provides graphs of BTL's predicted financial performance to 2031. The Dashboard also calculates average monthly bills by customer segment. There are no fields which can be directly edited in this Tab.
Revenue	Calculates income from each customer segment using the assumed tariff structure for water and sanitation. The only assumptions which can be edited in this tab are associated with the application of an inclined block tariff, which currently is used only for Vulnerable Customers.
Employees	Calculates the cost of employee salaries given assumptions regarding the number of employees at each employment level of BTL and the salary of personnel at each employment level. The only assumptions which can be edited in this tab are associated with the number of personnel employed, and the salaries applicable at each level of BTL's employment hierarchy.
Labour Summary	Provides a summary of employee costs over time, with some supporting graphs. There are no fields which can be directly edited in this Tab.
Asset Maintenance	Provides a breakdown of costs for Maintenance Operations, Condition Monitoring, Preventative Maintenance, Planned Corrective Maintenance, and Reactive Maintenance. Users may modify the allocation of maintenance between maintenance types. However, the total allocation of maintenance should be 100%.
AM Summary	Provides a summary of asset maintenance costs by municipality and year. There are no fields which can be directly edited in this Tab.
IT Exp	Provides a breakdown of costs for licencing and support of BTL's IMS, and GIS/SCADA licencing. Users may modify the allocation of expenditure between these three items. However, the total allocation of spending should be 100%
Operational Exp	Provides a breakdown of spending across multiple operations cost line items. Users may modify the allocation of expenditure between the operational items. However, the total allocation of spending should be 100%
Capital Expenditure	Provides a breakdown of expenditure by province over 10 years. The cells in green reflect the expected capital expenditure (CAPEX) associated with the delivery of improved water services across Timor Leste. Those cells without green shade are assumed Growth and Renewals expenditure on the existing water networks and water treatment facilities.

	Users may modify any element of this tab to reflect new or updated values and timing of CAPEX. The Capital Expenditure tab also calculates assumed Depreciation for BTL's asset base. Users may change the assumed rate of depreciation at cell B78.
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Table 4 - Financial Model Module Description

Functionality of the Financial Model

The analysis of different business decisions or strategies should be modelled by changing the Assumptions listed in the Factors tab. The results of these changed assumptions can then be seen in the Summary and Dashboard Tabs

There are several assumptions to which the model is either highly sensitive, or which should be reviewed and updated to improve the accuracy of the model. These are discussed below:

Key Revenue Assumptions

Population (F4:F16 and C22:L23)

These assumptions document the assumed population being served by BTL over the next 10 years. These assumptions are the same as BTL's Business Plan. However, it is considered that the assumptions significantly underestimate the true population of Timor Leste, and should be revised.

Proportion of Customers who pay reticulated water bill (C25:L25)

BTL currently does not regularly issue bills to customers, and its customers often do not pay their bills. This has the result of significantly decreasing BTL's revenues. Currently, the model assumes a strong growth in the proportion of customers who pay their bills. This assumption is based on an increase in customer connections associated with the installation of new infrastructure over the next few years, and the improvement in services delivered by the new infrastructure. The assumption should be confirmed with contractors designing and delivering the works, and should be supported by sustained effort by BTL to encourage customers to pay their bills once connected to the new supply systems.

Proportion Connected Customers (C36:L48), and Proportion Metered Properties (C52:L64)

These assumptions estimate the number of customers physically connected to BTL's water network, and those with meters. The assumptions are currently set to ensure that the number of connected and metered customers approximates BTL's current known customer base. However, given the low assumed population (4.1.1), the connection rate is likely to be an over-estimate. Furthermore, a large proportion of BTL's meter fleet is not operational, and so the assumption of the number of metered properties is also likely to be an over-estimate. Reducing the number of connections and number of metered properties significantly reduces BTL's revenues.

Non-Residential, Industrial and Institutional Consumption (C25:L25, C29:L30)

These assumptions predict the consumption of non-residential customers. These assumptions are not based on historical consumption from these customers (data was unavailable). Analysis of

consumption of these customers will serve to improve the estimates of revenue from these customer groups.

Key Cost Assumptions

O&M Expenditure allocations (C93:L96)

BTL's Operations and Asset Management expenses are highly sensitive to these assumptions. They should be edited with extreme care.

O&M expenditure allocations set out how BTL's revenue is allocated to operational activities. If BTL's revenues are less than what it requires to run its operations, it must over-allocate its revenues.

For example, in 2022, given the very low revenues collected by BTL, Asset Maintenance and Operations allocated 600% and 550% of BTL's revenue respectively in order to fund its operational activities.

As BTL's revenues grow, over-allocations will reduce. Eventually, BTL's revenues will exceed its operational expenditures. At this point, Asset Maintenance allocations should sit in the low 40% range, and Operations expense allocations should sit in the low 30% range.

Module Operation

Operation of the Revenue Module

The revenue module calculates the total revenue being received from different customer segments, as below:

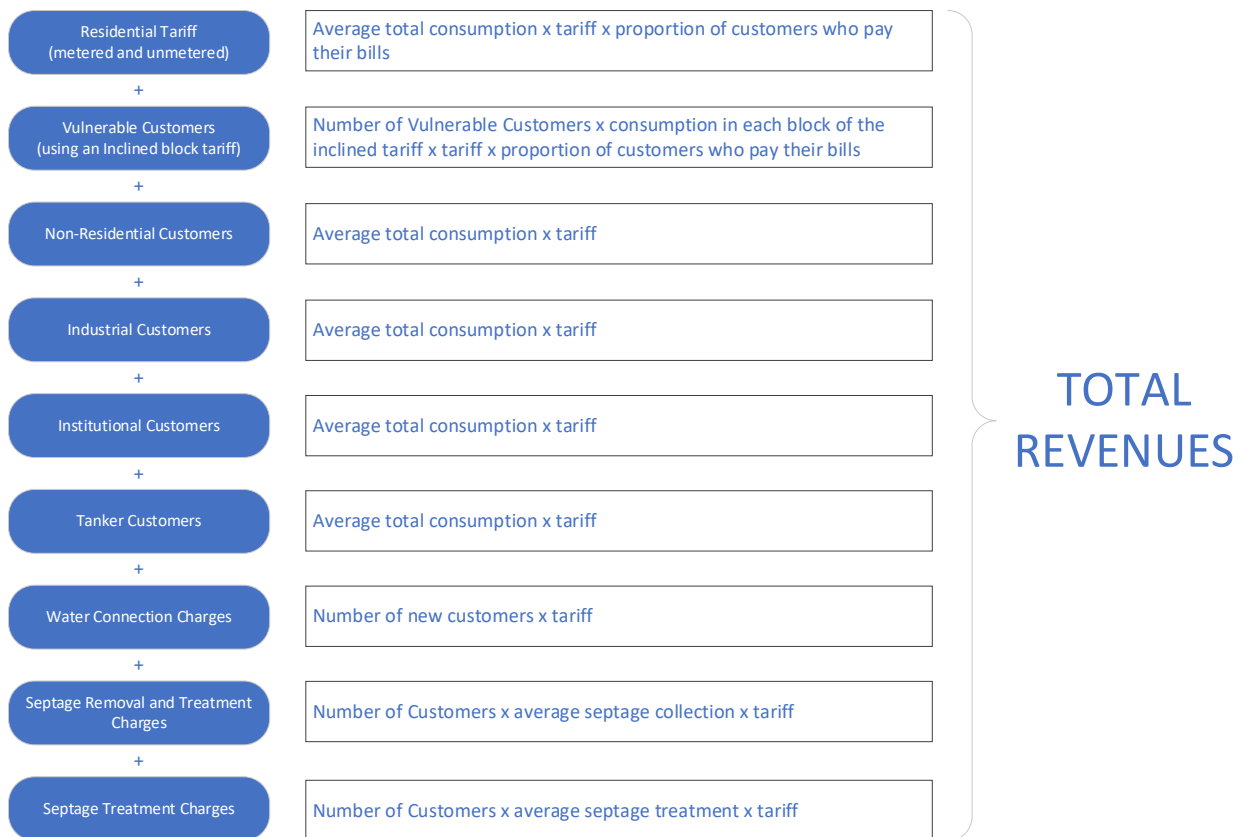


Figure 14 – Revenue Model Operation

Operation of the Employee Module

The employee module calculates the total cost incurred through employee salaries, as below:

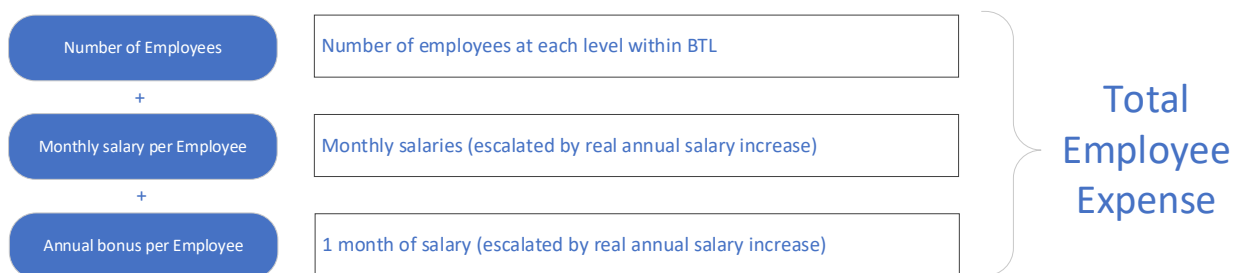


Figure 15 - Employee Cost Module Operation

Operation of the Asset Maintenance Module

The Asset Maintenance module distributes the funds allocated to asset maintenance between different types of maintenance:

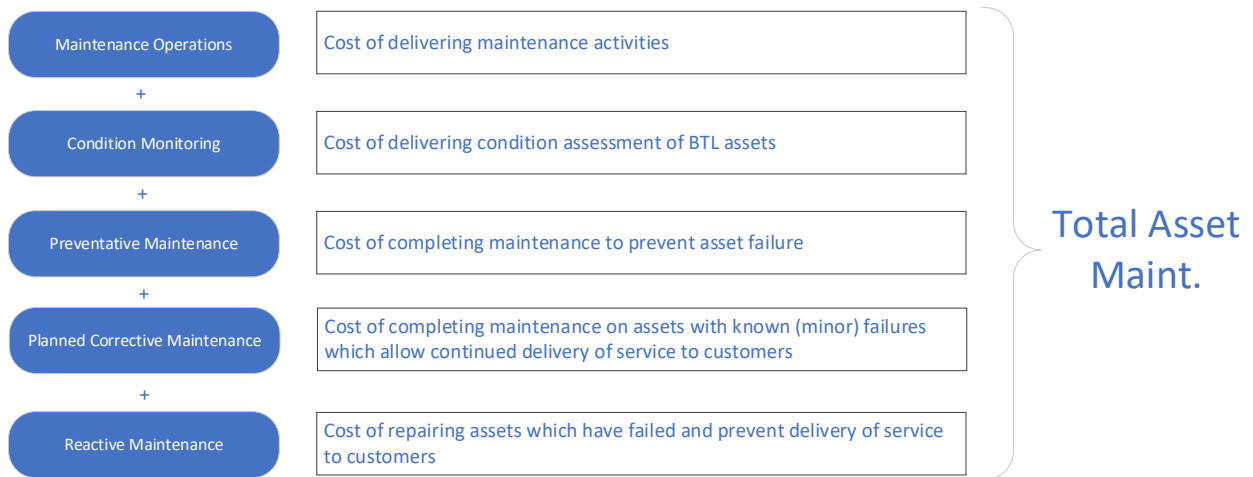


Figure 16 - Asset Maintenance Module Operation

Operation of the Operational Expense Module

The Operational Expense Module distributes the total O&M allocation to the various OPEX activities used to deliver water and sanitation services:

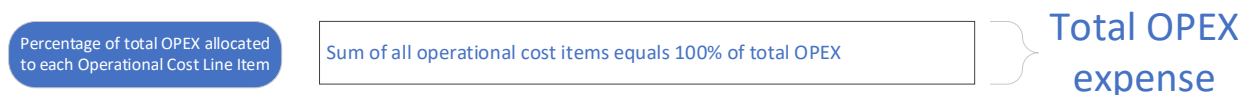


Figure 17 - Operational Expense Module

Operation of the IT Expense Module

The IT expense module distributes the funds allocated to IT between different types of IT expenses:

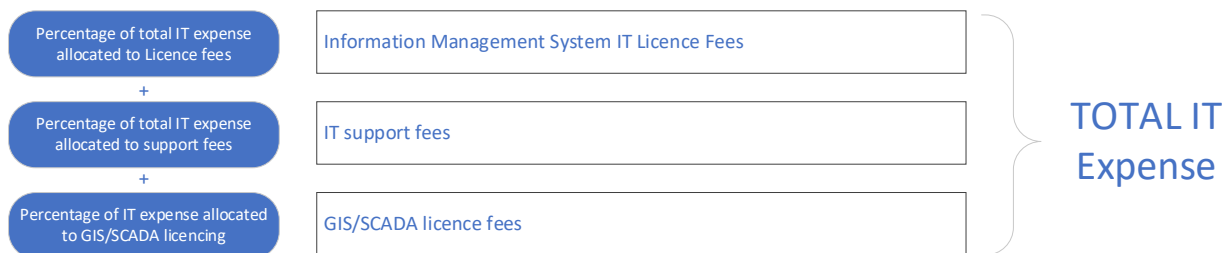


Figure 18 - IT Expense Module

Operation of the CAPEX Module

The CAPEX module summarises all planned CAPEX associated with the construction of new water systems, and upgrades/growth of existing systems:



Figure 19 - CAPEX module

Key Findings for 2023

The preparation of the Financial Model involved the engagement of Senior staff involved in the financial management of BTL. Though there are several improvements yet to be completed (see below), the model has generated some important conclusions for BTL management. These are noted below.

BTL revenues should increase quickly after FY2026 as more customers connect to the new infrastructure, and if tariff structure revisions are approved. By FY2031, BTL could be earning close to US\$25m per annum, which is significantly more than the <US\$1m per annum earned in 2021.

BTL is predicted to require funding from Government for Operating expenses of over US\$4 per annum until FY2026. Requests for subsidies will decline quickly after 2026.

BTL can reach an operating profit (excluding tax, capital expenses including depreciation, financing expenses) by FY2027 or FY2028, subject to successfully connecting new customers, revising tariffs, and delivering a service that customers will pay for.

BTL will monitor and work to reduce Non-Revenue Water as new infrastructure is constructed. High Non-Revenue Water reduces revenue, may increase Operational Costs, and can reduce service levels.

The Dashboard Tab provides several graphs which present the above information.

Further Improvements and Updates

Improvements

It is advised that the assumptions be reviewed and amendments made (including to the BTL Business Plan) where more accurate information is available.

All assumptions should be reviewed at a frequency of 6 months. This will allow validation of the outputs of the model, and review whether BTL remains on-track to meet its 10-year financial projections.

Updates

The model currently analyses BTL's financial position on an annual basis. A future update to the model could enable it to predict revenue and costs on a monthly basis.

The model currently cannot compare predicted expenditure and revenues with actual expenditure and revenues. A future update to the model could allow it to be used as a monitoring tool to demonstrate the performance of BTL against its targets (on an "Earned Value" basis

Financial Model Outputs

Account Description / Nature	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30	FY31
Revenue	\$611,532	\$821,240	\$1,507,681	\$2,451,592	\$6,218,752	\$12,562,929	\$16,914,664	\$21,235,544	\$24,201,515	\$27,756,569
Revenue Billed	\$446,119	\$821,240	\$1,507,681	\$2,451,592	\$6,218,752	\$12,562,929	\$16,914,664	\$21,235,544	\$24,201,515	\$27,756,569
Gifted Assets	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Other Income	\$165,413									
Total Operational Expenses	\$6,094,403	\$6,454,045	\$5,992,038	\$6,906,876	\$8,769,837	\$13,878,578	\$15,760,933	\$16,222,122	\$18,075,778	\$20,291,600
Salários	\$3,303,300	\$2,903,616	\$3,006,923	\$3,036,992	\$3,111,002	\$3,128,743	\$3,160,030	\$3,177,993	\$3,209,773	\$3,241,870
Operations Expenses	\$2,791,103	\$1,921,451	\$1,281,436	\$1,786,030	\$3,171,333	\$6,101,551	\$7,188,210	\$7,735,244	\$8,815,626	\$10,110,588
Asset Maintenance Expenses		\$1,628,978	\$1,507,681	\$1,838,694	\$1,865,626	\$3,768,879	\$4,228,666	\$4,247,109	\$4,840,303	\$5,551,314
Information Technology Expenses			\$195,998	\$245,159	\$621,875	\$879,405	\$1,184,026	\$1,061,777	\$1,210,076	\$1,387,828
PROFIT / LOSS (operations)	-\$5,482,871	-\$5,632,805	-\$4,484,357	-\$4,455,284	-\$2,551,084	-\$1,315,649	\$1,153,731	\$5,013,422	\$6,125,738	\$7,464,969
Government Subsidy - (Operations)	\$5,400,453	\$5,632,805	\$4,484,357	\$4,455,284	\$2,551,084	\$1,315,649	\$0	\$0	\$0	\$0
Finance Expenses	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Interest on Loans	\$1,156,767	\$4,069,432	\$5,676,768	\$7,278,138	\$8,896,603	\$10,515,490	\$11,855,115	\$12,064,942	\$12,275,960	\$12,487,248
Return on Assets (payment to Government)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Capital Related I/S Expenditure	\$99,157	\$4,069,432	\$5,676,768	\$7,278,138	\$8,896,603	\$10,515,490	\$11,855,115	\$12,064,942	\$12,275,960	\$12,487,248
Depreciation	\$99,157	\$4,069,432	\$5,676,768	\$7,278,138	\$8,896,603	\$10,515,490	\$11,855,115	\$12,064,942	\$12,275,960	\$12,487,248
Debt Repayment (50 years)										
PROFIT/LOSS FROM FINANCING AND CAPITAL EXPENSES	-\$99,157	-\$4,069,432	-\$5,676,768	-\$7,278,138	-\$8,896,603	-\$10,515,490	-\$11,855,115	-\$12,064,942	-\$12,275,960	-\$12,487,248
Government Subsidy - (Finance and Capital Expenses)	\$99,157	\$4,069,432	\$5,676,768	\$7,278,138	\$8,896,603	\$10,515,490	\$11,855,115	\$12,064,942		
NET PROFIT / LOSS (excl. finance and depreciation)	-\$5,648,284	-\$5,632,805	-\$4,484,357	-\$4,455,284	-\$2,551,084	-\$1,315,649	\$1,153,731	\$5,013,422	\$6,125,738	\$7,464,969

Note: FY23 accounts are not finalised.

Revenue

Revenue - By Source										
	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Residential Tariffs - Metered Consumption		\$286,275	\$571,412	\$1,111,854	\$3,420,369	\$8,326,986	\$11,688,953	\$15,213,204	\$17,297,759	\$19,865,666
Residential Tariffs - Unmetered Fixed Charges			\$208,840	\$358,285	\$731,748	\$1,281,512	\$1,654,199	\$2,204,225	\$2,520,225	\$2,836,634
Vulnerable Customer Tariffs			\$68,096	\$139,963	\$418,263	\$924,432	\$1,282,760	\$1,681,859	\$1,917,257	\$2,192,455
Non-Residential Customer Tariffs			\$461,172	\$598,920	\$734,917	\$905,046	\$1,083,851	\$1,206,619	\$1,388,164	\$1,603,568
Industrial Customer Tariffs			\$15,372	\$19,964	\$24,497	\$30,168	\$36,128	\$40,221	\$46,272	\$53,452
Institutional Customer Tariffs			\$70,892	\$92,516	\$113,524	\$139,804	\$167,424	\$186,388	\$214,432	\$247,706
Tanker Customer Tariffs		\$60,190	\$58,919	\$63,338	\$58,144	\$53,376	\$49,000	\$44,982	\$42,508	\$40,170
Connection Charges		\$126,115	\$0	\$0	\$631,502	\$791,454	\$818,304	\$514,756	\$617,222	\$743,412
Septage Treatment and Removal			\$1,766	\$1,854	\$2,383	\$3,060	\$3,724	\$3,980	\$4,380	\$4,820
Septage Treatment		\$20,771	\$51,211	\$64,897	\$83,405	\$107,091	\$130,323	\$139,310	\$153,297	\$168,688
Laboratory Services		\$24,995								
Other Tariffs		\$262,616								
Bidding Documents		\$39,480								
Sales		\$798								
TOTAL - Annual	\$446,119	\$821,240	\$1,507,681	\$2,451,592	\$6,218,752	\$12,562,929	\$16,914,664	\$21,235,544	\$24,201,515	\$27,756,569

Employees

Labour Summary Level of Employee	Annual (Including Bonus)									
	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30	FY31
Directors			\$124,603	\$125,849	\$169,477	\$171,172	\$172,883	\$174,612	\$176,358	\$178,122
Manager			\$549,018	\$554,508	\$560,053	\$565,654	\$571,310	\$577,023	\$582,793	\$588,621
Senior Officer & Coordinator			\$258,595	\$261,181	\$263,793	\$266,431	\$269,095	\$271,786	\$274,504	\$277,249
Officer Municipalities			\$344,051	\$347,492	\$350,967	\$354,476	\$358,021	\$361,601	\$365,217	\$368,869
Officer Dilli			\$1,220,040	\$1,232,240	\$1,244,562	\$1,257,008	\$1,269,578	\$1,282,274	\$1,295,097	\$1,308,048
Contract			\$25,196	\$25,448	\$25,703	\$12,980	\$13,110	\$0	\$0	\$0
New Positions			\$397,839	\$401,817	\$405,836	\$409,894	\$413,993	\$418,133	\$422,314	\$426,537
Overtime										
Health Benefits										
Total Costs			\$2,919,343	\$2,948,536	\$3,020,391	\$3,037,615	\$3,067,991	\$3,085,430	\$3,116,284	\$3,147,447
Total Costs (with on-costs)	\$3,303,300	\$2,903,616	\$3,006,923	\$3,036,992	\$3,111,002	\$3,128,743	\$3,160,030	\$3,177,993	\$3,209,773	\$3,241,870

Asset Maintenance Expense

AM Summary	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30	FY31
Municipality	Annual	Annual	Annual	Annual	Annual	Annual	Annual	Annual	Annual	Annual
Dili	\$0	\$0	\$1,010,830	\$1,231,415	\$1,337,682	\$2,826,219	\$3,180,060	\$3,090,234	\$3,399,420	\$3,739,708
Ermera	\$0	\$0	\$42,230	\$56,317	\$57,703	\$114,661	\$131,405	\$139,976	\$165,898	\$197,983
Baucau	\$0	\$0	\$62,228	\$75,526	\$66,676	\$118,176	\$133,016	\$147,618	\$185,248	\$233,526
Bobonaro	\$0	\$0	\$52,968	\$63,397	\$53,871	\$92,973	\$102,690	\$113,063	\$140,663	\$175,423
Viqueque	\$0	\$0	\$44,034	\$51,144	\$39,606	\$66,195	\$68,701	\$70,996	\$82,210	\$95,322
Liquiçá	\$0	\$0	\$33,794	\$45,608	\$46,281	\$87,841	\$106,564	\$129,600	\$178,606	\$248,142
Oecusse	\$0	\$0	\$39,212	\$43,842	\$31,676	\$51,789	\$52,123	\$52,282	\$58,647	\$65,924
Ainaro	\$0	\$0	\$21,803	\$25,674	\$20,376	\$34,940	\$36,505	\$38,074	\$44,253	\$51,559
Covalima	\$0	\$0	\$52,560	\$70,764	\$71,406	\$135,000	\$161,872	\$194,413	\$263,981	\$361,091
Lautém	\$0	\$0	\$27,987	\$29,996	\$19,608	\$31,491	\$30,700	\$29,963	\$32,646	\$35,785
Manufahi	\$0	\$0	\$40,883	\$49,643	\$41,833	\$72,590	\$78,388	\$84,304	\$101,639	\$122,707
Aileu	\$0	\$0	\$42,756	\$53,136	\$46,343	\$82,238	\$90,261	\$98,762	\$120,926	\$148,341
Manatuto	\$0	\$0	\$36,396	\$42,234	\$32,566	\$54,766	\$56,379	\$57,822	\$66,165	\$75,801
Total	\$153,584	\$1,628,978	\$1,507,681	\$1,838,694	\$1,865,626	\$3,768,879	\$4,228,666	\$4,247,109	\$4,840,303	\$5,551,314

Other OPEX Expenditure

		FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30	FY31
		TOTAL	TOTAL	TOTAL	TOTAL	TOTAL	TOTAL	TOTAL	TOTAL	TOTAL	TOTAL
Revenue	%			\$1,507,681	\$2,451,592	\$6,218,752	\$12,562,929	\$16,914,664	\$21,235,544	\$24,201,515	\$27,756,569
Other Expenditure % of Revenue											
Available Funds	%			\$1,055,376	\$1,470,955	\$2,611,876	\$5,025,172	\$5,920,132	\$6,370,663	\$7,260,455	\$8,326,971
Travel Factor Directors and Level 1	5.4%			\$57,319	\$79,890	\$141,856	\$272,927	\$321,534	\$346,003	\$394,329	\$452,254
Travel Factor Level 2 - Level 5	0.0%			\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Training Factor	1.1%			\$12,117	\$16,889	\$29,988	\$57,696	\$67,971	\$73,144	\$83,360	\$95,605
Utilities - Water	0.6%			\$6,743	\$9,399	\$16,689	\$32,109	\$37,827	\$40,706	\$46,392	\$53,206
Utilities - Electricity	53.2%			\$561,956	\$783,239	\$1,390,745	\$2,675,753	\$3,152,293	\$3,392,187	\$3,865,974	\$4,433,862
Utilities - Communications	2.7%			\$28,098	\$39,162	\$69,537	\$133,788	\$157,615	\$169,609	\$193,299	\$221,693
Rentals	0.6%			\$6,743	\$9,399	\$16,689	\$32,109	\$37,827	\$40,706	\$46,392	\$53,206
Fuel for operations and motor vehicles	4.3%			\$44,956	\$62,659	\$111,259	\$214,060	\$252,183	\$271,374	\$309,277	\$354,708
Maintenance of motor vehicles	5.3%			\$56,196	\$78,324	\$139,074	\$267,575	\$315,229	\$339,218	\$386,597	\$443,385
Vehicle renting, insurance, services rentals	0.2%			\$2,248	\$3,133	\$5,563	\$10,703	\$12,609	\$13,569	\$15,464	\$17,735
Operational supply material	2.1%			\$22,478	\$31,330	\$55,630	\$107,030	\$126,092	\$135,687	\$154,639	\$177,354
Water Chemical materials	6.4%			\$67,435	\$93,989	\$166,889	\$321,090	\$378,275	\$407,062	\$463,917	\$532,063
Materials and specific equipment for water and sanitation	6.4%			\$67,435	\$93,989	\$166,889	\$321,090	\$378,274	\$407,062	\$463,916	\$532,062
Uniforms	2.1%			\$22,478	\$31,330	\$55,630	\$107,030	\$126,092	\$135,687	\$154,639	\$177,354
Other supplies	0.6%			\$6,743	\$9,399	\$16,689	\$32,109	\$37,827	\$40,706	\$46,392	\$53,206
Fuel for generators	0.4%			\$4,180	\$5,825	\$10,344	\$19,901	\$23,445	\$25,229	\$28,753	\$32,977
Official receptions	0.1%			\$1,361	\$1,897	\$3,368	\$6,481	\$7,635	\$8,216	\$9,363	\$10,739
Bank expenses	0.1%			\$1,055	\$1,471	\$2,612	\$5,025	\$5,920	\$6,371	\$7,260	\$8,327
Representation costs	0.0%			\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Logistics and transportation	0.1%			\$1,055	\$1,471	\$2,612	\$5,025	\$5,920	\$6,371	\$7,260	\$8,327

Office equipment renting	0.1%			\$1,055	\$1,471	\$2,612	\$5,025	\$5,920	\$6,371	\$7,260	\$8,327
Post service costs	0.1%			\$1,055	\$1,471	\$2,612	\$5,025	\$5,920	\$6,371	\$7,260	\$8,327
Other contributions	0.1%			\$1,055	\$1,471	\$2,612	\$5,025	\$5,920	\$6,371	\$7,260	\$8,327
Subscriptions	0.0%			\$106	\$147	\$261	\$503	\$592	\$637	\$726	\$833
Other operational expenses	0.0%			\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Professional services	0.0%			\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
External audits	0.7%			\$7,867	\$10,965	\$19,470	\$37,461	\$44,132	\$47,491	\$54,124	\$62,074
Security services	13.8%			\$146,109	\$203,642	\$361,594	\$695,696	\$819,596	\$881,968	\$1,005,153	\$1,152,804
Sanitary services and cleaning	10.6%			\$112,391	\$156,648	\$278,149	\$535,150	\$630,458	\$678,437	\$773,194	\$886,772
Consulting services	1.3%			\$13,487	\$18,798	\$33,378	\$64,218	\$75,655	\$81,412	\$92,783	\$106,413
Hiring personal services	0.0%			\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Translation/Interpret services	0.4%			\$4,496	\$6,266	\$11,126	\$21,406	\$25,218	\$27,137	\$30,928	\$35,471
Advisory services	0.0%			\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Other types of assistance	0.2%			\$2,248	\$3,133	\$5,563	\$10,703	\$12,609	\$13,569	\$15,464	\$17,735
Advertising	0.7%			\$7,193	\$10,025	\$17,802	\$34,250	\$40,349	\$43,420	\$49,484	\$56,753
Catering services	0.3%			\$3,372	\$4,699	\$8,344	\$16,055	\$18,914	\$20,353	\$23,196	\$26,603
Other miscellaneous services	1.0%			\$10,404	\$14,500	\$25,747	\$49,536	\$58,358	\$62,800	\$71,571	\$82,084

Actual OPEX expense		\$2,791,103	\$1,921,451	\$1,281,436	\$1,786,030	\$3,171,333	\$6,101,551	\$7,188,210	\$7,735,244	\$8,815,626	\$10,110,588
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Capital Expenditure

		FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30	FY31
Municipality		Annual	Annual	Annual	Annual	Annual	Annual	Annual	Annual	Annual	Annual
Dili		\$2,751,885	\$38,525,742	\$37,166,667	\$37,166,667	\$37,166,667	\$37,166,667	\$38,624,258	\$1,619,546	\$1,619,546	\$1,619,546
Growth and Renewals		\$1,392,810						\$1,457,592	\$1,619,546	\$1,619,546	\$1,619,546
Urban Water Supply and Sanitation Project Construction			\$33,450,000	\$33,450,000	\$33,450,000	\$33,450,000	\$33,450,000	\$33,450,000			
DED development		\$1,359,075	\$1,359,075	\$3,716,667	\$3,716,667	\$3,716,667	\$3,716,667	\$3,716,667			
Construction Supervision			\$3,716,667								
Ermera		\$933,613	\$6,529,820	\$3,000,000	\$3,000,000	\$3,000,000	\$3,000,000	\$3,977,037	\$1,085,596	\$1,085,596	\$1,085,596
Growth and Renewals		\$933,613	\$933,613					\$977,037	\$1,085,596	\$1,085,596	\$1,085,596
Urban Water Supply Project Construction			\$4,596,207.77	\$2,700,000	\$2,700,000	\$2,700,000	\$2,700,000	\$2,700,000			
DED development			\$1,000,000								
Construction Supervision				\$300,000	\$300,000	\$300,000	\$300,000	\$300,000			
Baucau		\$3,483,384	\$6,000,000	\$6,000,000	\$6,000,000	\$6,999,515	\$6,999,515	\$1,046,004	\$1,162,226	\$1,162,226	\$1,162,226
Growth and Renewals						\$999,515	\$999,515	\$1,046,004	\$1,162,226	\$1,162,226	\$1,162,226
Urban Water Supply Project Construction		\$2,757,544.98	\$5,400,000	\$5,400,000	\$5,400,000	\$5,400,000	\$5,400,000				
DED development		\$725,839									
Construction Supervision			\$600,000	\$600,000	\$600,000	\$600,000	\$600,000				
Maliana (Bobonaro)		\$1,523,384	\$1,811,513	\$4,552,670	\$4,552,670	\$4,552,670	\$4,552,670	\$5,401,928	\$943,620	\$943,620	\$943,620
Growth and Renewals		\$811,513	\$811,513					\$849,258	\$943,620	\$943,620	\$943,620
Urban Water Supply Project Construction		\$711,871		\$4,138,791	\$4,138,791	\$4,138,791	\$4,138,791	\$4,138,791			
DED development			\$1,000,000								
Construction Supervision				\$413,879	\$413,879	\$413,879	\$413,879	\$413,879			
Viqueque		\$725,839	\$6,213,009	\$4,800,000	\$4,800,000	\$4,800,000	\$4,800,000	\$697,751	\$775,279	\$775,279	\$775,279
Growth and Renewals								\$697,751	\$775,279	\$775,279	\$775,279
Urban Water Supply Project Construction			\$5,733,009	\$4,320,000	\$4,320,000	\$4,320,000	\$4,320,000				
DED development		\$725,839									
Construction Supervision			\$480,000	\$480,000	\$480,000	\$480,000	\$480,000				
Liquiçá		\$488,002	\$2,047,589	\$3,000,000	\$3,000,000	\$3,000,000	\$3,000,000	\$3,510,700	\$567,444	\$567,444	\$567,444
Growth and Renewals		\$488,002	\$488,002					\$510,700	\$567,444	\$567,444	\$567,444

Urban Water Supply Project			\$559,587	\$2,700,000	\$2,700,000	\$2,700,000	\$2,700,000	\$2,700,000				
Construction			\$1,000,000									
DED development				\$300,000	\$300,000	\$300,000	\$300,000	\$300,000				
Construction Supervision								\$300,000				
Pante Macassar (Oecusse)		\$602,514	\$602,514	\$602,514	\$602,514	\$602,514	\$602,514	\$602,514	\$630,538	\$700,598	\$700,598	\$700,598
Growth and Renewals		\$602,514	\$602,514	\$602,514	\$602,514	\$602,514	\$602,514	\$602,514	\$630,538	\$700,598	\$700,598	\$700,598
Urban Water Supply Project												
Construction												
DED development												
Construction Supervision												
Ainaro		\$508,469	\$2,293,466	\$2,483,356	\$2,483,356	\$2,483,356	\$2,483,356	\$2,483,356	\$3,015,475	\$591,243	\$591,243	\$591,243
Growth and Renewals		\$508,469	\$508,469						\$532,119	\$591,243	\$591,243	\$591,243
Urban Water Supply Project												
Construction			\$784,997	\$2,257,597	\$2,257,597	\$2,257,597	\$2,257,597	\$2,257,597				
DED development			\$1,000,000									
Construction Supervision				\$225,760	\$225,760	\$225,760	\$225,760	\$225,760				
Suai (Covalima)		\$771,394	\$5,249,983	\$7,309,780	\$7,309,780	\$7,309,780	\$7,309,780	\$7,309,780	\$7,855,425	\$606,272	\$606,272	\$606,272
Growth and Renewals		\$521,394	\$521,394						\$545,645	\$606,272	\$606,272	\$606,272
Urban Water Supply Project												
Construction			\$3,728,589	\$6,645,255	\$6,645,255	\$6,645,255	\$6,645,255	\$6,645,255				
DED development		\$250,000	\$1,000,000									
Construction Supervision				\$664,525	\$664,525	\$664,525	\$664,525	\$664,525				
Lospalos (Lautém)		\$1,299,196	\$7,052,206	\$5,113,325	\$5,113,325	\$5,113,325	\$5,113,325	\$5,113,325	\$600,025	\$666,694	\$666,694	\$666,694
Growth and Renewals		\$573,357							\$600,025	\$666,694	\$666,694	\$666,694
Urban Water Supply Project												
Construction			\$6,587,358	\$4,648,477	\$4,648,477	\$4,648,477	\$4,648,477	\$4,648,477				
DED development		\$725,839										
Construction Supervision			\$464,848	\$464,848	\$464,848	\$464,848	\$464,848	\$464,848				
Same (Manufahi)		\$1,118,472	\$6,375,874	\$4,840,000	\$4,840,000	\$4,840,000	\$4,840,000	\$4,840,000	\$410,895	\$456,551	\$456,551	\$456,551
Growth and Renewals		\$392,633							\$410,895	\$456,551	\$456,551	\$456,551
Urban Water Supply Project												
Construction			\$5,935,874	\$4,400,000	\$4,400,000	\$4,400,000	\$4,400,000	\$4,400,000				
DED development		\$725,839										
Construction Supervision			\$440,000	\$440,000	\$440,000	\$440,000	\$440,000	\$440,000				
Aileu		\$591,641	\$14,685,797	\$617,912	\$782,391	\$637,620	\$658,699	\$658,699	\$776,352	\$838,562	\$898,168	\$911,691
Growth and Renewals		\$341,641	\$341,641						\$357,531	\$397,257	\$397,257	\$397,257
Urban Water Supply Project												
Construction			\$13,082,506	\$356,262	\$520,741	\$375,970	\$397,049	\$397,049	\$418,821	\$441,305	\$500,911	\$514,434
DED development		\$250,000	\$1,000,000									
Construction Supervision			\$261,650	\$261,650	\$261,650	\$261,650	\$261,650	\$261,650				
Manatuto		\$367,799	\$2,590,681	\$367,799	\$367,799	\$367,799	\$367,799	\$367,799	\$384,906	\$427,673	\$427,673	\$427,673
Growth and Renewals		\$367,799	\$367,799	\$367,799	\$367,799	\$367,799	\$367,799	\$367,799	\$384,906	\$427,673	\$427,673	\$427,673

Urban Water Supply Project Construction			\$2,222,882								
DED development											
Construction Supervision											
Atauro		\$0	\$1,471,969	\$462,781	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Growth and Renewals		\$0	\$400,000	\$462,781	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Urban Water Supply Project Construction			\$1,071,969.24								
DED development											
Construction Supervision			\$0								
Total (Network and Treatment)		\$15,165,592	\$101,450,164	\$80,316,805	\$80,018,503	\$80,873,247	\$80,894,326	\$66,931,294	\$10,441,305	\$10,500,911	\$10,514,434
Minor CAPEX		\$400,000	\$3,288,887	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000
Government CAPEX program		\$37,272,735	\$40,894,218								
Total Capital Expenditure		\$52,838,327	\$145,633,269	\$80,366,805	\$80,068,503	\$80,923,247	\$80,944,326	\$66,981,294	\$10,491,305	\$10,550,911	\$10,564,434

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