



Bee Timor-Leste Business Plan 2022-2026

31 May 2022



BTL, E.P.



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 (2022-2026) 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 2022-2026 period is:

- 1) Build infrastructure to improve water supply, sanitation and drainage services to communities across Timor-Leste
- 2) Connect new customers to BTL infrastructure
- 3) Build systems, skills and capability within BTL staff so that services to customers improve, and trust in BTL's services is enhanced
- 4) Improve revenues so that BTL's can provide services over the long-term, with less reliance on Government subsidies

By 2026, 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 30,000 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 15%
- 5) Annual revenues of more than US\$6m

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 2026. 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).

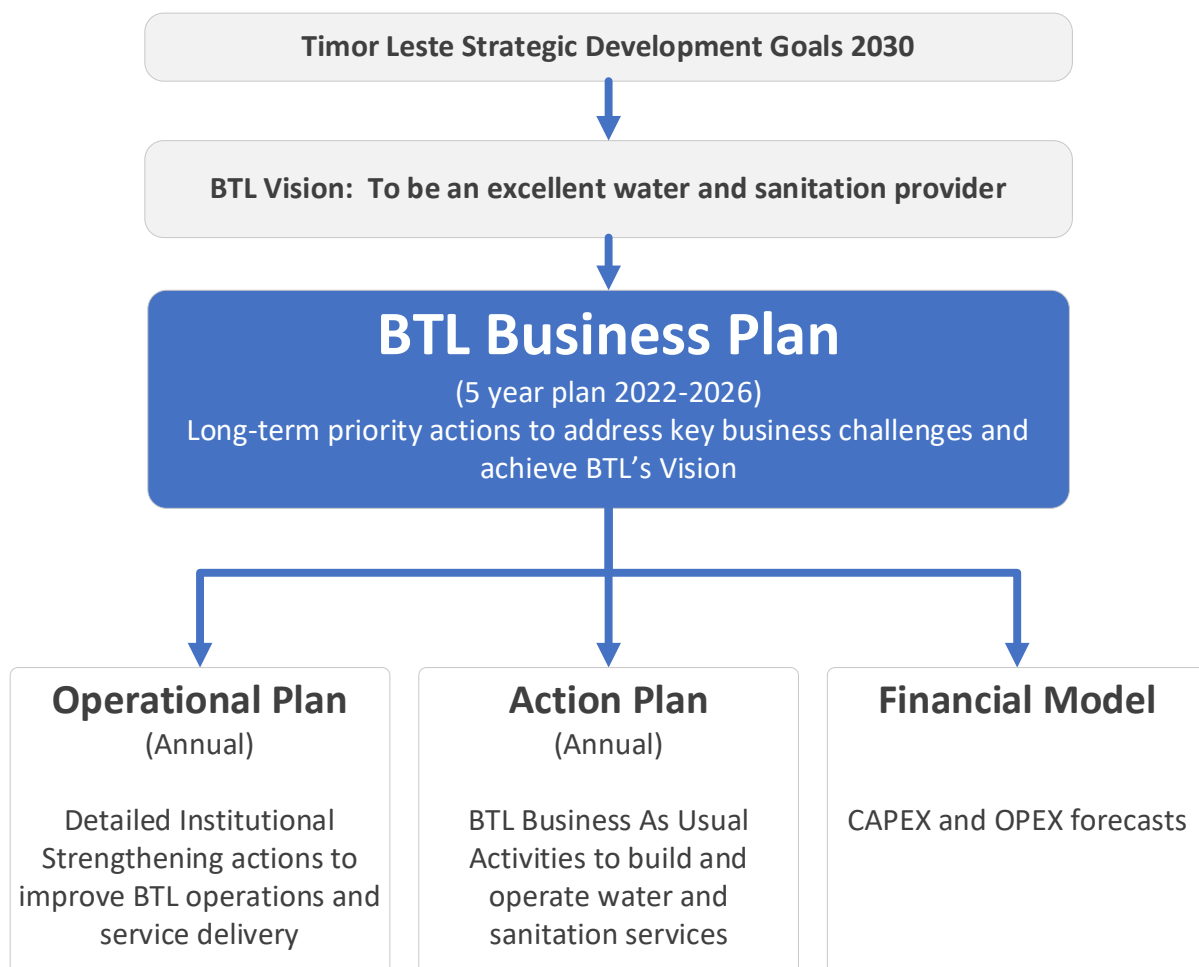


Figure 1 – BTL business planning structure

BTL’s Operational Plan (2022) is included in Appendix B. BTL’s Annual Action Plan (2022) 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 approximately 515 staff in technical, operational and administrative functions across the nation. BTL has established offices and operational depots in all municipalities, except Oecusse.

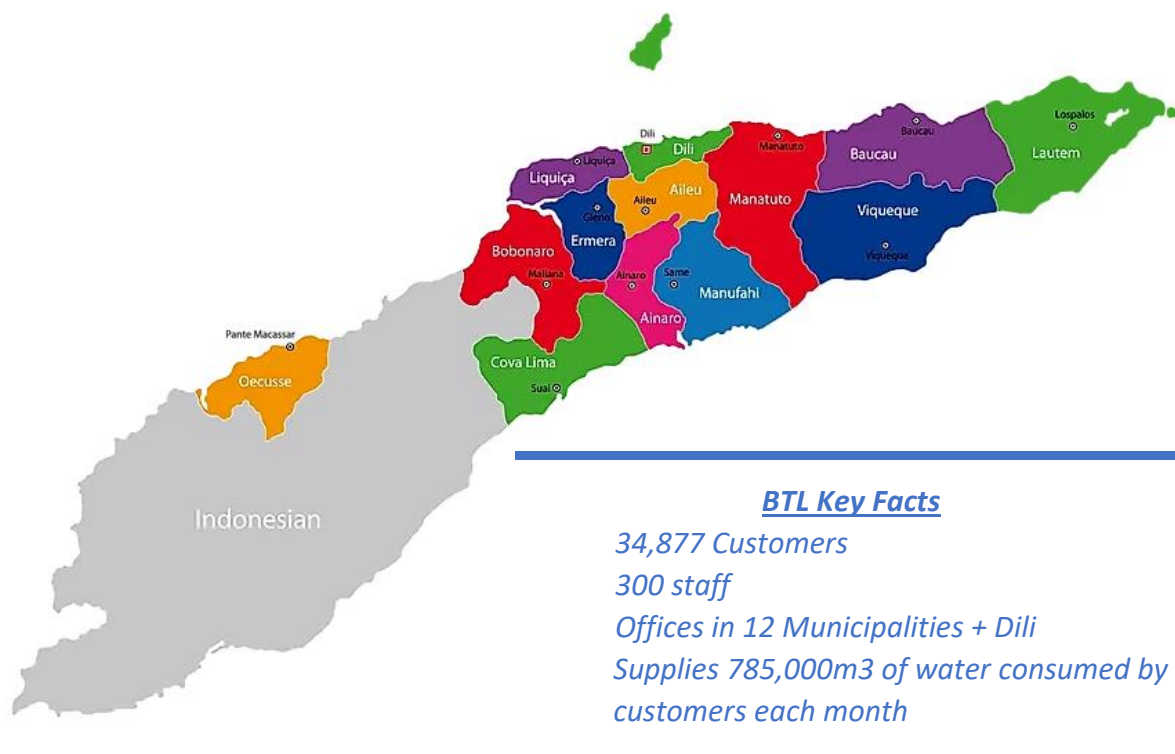


Figure 2 – Key BTL Facts

Note that the new municipality of Atauro is not shown as a separate Municipality in Figure 2.



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 several 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



	assets such as water treatment facilities do not produce water that meets National Water Quality standards
Poor revenue capture due to low rates of billing and bill payment, and out-of-date tariffs	Many customers do not receive regular bills from BTL due to infrequent meter reading or broken meters. Many customers find it inconvenient to pay bills due to the limited number of payment options currently offered by BTL
Introduction of digital systems in Finance, Billing, HR, Asset Management and Customer Management	Many areas of BTL do not use a modern, integrated IT system to support service delivery. This reduces the quality of service received by customers because operational and administrative processes must be completed manually





Priorities 2022-2026

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 four priorities are provided below. Detailed information on the priorities is included in Appendix A.

BTL Priority Areas 2022-2026

Priority #1

Build water, sanitation and drainage infrastructure

Priority #2

Connect new customers to BTL infrastructure

Priority #3

Build systems, skills and capability in BTL staff

Priority #4

Improve revenues

Figure 3 - BTL Business Plan Priorities



Priority #1: Build water supply, sanitation and drainage infrastructure

BTL will invest in new water supply, drainage and sanitation infrastructure, and repair existing infrastructure over the 2022-2026 period. This will build a strong foundation for 24/7 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	\$16.6m	2024-27
Aileu	Upgrading & extension of water infrastructure	New FSTP	\$14.4m	2024-27
Atauro²	TBA	TBA		2023-27
Baucau	Upgrading & extension of water infrastructure	New FSTP	\$31.7m	2023-26
Bobonaro	Maliana - Upgrading & extension of water infrastructure	New FSTP	\$28.3m	2024-27
Covalima	Suai - Upgrading & extension of water infrastructure	New FSTP	\$46m	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: >\$400m Other \$7m	2023-29
Ermera	Gleno - Upgrading & extension of water infrastructure	New FSTP	\$15.6m	2024-27
Lautém	Los Palos - Upgrading & extension of water infrastructure	New FSTP	\$18.7m	2023-26
Liquiçá	Liquica - Upgrading & extension of water infrastructure	New FSTP	\$16.6m	2024-27
Manufahi	O&M of Water Supply Infrastructure only		\$17.1m	2023-26

¹ FSTP: Fecal Sludge Treatment Plant

² Recently added as a municipality. Service needs 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
Manatuto	Same - Upgrading & extension of water infrastructure	New FSTP	\$3.9m	
Oecusse⁶	To be determined	New FSTP	\$6.3m	-
Viqueque	Upgrading & extension of water infrastructure		\$26.8m	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. Expected ongoing investments will reach **\$161m** in total over 2022-31.

Investment Program Management

In total, BTL plans to invest **\$1.02b** in water supply, sanitation and drainage infrastructure to the end of the decade. This investment in infrastructure is being carefully managed to ensure Timor-Leste receives good value for money, and that infrastructure delivers the expected benefits.

- 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.



Priority #2: Connect new customers to BTL infrastructure

BTL knows that the delivery of a significantly improved water supply, drainage and sanitation system will be a new experience for some citizens. Care will be taken to ensure that people understand that water in the network is convenient and safe to drink and that customers can easily and quickly connect.

BTL will be particularly careful to protect customers as new infrastructure is constructed and as customers are connected. Resettlement of affected citizens, and extensive communications to minimize the impact of new connections will be implemented.



Actions to connect new customers to BTL

- Deliver ongoing public communications regarding the construction of the new water, sanitation and drainage infrastructure, and how services will improve
- Improve processes to make it easy and quick to become a BTL customer
- Provide guidance to reduce water consumption
- Support vulnerable customers with special tariff arrangements, and monitoring to keep water bills affordable for everyone



Priority #3: Build systems, skills and capability in BTL

BTL will soon be operating significantly improved water supply and sanitation infrastructure. It needs its skilled people to operate and maintain the infrastructure, and deliver water supply services to BTL customers.

BTL has already established its structure, which includes a Board, Executive and Departments of:

- **Operations and Maintenance:** Responsible for the delivery of water and sanitation services
- **Engineering and Investments:** Responsible for the delivery of capital works
- **Administration and Finance:** Responsible for Human Resources, IT and Financial functions

Over 2021, BTL has recruited around 300 staff into its business across Timor-Leste. These staff are completing informal training to allow them to complete their work safely and effectively.



Actions to build systems, skills and capability in BTL

- Deploy a new IT system in late 2022 that will improve financial performance, how BTL operates and maintains its assets, and how BTL interacts with its customers (including billing)
- Develop training courses for its staff so that they can operate and maintain assets quickly and effectively
- Actively monitor Non-Revenue Water, and take action to identify and remove illegal connections
- Publish performance reporting so that all customers can see how BTL is performing, and where it can improve



Priority #4: Improve revenues

The new infrastructure being built by BTL is needed to improve the health of the population of Timor-Leste, reduce the time taken by people to collect water, and improve the productivity of the nation. The new infrastructure will be more expensive to operate and maintain than the current infrastructure because BTL will be delivering a significantly higher Level of Service. BTL is working closely with the regulator (ANAS) to find a way to raise more revenue to fund a higher Level of Service, while still protecting BTL's customers.

Actions to improve revenues

- Adjust its tariff structure, and raise water tariffs over time to help to pay for the new water infrastructure
- Improve payment options for BTL customers. BTL wants to make it as convenient as possible for everyone to see and pay their bills on time.
- Establish a Service Charter that will set out exactly what level of service customers can expect to receive
- Publish 2 yearly investment plans that set out exactly what will be built, when, where, and why



BTL Finances 2022-2026

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 2021.
- 2) BTL is predicted to require funding from Government for Operating expenses of approximately US\$10m per annum 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 FY2029, subject to successfully connecting new customers, revising tariffs, and delivering a service that customers will pay for.
- 4) Over the next few years, BTL's major sources of revenue will be through metering/billing of commercial customers ("Priority" customers). From FY2024 onwards, more of BTL's revenues will come from metering and billing of domestic customers.
- 5) 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 financial outcomes are shown below and in Appendix D.

Detailed analysis of BTL's financial position is included in BTL's Financial Model.



Key Financial Forecasts

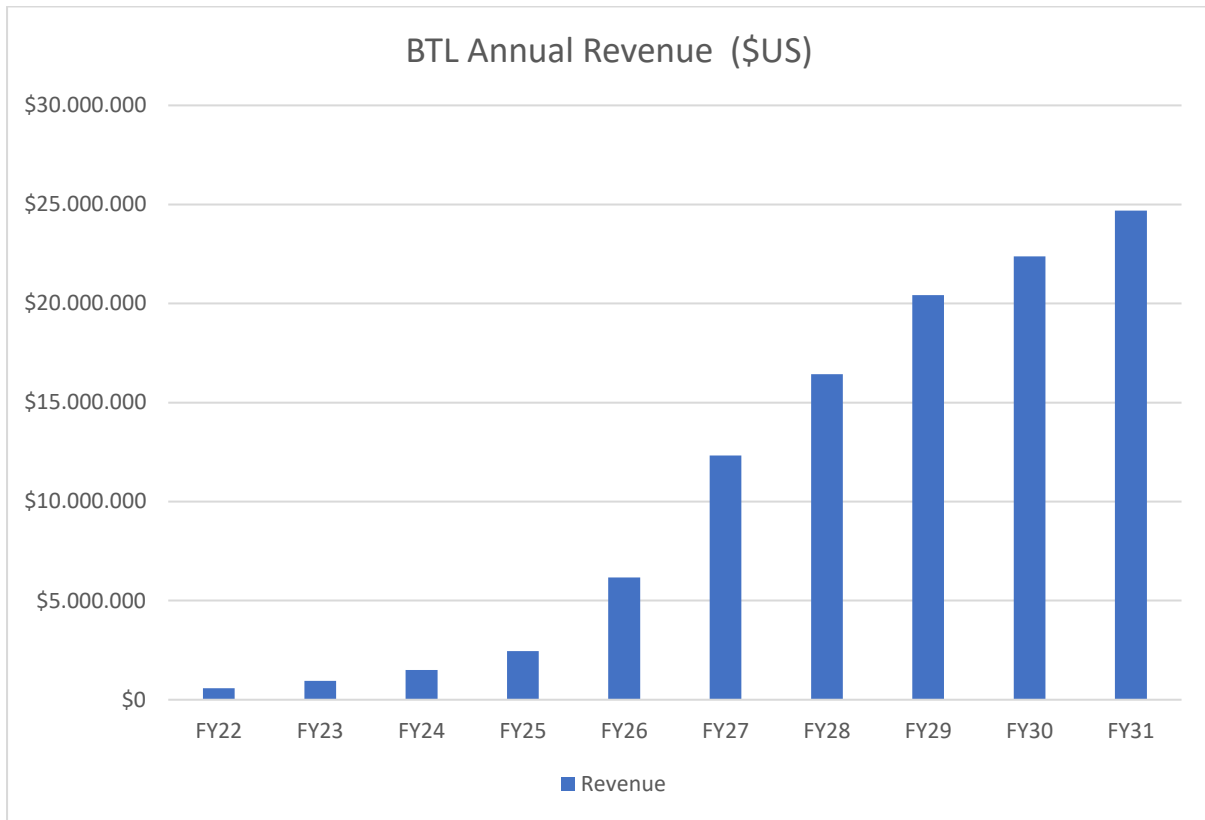


Figure 4 - BTL Revenues to 2031

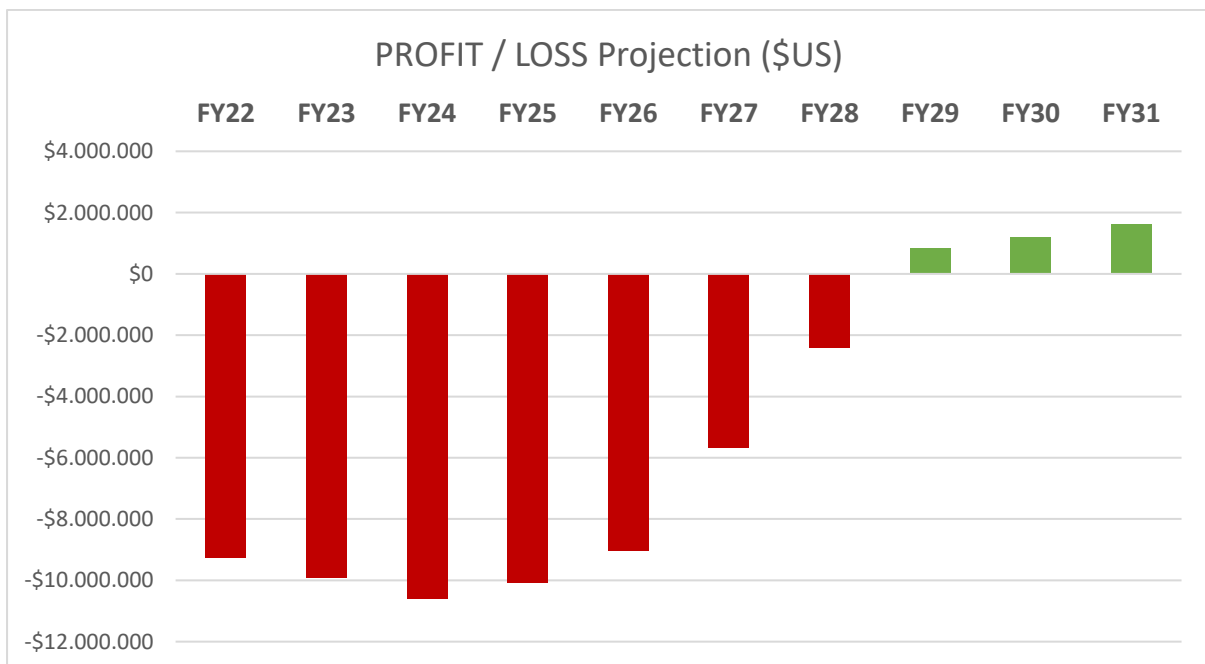




Figure 5 - BTL Operational Profit/Loss to 2031

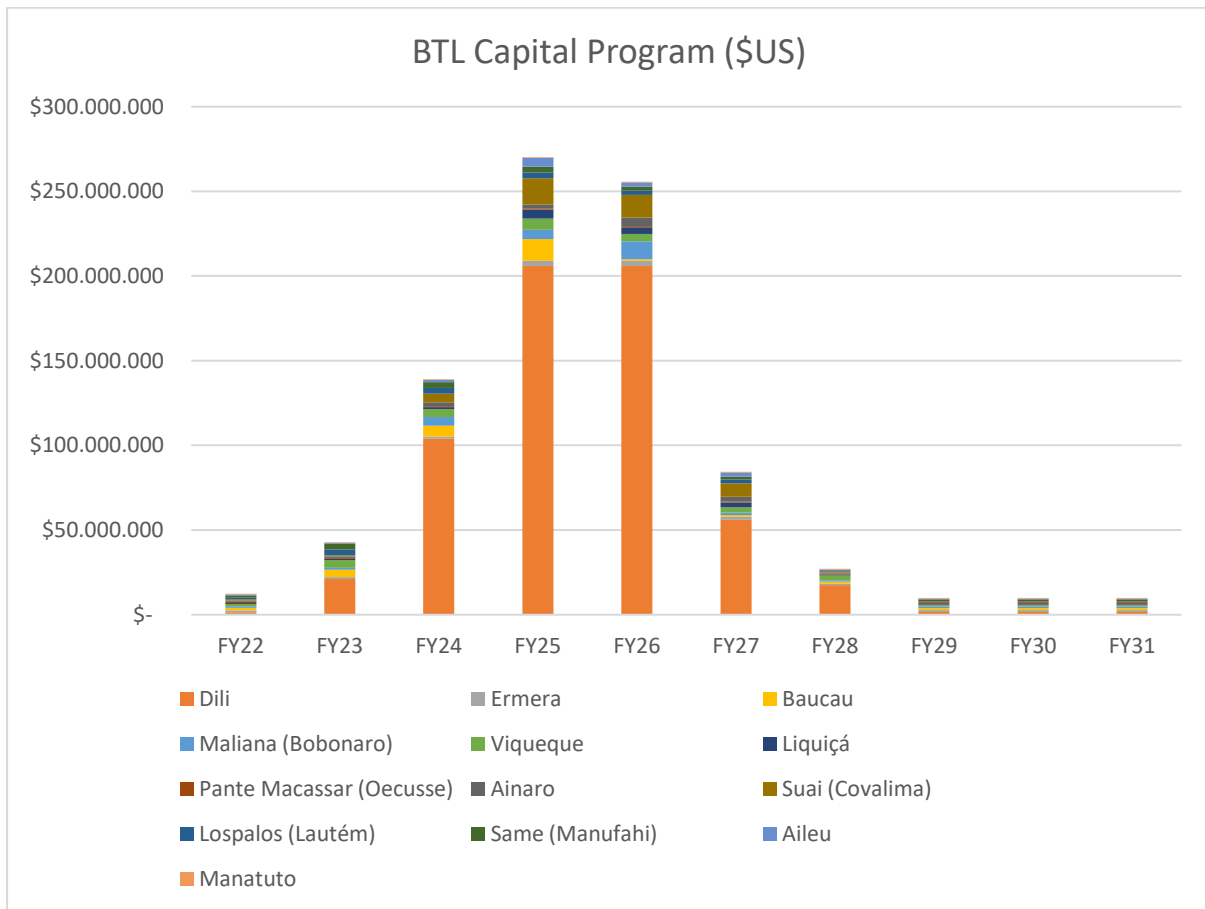


Figure 6 - BTL Capital Plan to 2031 (Major Works Program only)⁹

⁹ Investments in the new municipality of Atauro are yet to be confirmed



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, but not completed	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 ¹⁰
	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

¹⁰ To be set after Dili Water Supply construction project is commenced



Appendix A – BTL Business Priority Actions

Priority #1: Build water supply, sanitation and drainage infrastructure

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.



Priority #2: Connect new customers to BTL infrastructure

Deliver ongoing public communications regarding the construction of the new water, sanitation and drainage infrastructure, and how services will improve. This action will include virtual and face-to-face engagement with the local community. The intent of the program will be to describe what works will be completed and what it will mean for customers, including drinking water quality and consistent supply. There will be a particular emphasis on gender equity in the communications, noting the time saved by women because of the new water supply and the opportunities that this provides for women. The engagement will include highlighting that customers will receive water bills that customers are expected to pay. It will be clear in the communications that BTL has established a “Vulnerable Customer” category to protect customers who are less able to pay for the improved water supply.

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. The key information to collect from customers, how that information is loaded into the new BTL IT system, and how BTL welcomes new customers to its service will all be documented and practiced by BTL customer teams. The implications of new customers on BTL’s new infrastructure will also be communicated to the Operations and Maintenance Teams so that they can prepare for delivery of the water supply. For example, the O&M team will be required to increase water production, and apply more of their resources to provide maintenance as the network grows.

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 #3: Build systems, skills and capability in BTL

Deploy a new IT system in late 2022 that will improve financial performance, how BTL operates and maintains its assets, and how BTL interacts with its customers (including billing). BTL will ensure that it captures maximum value from the new IT System by monitoring its use by the different Departments of BTL. BTL will also require all staff to complete IT training they need to use the system properly. BTL will regularly audit the data being captured by the IT system to ensure that it is accurate and includes all of the information BTL needs to manage its assets.

BTL and the IT system vendor will work closely together over the coming years to ensure BTL's IT system continues to improve as new customers are added, and as more assets are constructed and customers connected across Timor Leste.

Develop training courses for its staff so that they can operate and maintain assets quickly and effectively. BTL staff are generally unfamiliar with 24/7 water supply and sanitation systems. These systems require O&M and Asset Management staff with practiced skills in responding to service failure and the repair of networks using safe and consistent maintenance approaches. BTL will develop a skills matrix and training programs for its staff. Over time, this will ensure that BTL staff gain and keep the skills they need to deliver good quality water and sanitation services.

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.



Priority #4: Improve revenues

Adjust its tariff structure, and raise water tariffs over time to help to pay for the new water infrastructure. BTL's current tariffs were set in 2004, and have not been adjusted since this date. This means that the real value of tariffs have declined significantly, and are now insufficient to cover the cost of delivering a water and sanitation service. BTL has established a tariff pathway that is being reviewed by the regulator, ANAS. This tariff structure is designed to increase the revenues of BTL. The structure includes provisions for the protection of Vulnerable customers.

BTL will need to work carefully to introduce higher tariffs. This will need to include extensive public education campaigns that describe why tariffs are rising, and how service levels are also improving.

Improve payment options for BTL customers. BTL wants to make it as convenient as possible for everyone to see and pay their bills on time. BTL's customers currently have few options to pay their water and sanitation bills. BTL will work to establish additional, more convenient, payment channels to make it easier for customers to engage with BTL and pay their water bills.

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.

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.



Appendix B – BTL Operational Plan 2022

BTL Operational Plan 2022

7 April 2022



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

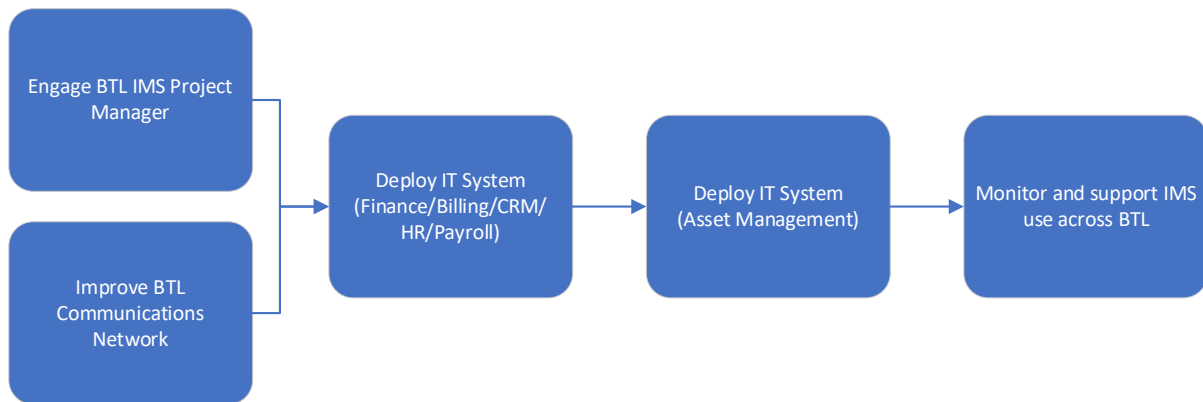
BTL's asset base will expand quickly, as infrastructure projects are constructed over this coming decade. BTL is acquiring the capabilities that it needs to manage these assets, and responding to the challenges that it will face through four (4) Operational Plan Topics:

Challenge	Operational Plan Topics	Minimum Outcomes
Registering and connecting new customers, and keeping existing customers happy	Topic 1: Customer Management and IT System Deployment	IT system is operational by September 2022
Paying for the operation of the new networks	Topic 2: Growing BTL revenues	100% of BTL's priority customers issued monthly bills by December 2022
Meeting customer expectations for supply quality and reliability using the new networks	Topic 3: Delivering a 24/7 water supply	One water supply zone delivering 24/7 water supply to priority customers by December 2022
Ensuring connections are legal, and delivering expected service levels to customers	Topic 4: Improving Regulation	BTL removes illegal connections in one zone, and delivers agreed service to customers by December 2022

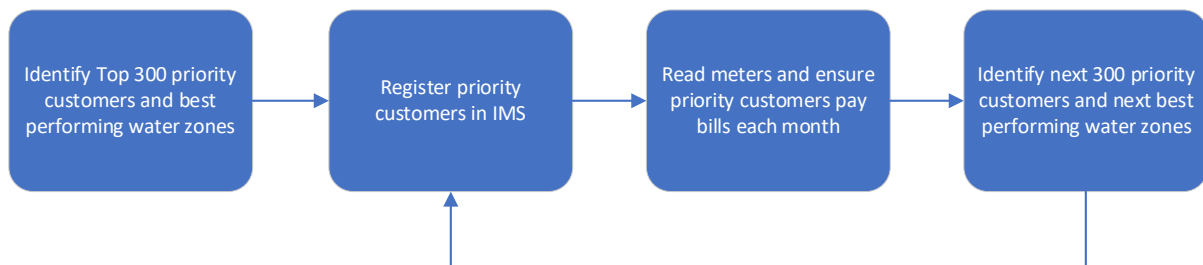
Operational Plan Actions

BTL is completing the following Operational Plan Actions in 2022:

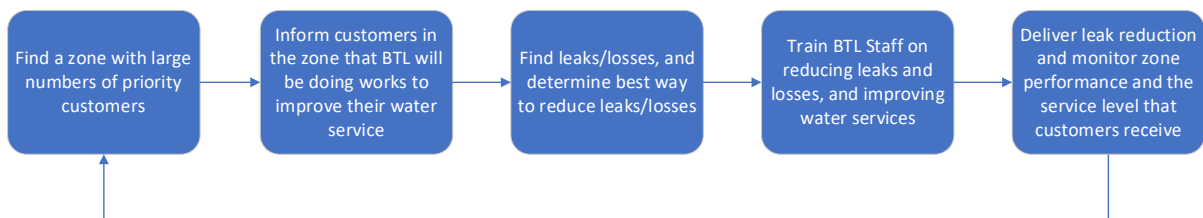
Topic 1 – Customer Management and IT System Deployment



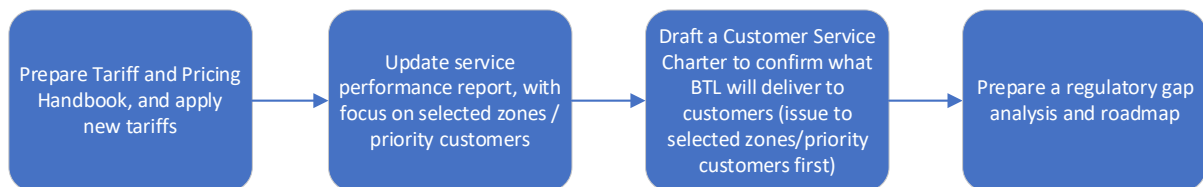
Topic 2 – Growing BTL Revenues



Topic 3 – Delivering a 24/7 Water Supply



Topic 4 – Improving 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 3 months to progress Operational Plan actions.

Further Information

The following sections provide additional information on the Operational Plan:

- A summary diagram of Operational Plan Actions to end 2022
- Detailed Action Plans to deliver improvement in BTL
- Other challenges for BTL to address through its Development Partners



BTL Business Plan

Operational Plan Roadmap

<u>Topic</u>	Now 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"> Appoint an accountable BTL "Project Champion" Engage a BTL Project Manager / Project Coordinator Begin implementation of IMS solution 	<ul style="list-style-type: none"> Migrate data and establish future requirements of existing databases Complete implementation of the IMS solution Establish support process for IMS solution 	<ul style="list-style-type: none"> Define business processes and train staff Improve support process for IMS solution
Growing BTL Revenues	<ul style="list-style-type: none"> Identify priority BTL customers, and ensure that these customers get bills and pay their bills 	<ul style="list-style-type: none"> Identify how customers want to interact with BTL. Review health of BTL meter fleet, and processes to read meters or replace broken meters 	<ul style="list-style-type: none"> Establish a new engagement channel (eg BTL Website, call centre, facebook forum etc)
Delivering a 24/7 supply	<ul style="list-style-type: none"> Identify zones that are important to BTL, and can be targeted for 24/7 supply Train the O&M team in basic O&M (tools, work, goals, timelines) 	<ul style="list-style-type: none"> Start work to build toward 24/7 supply in selected zones Monitor/report service levels received by customers 	<ul style="list-style-type: none"> Document approach to delivering 24/7 supply Roll out process to additional zones, or Municipality systems
Improving Regulation	<ul style="list-style-type: none"> Reach agreement on planned tariff structure Document legal structures and subordinate legislation needed by BTL to own/manage assets and deliver services 	<ul style="list-style-type: none"> Prepare a Pricing Handbook for use by BTL and ANAS 	<ul style="list-style-type: none"> Identify gaps in regulatory framework, and establish a regulatory improvement roadmap Draft a Customer Service Charter (including draft performance goals)



Detailed Action Plan

Topic 1: Customer Management and IT system deployment (Customer Engagement)

#	Action	Outcome	When	Responsibility (BTL)
1	Sign contract with IT vendor for the supply of the IMS	IMS vendor engaged to implement and support the IMS	May	TBC
2	Identify BTL Project Manager for the IMS deployment	A single BTL person is responsible for the IMS deployment	May	TBC
3	Improve BTL's communications network	BTL communications allows the IMS to operate	June	TBC
4	Deploy the IMS, and Train BTL staff	Finance, HR / Payroll modules operating by July	July	TBC
		Billing and CRM	August	
		Asset Maintenance and Management modules operating by September	September	
5	Review IMS performance and support BTL staff	BTL understands how well the IMS is being used by the business, and acts to improve use of the IMS	August to December	TBC

Topic 2: Growing BTL Revenues (Sustainable Finances)

#	Action	Outcome	When	Responsibility (BTL)
1	Identify the Top 300 "Priority" Customers	BTL understands which customers are most important to bill	May	TBC
2	Register the Top 300 customers in the IMS	Priority Customers are registered in IMS	June	TBC
3	Ensure Priority Customers receive a bill every month	BTL is reading meters and issuing bills	May	TBC
4	Ensure that BTL follows up on any unpaid bills	BTL is making sure that it is earning revenues	May	TBC



#	Action	Outcome	When	Responsibility (BTL)
5	Identify how customers want to interact with BTL and roll out new engagement channel	BTL makes it easier for customers to pay their bills	September	TBC
6	Identify the Top 600 "Priority" customers and repeat steps above	BTL moves to the next most important customers and repeats the process	October to December	TBC

Topic 3: Delivering a 24/7 Water Supply (Operations and Maintenance)

#	Action	Outcome	When	Responsibility (BTL)
1	Identify 3 water zones within Dili, and describe their operation	BTL understands what its zones are, and how they should operate	May	TBC
2	Identify a zone with large numbers of priority customers, and check valves are operating in the selected zone	A particular zone is selected that will be made to reach 24/7 supply	May	TBC
3	Inform customers in the zone that BTL will be doing works to improve their water supply	Customers understand and can see that BTL is working to improve services	May	TBC
4	Document assets in the zone and test accessibility / operation	It is clear what is being managed, and how well the zone can be operated	May	TBC
4	Isolate the zone, and identify leaks/losses from the zone (install DMA meters if possible)	BTL develops water balances and identifies areas of greatest losses	May	TBC



#	Action	Outcome	When	Responsibility (BTL)
5	Work out how to reduce leaks/losses from the network	Identify the best approach to reduce losses	June	TBC
6	Prioritise actions to reduce leaks/losses in the supply zone, prepare standard work instructions, and train BTL staff on each action.	BTL develops the skills it needs to fix priority problems in the supply zone	July	TBC
7	Deliver leak reduction actions	Leaks and losses reduce in the zone	August - October	TBC
8	Monitor performance of the zone every week (Water Quality, Reliability, Losses, Work Completed)	BTL can demonstrate that actions are improving water supply in the zone. A report is published each month	May - October	TBC
9	Select another zone and repeat	BTL moves to the next most important zone and repeats process	November to December	TBC

Topic 4: Improving Regulation (Working with ANAS)

#	Action	Outcome	When	Responsibility (BTL)
1	Prepare Tariff and Pricing Handbook	BTL and ANAS agree on what tariffs should be used, and how they should be applied/managed	May	TBC
2	Review regulations	Document legal structures and subordinate legislation needed by BTL to own/manage assets and deliver services		TBC
2	Prepare monthly service performance report for selected water supply zones and Priority Customers	BTL can show ANAS that it is delivering better service to its customers	June-December	TBC



#	Action	Outcome	When	Responsibility (BTL)
3	Draft a Customer Service Charter	BTL shows that it understands customer expectations. Informs customers of what they can and cannot do (including using illegal connections)	November	TBC
4	Complete a regulatory gap analysis and roadmap	ANAS/BTL agree on the additional regulation needed to improve water supply and sanitation in Timor-Leste, and have a plan to prepare the additional regulation	December	TBC



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 2022

PRIORITY AREA 1: Good Governance and Institutional Strengthening							
KEY OUTPUTS AND ACTIVITIES	INDICATORS	Q1	Q2	Q3	Q4	RESPONSIBILITY	
Key Positions (Internal/External recruitment) and Municipalities including drafting Policies and SOPs	DAF, CPRM, MOI, SOMM, Audit Specialist, Int. Procurement Expert, IT Programmers, HSE officer for Dili/National					HRAM & DAF	
	Drivers and T.O (11 Municipalities)					HRAM & DAF	
ERP System is online	Continuation of Employment Contract for Existing Staff for all Department					HRAM & DAF	
	Travel, HSE Policy and other Policy/Guidelines					DAF, EQCM, LSC	
	Purchased PPE equipment's for all BTL-EP Technical Staff					EQCM & DEI/DOM/PAM	
	Daily notification and report for incidents					EQCM & HSE	
	IT Programmer Specialists are assuming charge					HRAM & DAF	
	ERP System is online					DAF, ITM, PAM	
	Audit Specialist assumes charge					HRAM	
	Audit Unit become operational					DAF & Audit specialist	
	Establishment of Internal Audit Unit	External Audit Firm assume charge for 2 weeks					DAF, PAM, FAM & Audit Specialist
KEY OUTPUTS AND ACTIVITIES	INDICATORS	Q1	Q2	Q3	Q4	RESPONSIBILITY	



	The Annual Workplan and Budget of the BTL for 2023 is prepared on the basis of the norms, standards and procedures developed under the BTL Strategy					II VP CE & Audit Specialist
Establishment of the Procurement Unit and implementation of Procurement Strategy.	<p>Procurement Strategy including the action plan is approved by the President</p> <p>International/National Procurement Expert assumes charge</p> <p>Procurement Office becomes operational</p> <p>Implementation of Procurement Capacity Building Plan is initiated</p> <p>The Annual Procurement Plan 2023 for BTL is prepared on the basis of the norms, standards and procedures developed under the Procurement Strategy</p>					<p>The President & Procurement Expert</p> <p>HRM & PAM</p> <p>DAF & Procurement Expert</p> <p>DAF & Procurement Expert</p> <p>DAF & Procurement Expert</p>
Rationalization of functions and staffing in BTL National departments.	<p>Rapid appraisal of the structure and functional distribution of the departments</p> <p>Proposal for restructuring and functional reassignment, including rationalisation of staffing is approved by the President and implementation begins</p>					<p>HRAM & DAF</p> <p>HRAM & DAF</p>
KEY OUTPUTS AND ACTIVITIES	INDICATORS	Q1	Q2	Q3	Q4	RESPONSIBILITY
Improving public accountability,	Proposal for setting up of Customer Information and					DAF, ITM, CPRM



transparency, inclusion and customer' access to information	Advisory Centre (CIAC) is developed and approved by the President					
	CIAC is operationalised in partnership with private sector and civil society					ITM & CPRM
	Launch of Open Budgeting program					FAM & CPRM
	Developing and launching a Right to Information policy					LSC & CPRM
Targeted Department Career Development plan and capacity building	Implementing the capacity building plans for procurement, planning and M&E as well as for finance.					HRAM, PME & Procurement Expert and FAM
	Carrying out a needs assessment for water and sanitation function related capacity building in other departments					DAF & HRAM
	Implementation and measurement of results of capacity building					DAF & HRAM
	e-Procurement platform is developed and implemented					Procurement Expert & PAM
Establishment of e-Governance and other digital platforms for service delivery	Websites for departments and blogs for information and knowledge sharing are developed and launched					ITM, Procurement Expert and PAM, CPRM
	Billing and payment services such as mobile banking services are launched					ITM & IT Programmers and CSM
KEY OUTPUTS AND ACTIVITIES	INDICATORS	Q1	Q2	Q3	Q4	RESPONSIBILITY
	Customer' access to information and grievance redress					CPRM & CSM



	Request for Proposal (RFP) for national/international firms are floated and is established					PAM & CPRM
	Qualified firms asked to develop a branding strategy and to organize events as detailed in the Stakeholder Engagement Strategy approved by the President					CPRM & DAF
Branding and Communication strategy and marketing plans for BTL as well as implementation of the Stakeholder Engagement Strategy	Socialization, advertising and advocacy					II VP CE, LSC, CPRM, CSM
	Implementation of the strategy is initiated with annual work plans and budgets for 2022 reflecting the strategy					II VP CE, LSC, CPRM, CSM Executive Commission
New water tariff is approved and implementation	Socialization and advocacy					II VP CE, LSC, CPRM, CSM
	Implementation of the strategy is initiated with annual work plans and budgets for 2023 reflecting the strategy					Executive Commission. HRAM & DAF
BTL Business Plan is Approved and Implemented	Operationalization of Water system and sanitation					Executive Commission
	Implementation of new Business Plan is initiated					Executive Commission
KEY OUTPUTS AND ACTIVITIES	INDICATORS	Q1	Q2	Q3	Q4	RESPONSIBILITY
Establishment of Client Support Strategy	Payment center in Dili and Municipalities					CSM & DAF



	Expand payment center in Dili to enable customers to pay their bills					CSM & DAF
Establishment of CS Payment Center	Establishing of Information Center to support customers through hotline number					DAF, CPRM & CSM
	Questionnaires are developed and implemented					CSM & DOM
Information Center (hotline) Survey of BTL Customer Satisfaction Initial Asset Management	Customer service and rapid approaches					CSM & DOM
	Direct Interacting and customer approach					CSM & DOM
	Preparing an asset register: An inventory list of available assets and Identify asset conditions and rating system					PAM, DEI, FAM
	Track asset depreciation accurately at timely intervals and Determine the value of assets and their replacement cost					PAM, DEI, FAM
	Reactive to predictive asset maintenance and ensure database integrity					PAM, DEI, FAM
PRIORITY AREA 2: IMPROVE WATER SYSTEM, SANITATION AND DRAINAGE						
KEY OUTPUTS AND ACTIVITIES	INDICATORS	Q1	Q2	Q3	Q4	RESPONSIBILITY



Improvement and Maintenance the Wastewater Treatment Plant (WWTP)	Tibar Wastewater Treatment Plant (WWTP)					DOM & PAM
	Baucau Wastewater Treatment Plant (WWTP)					DOM & PAM
	Covalima Wastewater Treatment Plant (WWTP)					DOM & PAM
	Rehabilitation the Office of Tibar WWTP					DOM, PAM & EQC
Toilet Public maintenance	Dili city					DOM & PAM
Cleaning Urban Drainage	Dili city					DOM
Improvement of the Metinaro Desalination Drinking Water Treatment Plant Business Plan	Survey, maintenance & repairing the whole systems					DOM, PAM & EQC
	Draft Business and Operational Plan and approved by CE & CA BTL, E.P					II VP CE, DOM, DEI, DAF
	Draft Legal framework for Drinking Water					LSU
	Environmental License					LSU, EQCM, DEI
	Design & Construction of a new building					DOM, DEI & PAM
	Purchase Heavy Equipment (Trucks), machineries, & gallon / bottles					DOM & PAM
	Sales Promotion					DOM, PAM, EQC & CS
KEY OUTPUTS AND ACTIVITIES	INDICATORS	Q1	Q2	Q3	Q4	RESPONSIBILITY
Improvement and maintenance of the	Socialization of the laws and regulations of the water utilities					DOM, LSC & CS



Water Services System in Capital Dili					
	Operation & maintenance and repairing in each of the zone (zone 1-11)				DOM
Improving the water supply and the Sanitation systems in the municipalities	O&M of the Urban Water and Sanitation in 11 municipalities including RAEOA				DOM
	O&M of the Rural Water and Sanitation in 11 municipalities including RAEOA				DOM
Design and Implementation of New project Capital post-administrative and Rurals	30 Sub District Town Water Supply system				DEI and PAM
	13 Suco or Aldeia Water Supply System				DEI & PAM
Monitoring and Monitoring of Project. (Monitorizasaun no fiskalizasaun (MOI-DEI)	Continue Payment for 43 Project including retention.				DEI & PAM
	Continue Payment for 10 Project including retention (FI).				DEI & PAM
	Payment for community Latrines and Public Toilet in 7 Municipality.				DEI & PAM
					DEI & PAM



	Dili Drainage Upgrading Project Implementation for Project No 01,04,07 and 08.					
Master Plan For 6 Municipalities	Finalizing of Master Plan for Aileu, Gleno And Liquica					DEI, PAM & PMU
	Finalizing of Master Plan for Ainaro Bobonaro And Covalima-Suai					DEI, PAM & PMU
Detail Engineering Design for Water Supply And Sanitation	Detail Engineering Design for Dili Urban Capital Water Supply and Sanitation					DEI, PAM & PMU
	Ded Of Timor Leste Four Municipal Capitals Water Supply and Sanitation Project Fp/039/Mop-2019					DEI, PAM & PMU
Water Supply with Gravity System Project 2021 (Projetu Sistema Bee-Mos Categoria Gravitiku)	Construction of Water Supply System in Maubesi Capital Town.					DEI & PAM
	Construction of Water Supply System in Sub District Hatuberlico Capital Town (Konstrusaun Sistema Bee-Mos Iha Pa Hatubuilico Vila-Ainaro)					DEI & PAM
	Construction of Water Supply System In Sub District Quelecai Capital Town, Konstrusaun Sistema Bee Mos Iha Postu Quelikai Vila					DEI & PAM
	Improve Water System in Mehara Pa Tutuala					DEI & PAM



	Construction of Water Supply System in Sub District Luro'lautem					DEI & PAM
	Construction of Water Supply System in Bualale Sub District Capital Quelecai-Baucau					DEI & PAM
	Construction of Water Supply System in Sub District Suibada-Manatuto					DEI & PAM
Water Supply with Boreholes System Category (Projetu Sistema Bee-Mos Kategorisa Perfurasaun)	Construction of Water Supply System in Sub District Laga-Baucau					DEI & PAM
	Improve Water Supply for Pa Vemasse-Baucau					DEI & PAM
Water Supply With Boreholes System Category (Projetu Kategorisa Pakote Perfurasaun (Esplorasaun))	Water Supply With Boreholes System Fatuberliu, Maubara, Luro,Leorema (1-Phase)					DEI & PAM
	Construction of Water Supply System in Sub District Cristo Rei-Dili					DEI & PAM
Supply & Installation of Prefabricated Liner Tanks Project Package	Supply & Installation of Prefabricated Liner Tanks					DEI & PAM
	Supply & Installation of Prefabricated Liner Tanks					DEI & PAM
Supply & Installation of Prefabricated	Supply & Installation of Prefabricated Liner Tanks Project Package Pa. Luro					DEI & PAM



Liner Tanks Project Package	(Lautem), Pa. Laga (Baucau), Pa. Vemasse (Baucau) & Pa Soibada (Manatuto)					
Emergency Recovery Project Affected by Heavy Flood on April 4, 2021, Funded by Emergency Fund (Fi)	Pre Rekuperasaun Emerjensia Ba Perfurasaun Bee Mos Iha Dili Urbana					DEI & PAM
	Emergency Supply and Gabion Construction for Weten Transmission Pipeline (Municipio Manatuto),					DEI & PAM
	Improve Water System-Section 3					DEI & PAM
Follow Up Project Documents Submitted to ANLA for Ddiup Projetu and Baucau Water Supply Project	Dili Drainage Upgrading Project Environmental License					LSU, EQCM, DEI
	Baucau Environmental License Project Document					LSU, EQCM, DEI



BTL Financial Model

A summary of findings and model functionality/operation



Summary

BTL uses a Financial Model to support its goal¹¹ 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 should be used by BTL's management accountants to determine BTL's future financial position, and test different assumptions regarding revenue growth and operating costs.

Establishing BTL as a financially sustainable business will take time and considerable effort to achieve. Notwithstanding several key assumptions which require review and confirmation, as at May 2022, some conclusions regarding BTL's financial position can be drawn, as below.

Conclusions

- 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.
- 2) BTL is predicted to require funding from Government for Operating expenses of approximately US\$10m per annum 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 FY2029, subject to successfully connecting new customers, revising tariffs, and delivering a service that customers will pay for.

¹¹ Decree Law 41/2020 Article 27



- 4) Over the next few years, BTL's major sources of revenue will be through metering/billing of commercial customers ("Priority" customers). From FY2024 onwards, more of BTL's revenues will come from metering and billing of domestic customers.
- 5) 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.

Dashboard Graphs

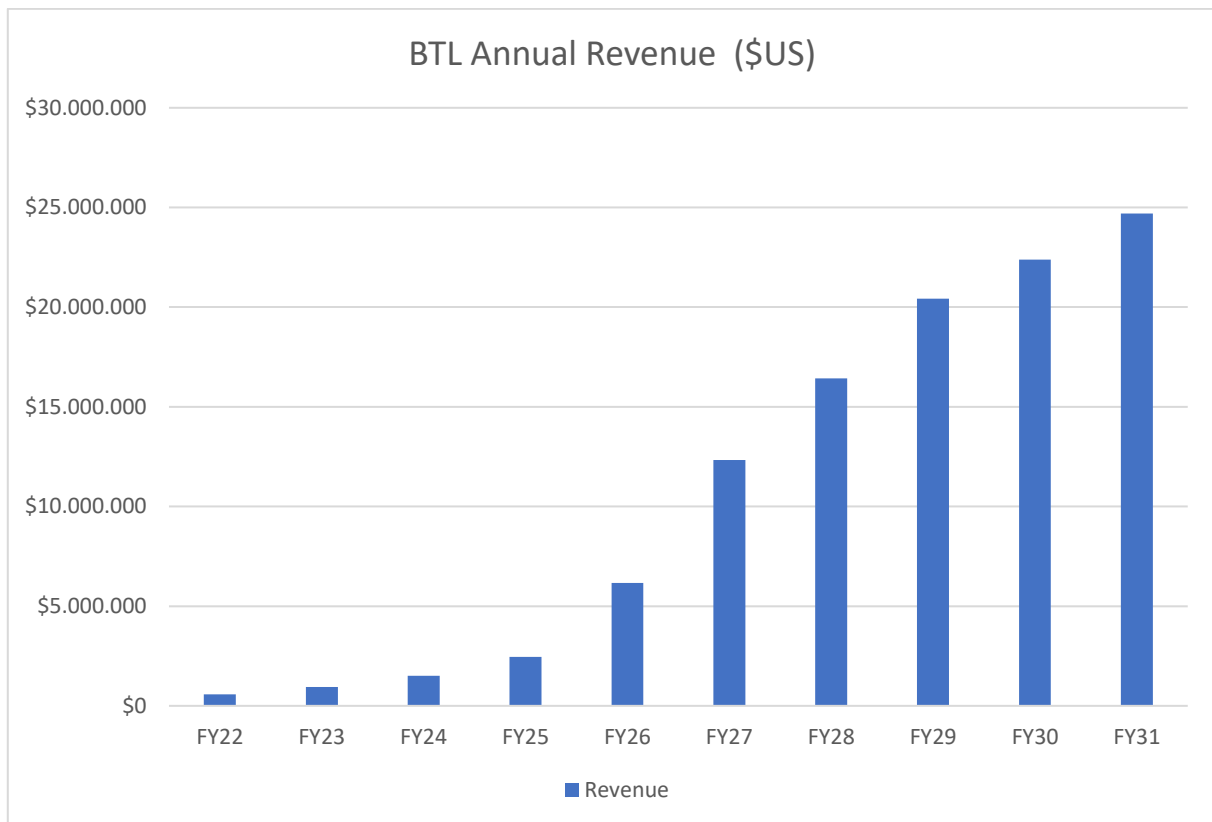


Figure 7 - BTL Revenue Projections

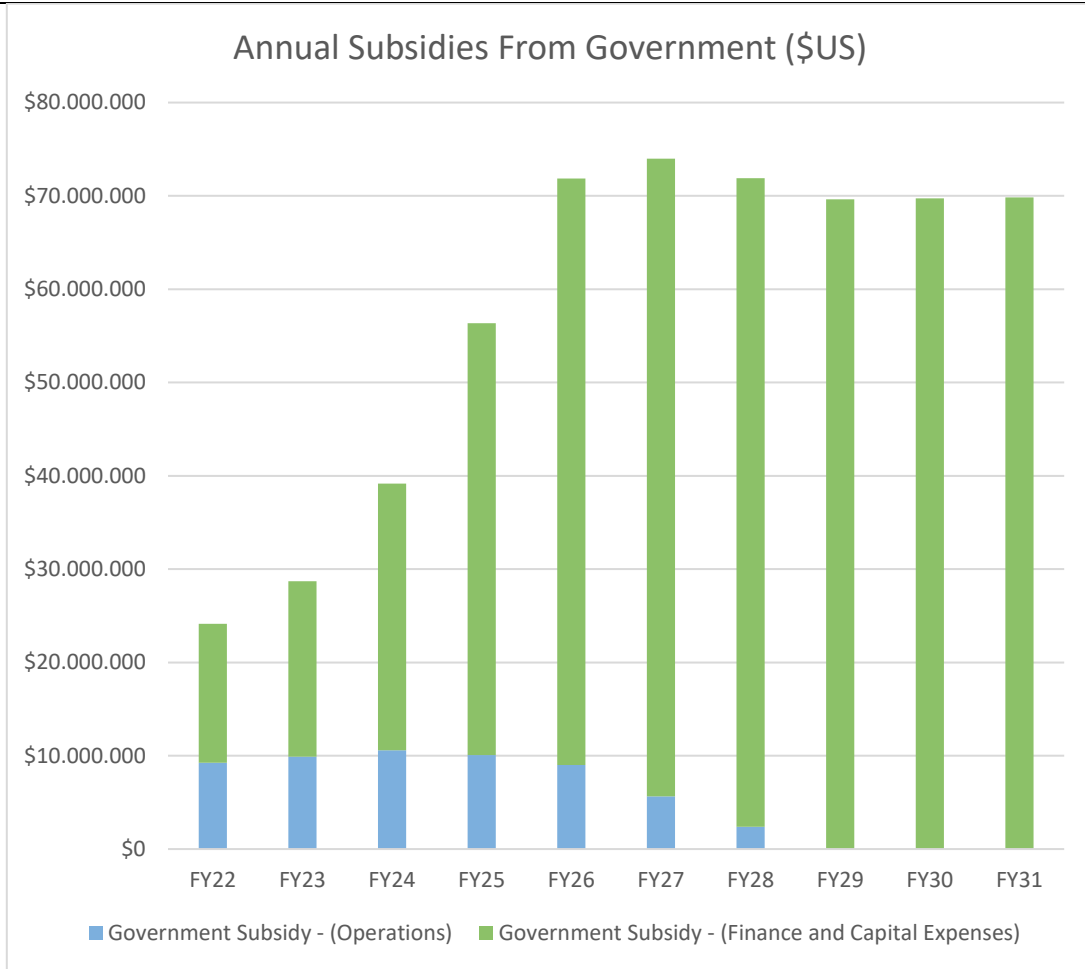


Figure 8 - Funding from Government

	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



Report

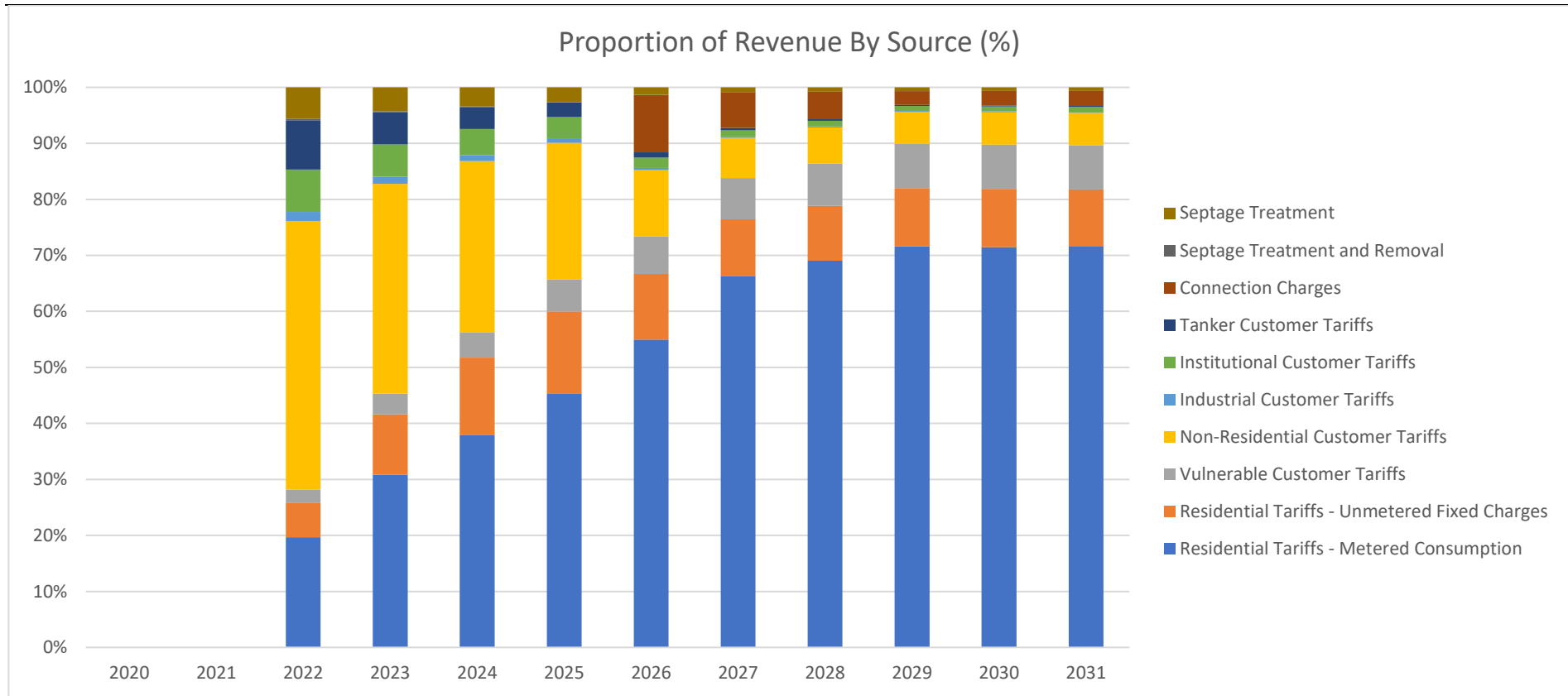


Figure 9 - BTL Source of Revenue



Report

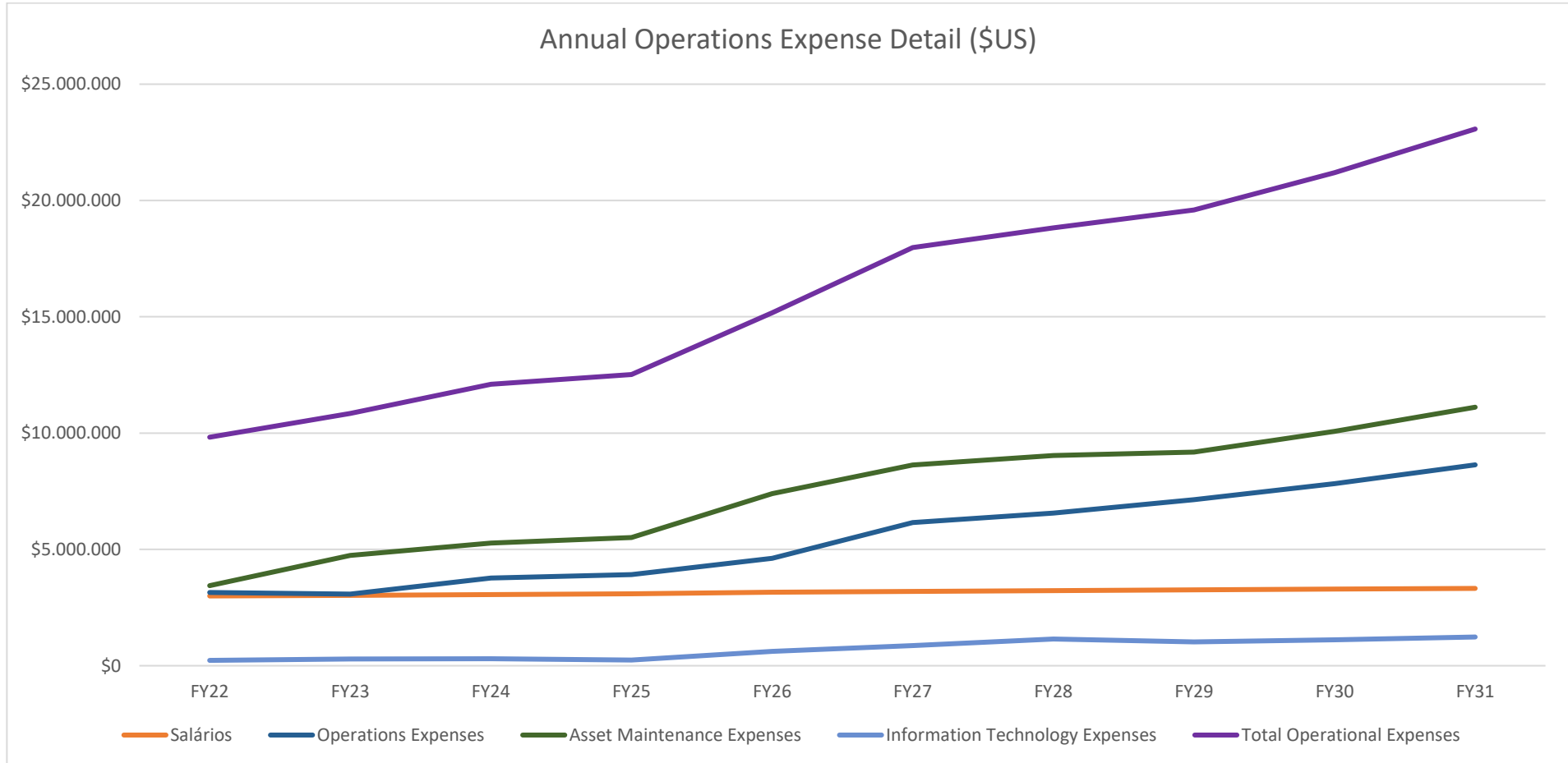


Figure 10 - BTL Operations Expenses

Ref:

Version: 1-1

Document Owner: II Vice President of Executive Committee BTL, E.P

Release Date: 16/05/2022



Report

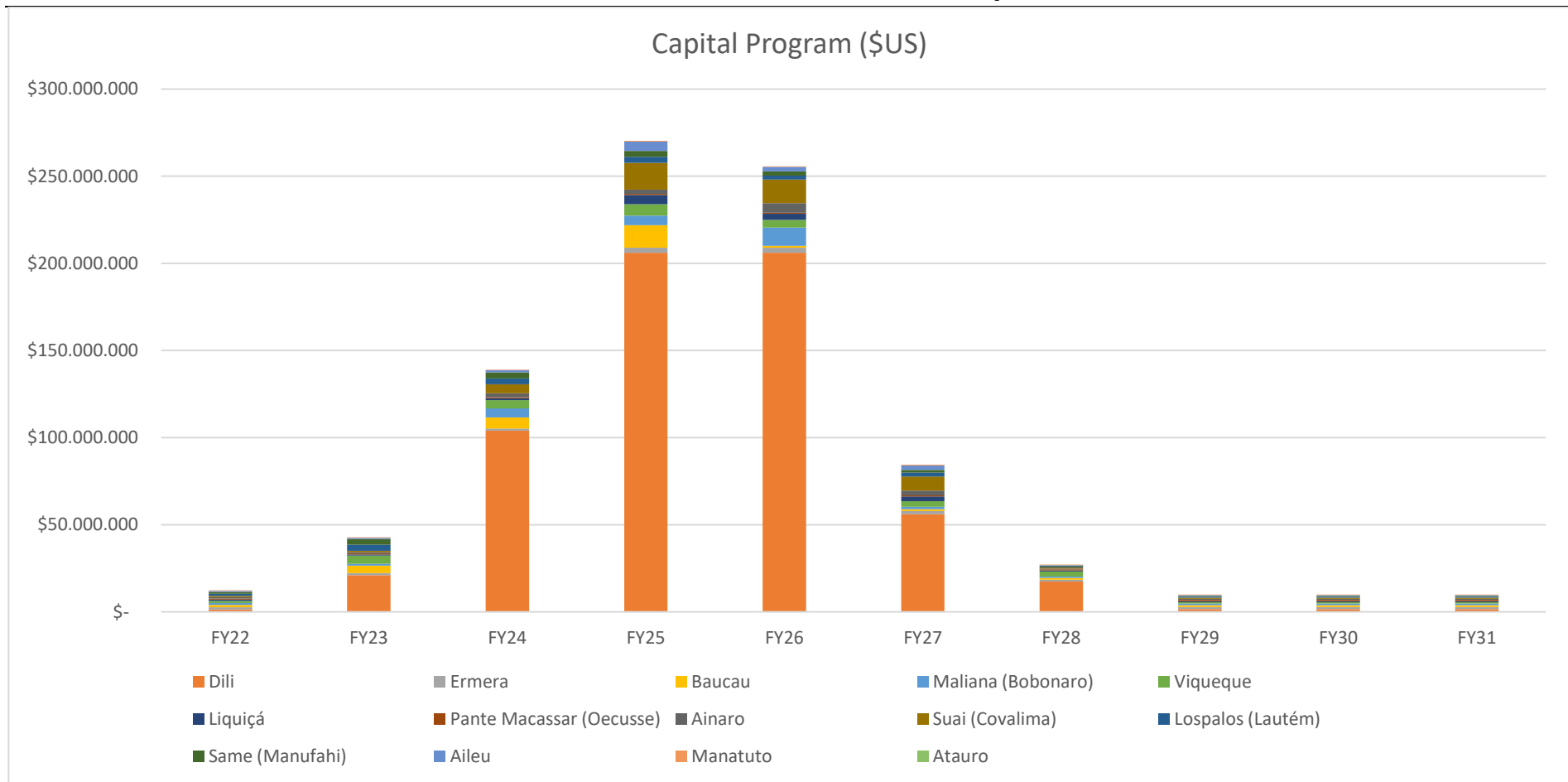


Figure 11 - BTL Capital Program (excluding minor works program)

1 Background

BTL uses a Financial Model to support its goal of economic viability and financial balance of the company¹².

2 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.

3 Structure of the Financial Model

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

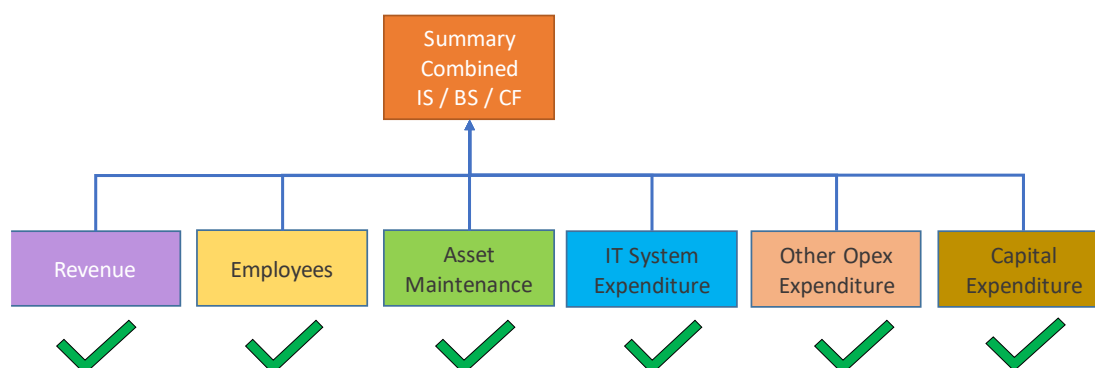


Figure 12 - BTL Financial Model Modules

The model is built in Microsoft Excel, and consists of the following tabs, each of which represents the modules noted in Figure 12 above.

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

¹² 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.**

Table 4 - Financial Model Module Description

4 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:

5 Key Revenue Assumptions

6 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.

7 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.

8 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.

9 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.

10 Key Cost Assumptions

11 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, both Asset Maintenance and Operations must both allocate over 450% of BTL's revenue in order to fund its operational activities. In total, BTL's O&M allocations in 2022 are over 900% of BTL's revenues.

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.

12 Module Operation

13 Operation of the Revenue Module

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

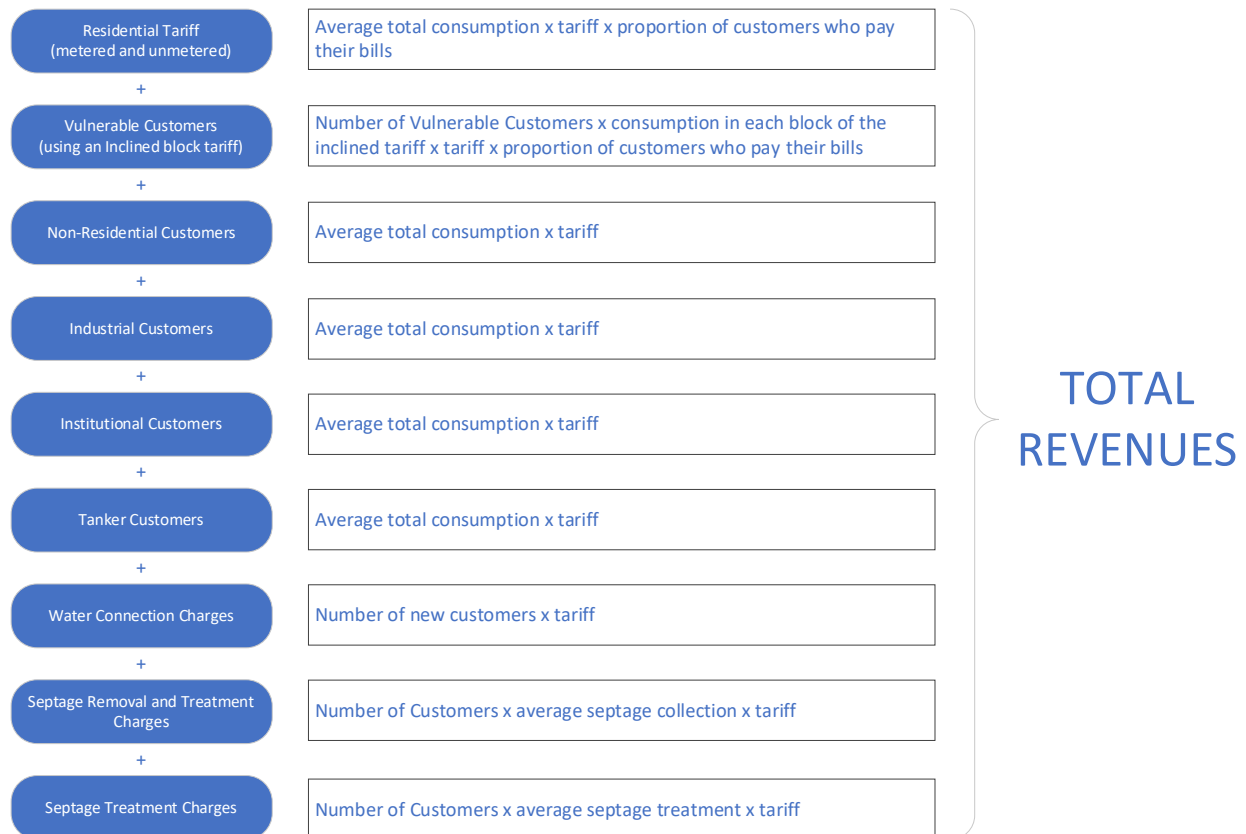


Figure 13 – Revenue Model Operation

14 Operation of the Employee Module

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

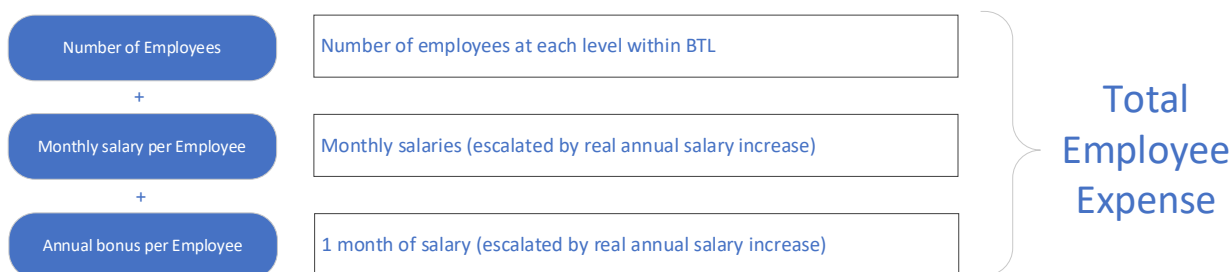


Figure 14 - Employee Cost Module Operation

15 Operation of the Asset Maintenance Module

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

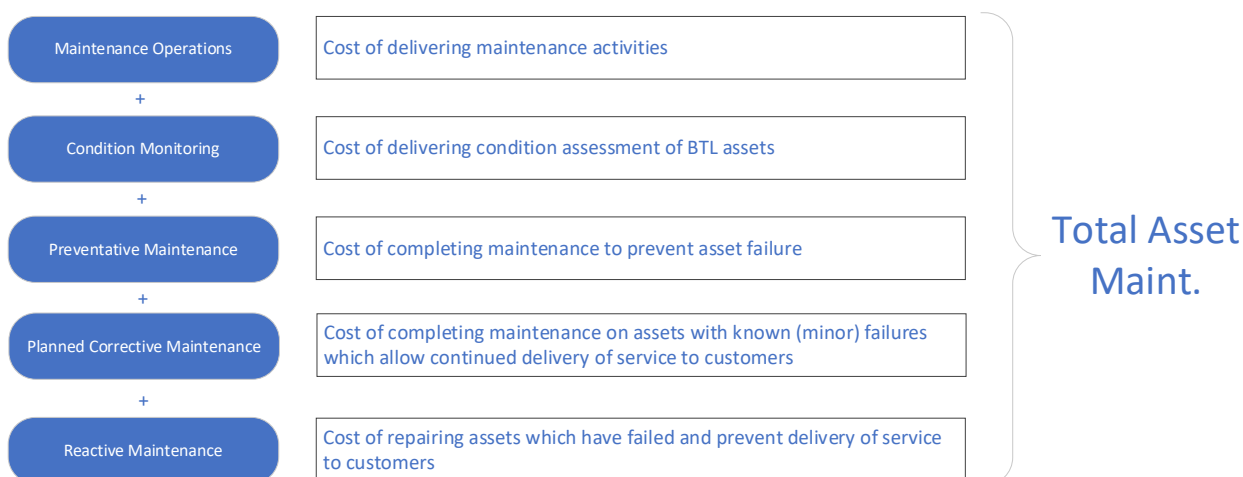


Figure 15 - Asset Maintenance Module Operation

16 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:

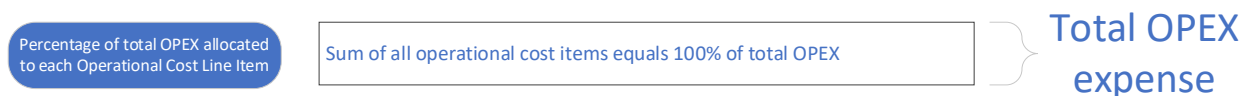


Figure 16 - Operational Expense Module

17 Operation of the IT Expense Module

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

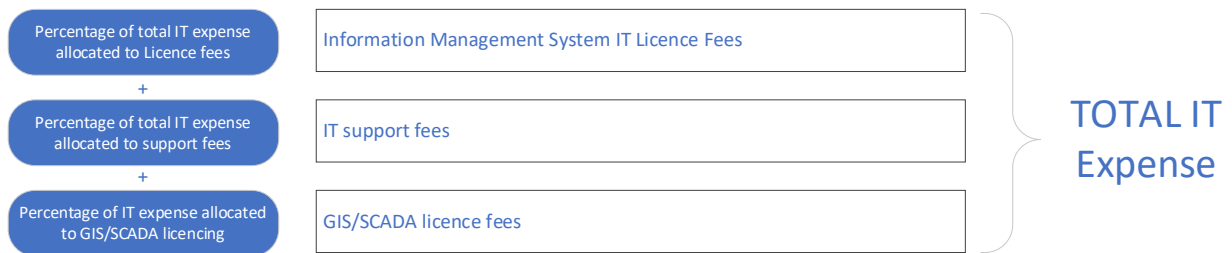


Figure 17 - IT Expense Module

18 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 18 - CAPEX module

19 Key Findings for 2022

The preparation 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.

- 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.
- 2) BTL is predicted to require funding from Government for Operating expenses of approximately US\$10m per annum 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 FY2029, subject to successfully connecting new customers, revising tariffs, and delivering a service that customers will pay for.
- 4) Over the next few years, BTL's major sources of revenue will be through metering/billing of commercial customers ("Priority" customers). From FY2024 onwards, more of BTL's revenues will come from metering and billing of domestic customers.
- 5) 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.

20 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

- 1) 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.
- 2) 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

Summary

PROFIT AND LOSS											
Account Description / Nature	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30	FY31	
Revenue	\$573,762	\$948,506	\$1,507,681	\$2,451,592	\$6,163,975	\$12,325,488	\$16,429,901	\$20,419,844	\$22,385,618	\$24,696,186	
Revenue Billed	\$573,762	\$948,506	\$1,507,681	\$2,451,592	\$6,163,975	\$12,325,488	\$16,429,901	\$20,419,844	\$22,385,618	\$24,696,186	
Gifted Assets	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Total Operational Expenses	\$9,824,011	\$10,848,470	\$12,099,023	\$12,521,994	\$15,178,222	\$17,979,296	\$18,828,691	\$19,587,904	\$21,192,489	\$23,073,126	
Salários	\$2,999,079	\$3,026,071	\$3,056,332	\$3,086,895	\$3,162,631	\$3,194,257	\$3,226,200	\$3,258,462	\$3,291,046	\$3,323,957	
Operations Expenses	\$3,152,853	\$3,079,870	\$3,765,809	\$3,919,017	\$4,618,821	\$6,157,198	\$6,566,046	\$7,140,513	\$7,827,915	\$8,635,886	
Asset Maintenance Expenses	\$3,442,574	\$4,742,530	\$5,276,882	\$5,516,082	\$7,396,770	\$8,627,842	\$9,036,446	\$9,188,930	\$10,073,528	\$11,113,284	
Information Technology Expenses	\$229,505	\$284,552	\$301,536	\$245,159	\$616,398	\$862,784	\$1,150,093	\$1,020,992	\$1,119,281	\$1,234,809	
PROFIT / LOSS FROM BTL OPERATIONS	-\$9,250,249	-\$9,899,964	-\$10,591,343	-\$10,070,402	-\$9,014,247	-\$5,653,808	-\$2,398,790	\$831,939	\$1,193,129	\$1,623,060	
Government Subsidy - (Operations)	\$9,250,249	\$9,899,964	\$10,591,343	\$10,070,402	\$9,014,247	\$5,653,808	\$2,398,790	\$0	\$0	\$0	

Revenue

Revenue per Annum										
Revenue - By Source										
	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Residential Tariffs - Metered Consumption	\$112,791	\$292,357	\$571,412	\$1,111,854	\$3,386,836	\$8,164,512	\$11,348,519	\$14,625,324	\$15,995,828	\$17,670,632
Residential Tariffs - Unmetered Fixed Charges	\$35,088	\$102,530	\$208,840	\$358,285	\$724,574	\$1,256,508	\$1,606,021	\$2,119,048	\$2,330,538	\$2,523,203
Vulnerable Customer Tariffs	\$13,843	\$35,047	\$68,096	\$139,963	\$414,162	\$906,395	\$1,245,400	\$1,616,868	\$1,772,953	\$1,950,202
Non-Residential Customer Tariffs	\$275,152	\$355,200	\$461,172	\$598,920	\$727,712	\$887,387	\$1,052,284	\$1,159,992	\$1,283,683	\$1,426,384
Industrial Customer Tariffs	\$9,172	\$11,840	\$15,372	\$19,964	\$24,257	\$29,580	\$35,076	\$38,666	\$42,789	\$47,546
Institutional Customer Tariffs	\$43,566	\$54,932	\$70,892	\$ 92,516	\$112,411	\$137,076	\$162,548	\$179,186	\$198,292	\$220,336
Tanker Customer Tariffs	\$50,514	\$54,555	\$58,919	\$63,338	\$57,574	\$52,335	\$47,572	\$43,243	\$39,308	\$35,731
Connection Charges	\$-	\$-	\$-	\$-	\$631,502	\$783,694	\$802,337	\$499,764	\$576,418	\$667,816
Septage Treatment and Removal	\$1,602	\$1,682	\$1,766	\$1,854	\$2,360	\$3,000	\$3,615	\$3,826	\$4,050	\$4,287
Septage Treatment	\$32,034	\$40,363	\$51,211	\$64,897	\$82,588	\$105,001	\$126,527	\$133,927	\$141,759	\$150,049
TOTAL - Annual	\$573,762	\$948,506	\$1,507,681	\$2,451,592	\$6,163,975	\$12,325,488	\$16,429,901	\$20,419,844	\$22,385,618	\$24,696,186

Employees

Labour Summary Level of Employee	Annual (Including Bonus)									
	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30	FY31
Directors	\$122,148	\$123,247	\$124,480	\$125,725	\$169,309	\$171,002	\$172,712	\$174,439	\$176,184	\$177,946
Manager	\$538,200	\$543,044	\$548,474	\$553,959	\$559,499	\$565,094	\$570,744	\$576,452	\$582,216	\$588,039
Senior Officer & Coordinator	\$253,500	\$255,782	\$258,339	\$260,923	\$263,532	\$266,167	\$268,829	\$271,517	\$274,232	\$276,975
Officer Municipalities	\$337,272	\$340,307	\$343,711	\$347,148	\$350,619	\$354,125	\$357,667	\$361,243	\$364,856	\$368,504
Officer Dilli	\$1,196,000	\$1,206,764	\$1,218,832	\$1,231,020	\$1,243,330	\$1,255,763	\$1,268,321	\$1,281,004	\$1,293,814	\$1,306,752
Contract	\$24,700	\$24,922	\$25,172	\$25,423	\$25,677	\$25,934	\$26,194	\$26,456	\$26,720	\$26,987
New Positions	\$357,500	\$360,718	\$364,325	\$367,968	\$371,648	\$375,364	\$379,118	\$382,909	\$386,738	\$390,605
Total Costs	\$2,829,320	\$2,854,784	\$2,883,332	\$2,912,165	\$2,983,614	\$3,013,450	\$3,043,585	\$3,074,020	\$3,104,761	\$3,135,808
On-Costs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total Costs (with on-costs)	\$2,999,079	\$3,026,071	\$3,056,332	\$3,086,895	\$3,162,631	\$3,194,257	\$3,226,200	\$3,258,462	\$3,291,046	\$3,323,957

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	\$2,323,009	\$3,207,817	\$3,537,903	\$3,694,244	\$5,303,282	\$6,469,544	\$6,795,135	\$6,685,020	\$7,073,726	\$7,485,367
Ermera	\$73,775	\$119,385	\$147,806	\$168,950	\$228,763	\$262,473	\$280,815	\$302,917	\$345,347	\$396,448
Baucau	\$148,139	\$195,121	\$217,796	\$226,577	\$264,477	\$270,635	\$284,367	\$319,554	\$385,734	\$467,732
Bobonaro	\$129,521	\$168,230	\$185,388	\$190,190	\$213,672	\$212,911	\$219,530	\$244,746	\$292,886	\$351,344
Viqueque	\$106,801	\$141,572	\$154,119	\$153,432	\$157,003	\$151,525	\$146,812	\$153,632	\$171,122	\$190,854
Liquiçá	\$60,750	\$93,479	\$118,280	\$136,824	\$183,637	\$201,204	\$227,851	\$280,575	\$371,923	\$497,011
Oecusse	\$101,780	\$130,425	\$137,242	\$131,526	\$125,525	\$118,522	\$111,364	\$113,118	\$122,055	\$131,972
Ainaro	\$52,682	\$69,987	\$76,311	\$77,022	\$80,753	\$79,967	\$77,998	\$82,379	\$92,101	\$103,218
Covalima	\$95,512	\$146,396	\$183,960	\$212,291	\$283,301	\$309,200	\$346,085	\$420,871	\$549,680	\$723,216
Lautém	\$80,483	\$97,884	\$97,955	\$89,988	\$77,657	\$72,043	\$65,572	\$64,810	\$67,924	\$71,618
Manufahi	\$90,249	\$125,566	\$143,090	\$148,929	\$165,873	\$166,192	\$167,539	\$182,455	\$211,589	\$245,713
Aileu	\$90,933	\$129,020	\$149,645	\$159,407	\$183,758	\$188,279	\$192,912	\$213,741	\$251,735	\$297,038
Manatuto	\$88,942	\$117,648	\$127,386	\$126,703	\$129,070	\$125,346	\$120,467	\$125,112	\$137,708	\$151,753
Total	\$3,442,574	\$4,742,530	\$5,276,882	\$5,516,082	\$7,396,770	\$8,627,842	\$9,036,446	\$9,188,930	\$10,073,528	\$11,113,284

IT System Expense

		FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30	FY31
		TOTAL	TOTAL	TOTAL	TOTAL	TOTAL	TOTAL	TOTAL	TOTAL	TOTAL	TOTAL
Software Licencing and other IT software services	65.0%	\$149,178	\$184,959	\$195,998	\$159,353	\$400,658	\$560,810	\$747,561	\$663,645	\$727,533	\$802,626
Onsite Support	25.0%	\$57,376	\$71,138	\$75,384	\$61,290	\$154,099	\$215,696	\$287,523	\$255,248	\$279,820	\$308,702
GIS and SCADA Licencing	10.0%	\$22,950	\$28,455	\$30,154	\$24,516	\$61,640	\$86,278	\$115,009	\$102,099	\$111,928	\$123,481
Actual OPEX expense	100.0%	\$229,505	\$284,552	\$301,536	\$245,159	\$616,398	\$862,784	\$1,150,093	\$1,020,992	\$1,119,281	\$1,234,809

Note that the Software Licencing and other IT software service includes the new IMS, plus other IT systems and services used by BTL.

Other OPEX Expenditure

		FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30	FY31
		TOTAL	TOTAL	TOTAL	TOTAL	TOTAL	TOTAL	TOTAL	TOTAL	TOTAL	TOTAL
Travel Factor Directors and Level 1	3.5%	\$110,449	\$107,893	\$131,922	\$137,289	\$161,804	\$215,696	\$230,019	\$250,143	\$274,224	\$302,528
Travel Factor Level 2 - Level 5	0.0%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Training Factor	2.0%	\$63,114	\$61,653	\$75,384	\$78,451	\$92,460	\$123,255	\$131,439	\$142,939	\$156,699	\$172,873
Utilities - Water	0.0%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Utilities - Electricity	26.0 %	\$820,480	\$801,488	\$979,992	\$1,019,862	\$1,201,975	\$1,602,313	\$1,708,710	\$1,858,206	\$2,037,091	\$2,247,353
Utilities - Communications	5.0%	\$157,785	\$154,132	\$188,460	\$196,127	\$231,149	\$308,137	\$328,598	\$357,347	\$391,748	\$432,183
Rentals	1.0%	\$31,557	\$30,826	\$37,692	\$39,225	\$46,230	\$61,627	\$65,720	\$71,469	\$78,350	\$86,437
Fuel for operations and motor vehicles	5.0%	\$157,785	\$154,132	\$188,460	\$196,127	\$231,149	\$308,137	\$328,598	\$357,347	\$391,748	\$432,183
Maintenance of motor vehicles	1.0%	\$31,557	\$30,826	\$37,692	\$39,225	\$46,230	\$61,627	\$65,720	\$71,469	\$78,350	\$86,437
Vehicle renting, insurance, services rentals	0.1%	\$3,156	\$3,083	\$3,769	\$3,923	\$4,623	\$6,163	\$6,572	\$7,147	\$7,835	\$8,644
Operational supply material	1.0%	\$31,557	\$30,826	\$37,692	\$39,225	\$46,230	\$61,627	\$65,720	\$71,469	\$78,350	\$86,437
Water Chemical materials	8.0%	\$252,455	\$246,612	\$301,536	\$313,804	\$369,839	\$493,020	\$525,757	\$571,756	\$626,797	\$691,493
Materials and specific equipment for water and sanitation	2.0%	\$63,114	\$61,653	\$75,384	\$78,451	\$92,460	\$123,255	\$131,439	\$142,939	\$156,699	\$172,873
Uniforms	1.0%	\$31,557	\$30,826	\$37,692	\$39,225	\$46,230	\$61,627	\$65,720	\$71,469	\$78,350	\$86,437
Other supplies	0.2%	\$6,311	\$6,165	\$7,538	\$7,845	\$9,246	\$12,325	\$13,144	\$14,294	\$15,670	\$17,287
Fuel for generators	0.1%	\$3,156	\$3,083	\$3,769	\$3,923	\$4,623	\$6,163	\$6,572	\$7,147	\$7,835	\$8,644
Official receptions	0.2%	\$6,311	\$6,165	\$7,538	\$7,845	\$9,246	\$12,325	\$13,144	\$14,294	\$15,670	\$17,287
Bank expenses	0.1%	\$3,156	\$3,083	\$3,769	\$3,923	\$4,623	\$6,163	\$6,572	\$7,147	\$7,835	\$8,644
Representation costs	0.0%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Logistics and transportation	0.1%	\$3,156	\$3,083	\$3,769	\$3,923	\$4,623	\$6,163	\$6,572	\$7,147	\$7,835	\$8,644
Office equipment renting	0.1%	\$3,156	\$3,083	\$3,769	\$3,923	\$4,623	\$6,163	\$6,572	\$7,147	\$7,835	\$8,644
Post service costs	0.1%	\$3,156	\$3,083	\$3,769	\$3,923	\$4,623	\$6,163	\$6,572	\$7,147	\$7,835	\$8,644

Other contributions	0.1%	\$3,156	\$3,083	\$3,769	\$3,923	\$4,623	\$6,163	\$6,572	\$7,147	\$7,835	\$8,644
Subscriptions	0.0%	\$316	\$308	\$377	\$392	\$462	\$616	\$657	\$715	\$783	\$864
Other operational expenses	1.0%	\$31,557	\$30,826	\$37,692	\$39,225	\$46,230	\$61,627	\$65,720	\$71,469	\$78,350	\$86,437
Professional services	3.0%	\$94,671	\$92,479	\$113,076	\$117,676	\$138,689	\$184,882	\$197,159	\$214,408	\$235,049	\$259,310
External audits	0.0%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Security services	0.0%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Sanitary services and cleaning	0.0%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Consulting services	18.0 %	\$568,025	\$554,876	\$678,456	\$706,059	\$832,137	\$1,109,294	\$1,182,953	\$1,286,450	\$1,410,294	\$1,555,860
Hiring personal services	0.0%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Translation/Interpret services	0.0%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Advisory services	0.0%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Other types of assistance	0.0%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Advertising	2.0%	\$63,114	\$61,653	\$75,384	\$78,451	\$92,460	\$123,255	\$131,439	\$142,939	\$156,699	\$172,873
Catering services	0.3%	\$9,467	\$9,248	\$11,308	\$11,768	\$13,869	\$18,488	\$19,716	\$21,441	\$23,505	\$25,931
Other miscellaneous services	19.0 %	\$599,582	\$585,702	\$716,148	\$745,284	\$878,366	\$1,170,921	\$1,248,672	\$1,357,920	\$1,488,644	\$1,642,296

Actual OPEX expense		\$3,152,853	\$3,079,870	\$3,765,809	\$3,919,017	\$4,618,821	\$6,157,198	\$6,566,046	\$7,140,513	\$7,827,915	\$8,635,886
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Capital Expenditure

	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30	FY31	Total
Municipality	Annual	Annual	Annual	Annual	Annual	Annual	Annual	Annual	Annual	Annual	
Dili	\$1,392,810	\$21,000,000	\$104,000,000	\$206,000,000	\$206,000,000	\$56,000,000	\$17,457,592	\$1,619,546	\$1,619,546	\$1,619,546	\$616,709,041
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		\$20,000,000	\$100,000,000	\$200,000,000	\$200,000,000	\$50,000,000	\$12,000,000				
DED development											
Construction Supervision		\$1,000,000	\$4,000,000	\$6,000,000	\$6,000,000	\$6,000,000	\$4,000,000				
Ermera	\$1,183,613	\$1,183,613	\$1,200,000	\$2,900,000	\$3,000,000	\$1,900,000	\$977,037	\$1,085,596	\$1,085,596	\$1,085,596	\$15,601,050
Growth and Renewals	\$933,613	\$933,613					\$977,037	\$1,085,596	\$1,085,596	\$1,085,596	
Urban Water Supply Project Construction			\$1,000,000	\$2,500,000	\$2,500,000	\$1,500,000					
DED development	\$250,000	\$250,000									
Construction Supervision			\$200,000	\$400,000	\$500,000	\$400,000					
Baucau	\$1,400,000	\$4,400,000	\$6,400,000	\$13,000,000	\$999,515	\$999,515	\$1,046,004	\$1,162,226	\$1,162,226	\$1,162,226	\$31,731,713
Growth and Renewals					\$999,515	\$999,515	\$1,046,004	\$1,162,226	\$1,162,226	\$1,162,226	
Urban Water Supply Project Construction	\$1,000,000	\$3,000,000	\$5,000,000	\$12,200,000							
DED development											
Construction Supervision	\$400,000	\$1,400,000	\$1,400,000	\$800,000							
Maliana (Bobonaro)	\$1,061,513	\$1,061,513	\$5,200,000	\$5,400,000	\$10,500,000	\$1,398,955	\$849,258	\$943,620	\$943,620	\$943,620	\$28,302,098
Growth and Renewals	\$811,513	\$811,513					\$849,258	\$943,620	\$943,620	\$943,620	
Urban Water Supply Project Construction			\$5,000,000	\$5,000,000	\$10,000,000	\$998,955					
DED development	\$250,000	\$250,000									
Construction Supervision			\$200,000	\$400,000	\$500,000	\$400,000					
Viqueque	\$1,200,000	\$4,600,000	\$4,600,000	\$6,600,000	\$4,400,000	\$3,200,000	\$2,897,751	\$775,279	\$775,279	\$775,279	\$29,823,589
Growth and Renewals							\$697,751	\$775,279	\$775,279	\$775,279	
Urban Water Supply Project Construction	\$1,000,000	\$4,000,000	\$4,000,000	\$6,000,000	\$4,000,000	\$3,000,000	\$2,000,000				
DED development											
Construction Supervision	\$200,000	\$600,000	\$600,000	\$600,000	\$400,000	\$200,000	\$200,000				
Liquiçá	\$738,002	\$738,002	\$1,200,000	\$5,400,000	\$3,500,000	\$2,800,000	\$510,700	\$567,444	\$567,444	\$567,444	\$16,589,035
Growth and Renewals	\$488,002	\$488,002					\$510,700	\$567,444	\$567,444	\$567,444	

Urban Water Supply Project Construction			\$1,000,000	\$5,000,000	\$3,000,000	\$2,400,000					
DED development	\$250,000	\$250,000									
Construction Supervision			\$200,000	\$400,000	\$500,000	\$400,000					
Pante Macassar (Oecusse)	\$602,514	\$602,514	\$602,514	\$602,514	\$602,514	\$602,514	\$630,538	\$700,598	\$700,598	\$700,598	\$6,347,418
Growth and Renewals Urban Water Supply Project Construction	\$602,514	\$602,514	\$602,514	\$602,514	\$602,514	\$602,514	\$630,538	\$700,598	\$700,598	\$700,598	
DED development											
Construction Supervision											
Ainaro	\$758,469	\$758,469	\$2,200,000	\$2,400,000	\$5,500,000	\$2,687,983	\$532,119	\$591,243	\$591,243	\$591,243	\$16,610,771
Growth and Renewals Urban Water Supply Project Construction	\$508,469	\$508,469					\$532,119	\$591,243	\$591,243	\$591,243	
DED development	\$250,000	\$250,000	\$2,000,000	\$2,000,000	\$5,000,000	\$2,287,983					
Construction Supervision			\$200,000	\$400,000	\$500,000	\$400,000					
Suai (Covailima)	\$771,394	\$771,394	\$5,200,000	\$15,400,000	\$13,500,000	\$8,070,000	\$545,645	\$606,272	\$606,272	\$606,272	\$46,077,249
Growth and Renewals Urban Water Supply Project Construction	\$521,394	\$521,394					\$545,645	\$606,272	\$606,272	\$606,272	
DED development	\$250,000	\$250,000	\$5,000,000	\$15,000,000	\$13,000,000	\$7,670,000					
Construction Supervision			\$200,000	\$400,000	\$500,000	\$400,000					
Lospalos (Lautém)	\$1,273,357	\$3,400,000	\$3,400,000	\$3,400,000	\$2,400,000	\$2,200,000	\$600,025	\$666,694	\$666,694	\$666,694	\$18,673,464
Growth and Renewals Urban Water Supply Project Construction	\$573,357						\$600,025	\$666,694	\$666,694	\$666,694	
DED development	\$500,000	\$3,000,000	\$3,000,000	\$3,000,000	\$2,000,000	\$2,000,000					
Construction Supervision	\$200,000	\$400,000	\$400,000	\$400,000	\$400,000	\$200,000					
Same (Manufahi)	\$1,092,633	\$3,400,000	\$3,400,000	\$3,400,000	\$2,400,000	\$1,650,000	\$410,895	\$456,551	\$456,551	\$456,551	\$17,123,180
Growth and Renewals Urban Water Supply Project Construction	\$392,633						\$410,895	\$456,551	\$456,551	\$456,551	
DED development	\$500,000	\$3,000,000	\$3,000,000	\$3,000,000	\$2,000,000	\$1,450,000					
Construction Supervision	\$200,000	\$400,000	\$400,000	\$400,000	\$400,000	\$200,000					
Aileu	\$591,641	\$591,641	\$1,200,000	\$5,400,000	\$2,500,000	\$2,600,000	\$357,531	\$397,257	\$397,257	\$397,257	\$14,432,584
Growth and Renewals Urban Water Supply Project Construction	\$341,641	\$341,641					\$357,531	\$397,257	\$397,257	\$397,257	
DED development	\$250,000	\$250,000	\$1,000,000	\$5,000,000	\$2,000,000	\$2,200,000					
Construction Supervision			\$200,000	\$400,000	\$500,000	\$400,000					
Manatuto	\$367,799	\$367,799	\$367,799	\$367,799	\$367,799	\$367,799	\$384,906	\$427,673	\$427,673	\$427,673	\$3,874,718
Growth and Renewals	\$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 DED development Construction Supervision											
Atauro	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Growth and Renewals Urban Water Supply Project Construction DED development Construction Supervision	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total (Network and Treatment)	\$12,433,745	\$42,874,945	\$138,970,313	\$270,270,313	\$255,669,828	\$84,476,766	\$27,200,000	\$10,000,000	\$10,000,000	\$10,000,000	\$861,895,910
IT Systems and Implementation	\$400,000	\$150,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$950,000
Government Funded CAPEX delivered by BTL	\$37,272,735	\$23,833,745	\$27,302,027	\$29,850,313	\$27,719,828	\$14,716,625					
Total Capital Expenditure	\$50,106,480	\$66,858,690	\$166,322,340	\$300,170,626	\$283,439,656	\$99,243,391	\$27,250,000	\$10,050,000	\$10,050,000	\$10,050,000	\$1,023,541,183

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