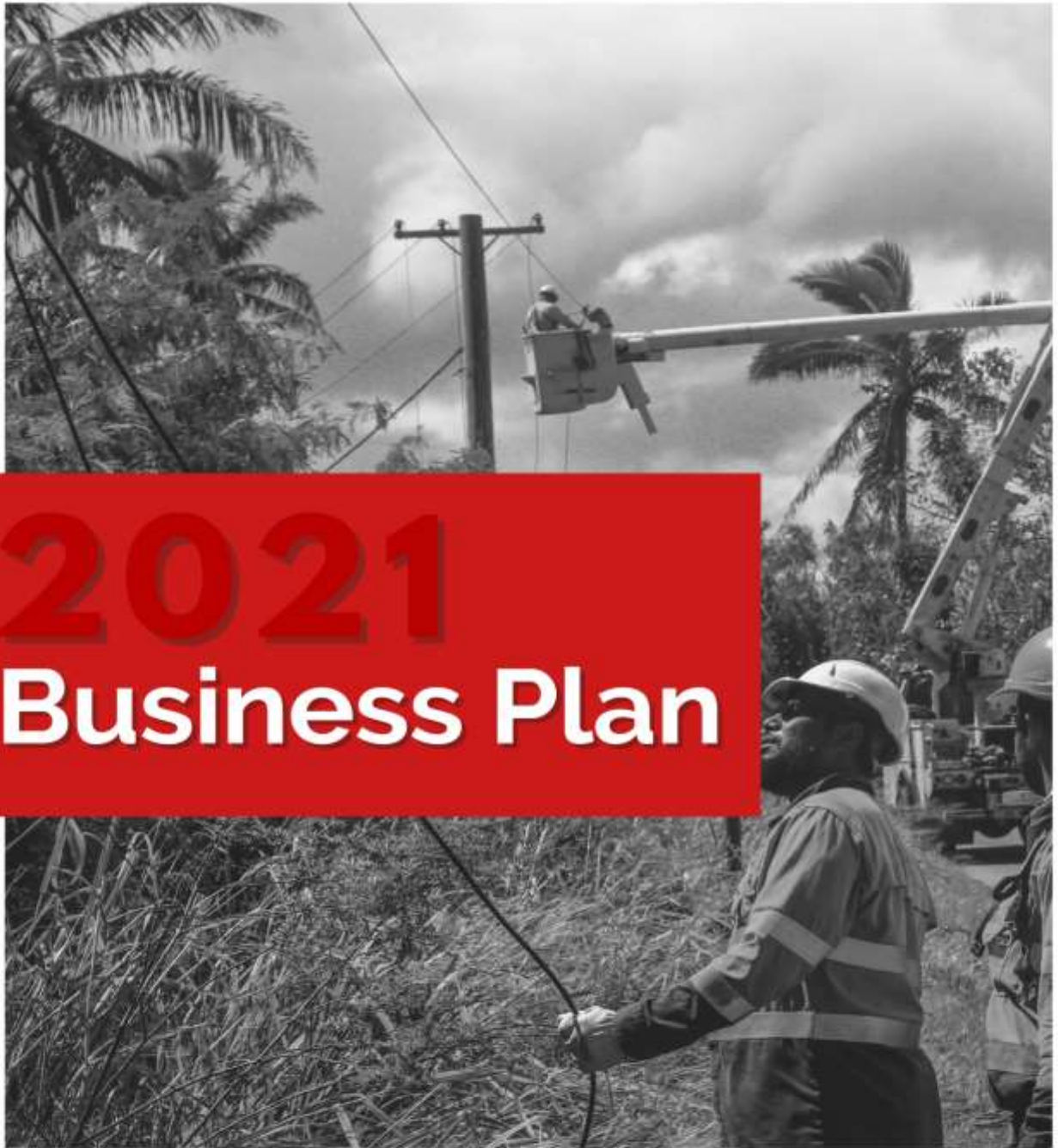




TONGA POWER LIMITED AND TONGA GAS LIMITED

BUSINESS PLAN 2021



2021 Business Plan



Powering the sustainable
development for our Kingdom

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Executive Summary

Two years ago, after our Strategic Planning workshop led by the Strategic Planning Unit and attended by the management team of Tonga Power Ltd, we changed and launched our new Vision of **Powering the Sustainable development for our Kingdom** as we move towards 2020, initially identified as the year of delivery. 2021 represents 13 years of transformation in Tonga's Energy Sector since TPL came into fruition as a State-Owned Enterprise with its core business function of generating, distributing and retailing electricity across the Four Main Island-Grid system in Tonga consisting of a customer base of more than 25,000.

Our vision reflects the motivation we had to ensure that 2020 is the year of delivery as we planned to meet our 50% Renewable Energy goal which due to COVID 19 and other factors did not materialize. We have therefore agreed to rescript all targets set at 2020 to **2025**.

For a small, developing island economy vulnerable to natural disasters and exposed to a rapidly changing environment, powering the sustainable development for the Kingdom challenges us to rethink our strategies and reinforce our commitment to our missions. We had gone back to the Government Tonga Strategic Development Policy and redo our mission and vision based on the idea of accessibility, affordability and profitability emphasized in this 10-year government plan.

To achieve our vision, we pledge to effectively undertake this Mission:

- **Providing safe, reliable, affordable and sustainable electricity services for Tonga, with at least 50% of electricity requirements through renewable sources by 2025 whilst remaining financially stable.**

This document, TPL Business Plan 2021-2026 will assist us in focusing our resources to effectively meet our vision. The following six objectives were therefore established:

1. Achieve 50% diesel fuel saving from Renewable energy generation by 2025 in order to achieve the government TERM target and realistic tariff reductions;
2. Adopting technologies to manage the complexities arising from a digitized and decentralized renewable future;
3. Improving the network and replacing ageing assets to improve safety, efficiency and reliability of supply;
4. Promote a hazard free safety environment to minimize any danger to both the public and staff;
5. Improving our business processes to enhance customer/employee satisfaction.
6. Managing all external funding and internal financing sources successfully in order to maximise shareholder value.

This 5-year Business Plan is built on the foundation of these six objectives, which together bring to life the vision of Powering the Sustainable development for our Kingdom. The plan will also provide a guide for us to maintain our focus on continuing to aspire for excellence while building our readiness for the future.

We at Tonga Power aspires to a reputation of excellence, and we do this by continuously striving to do our job to the best of our ability, in the service of all Tongans by ensuring that electricity reaches every household in Tonga 24 hours a day, and always seeking to do our job better.

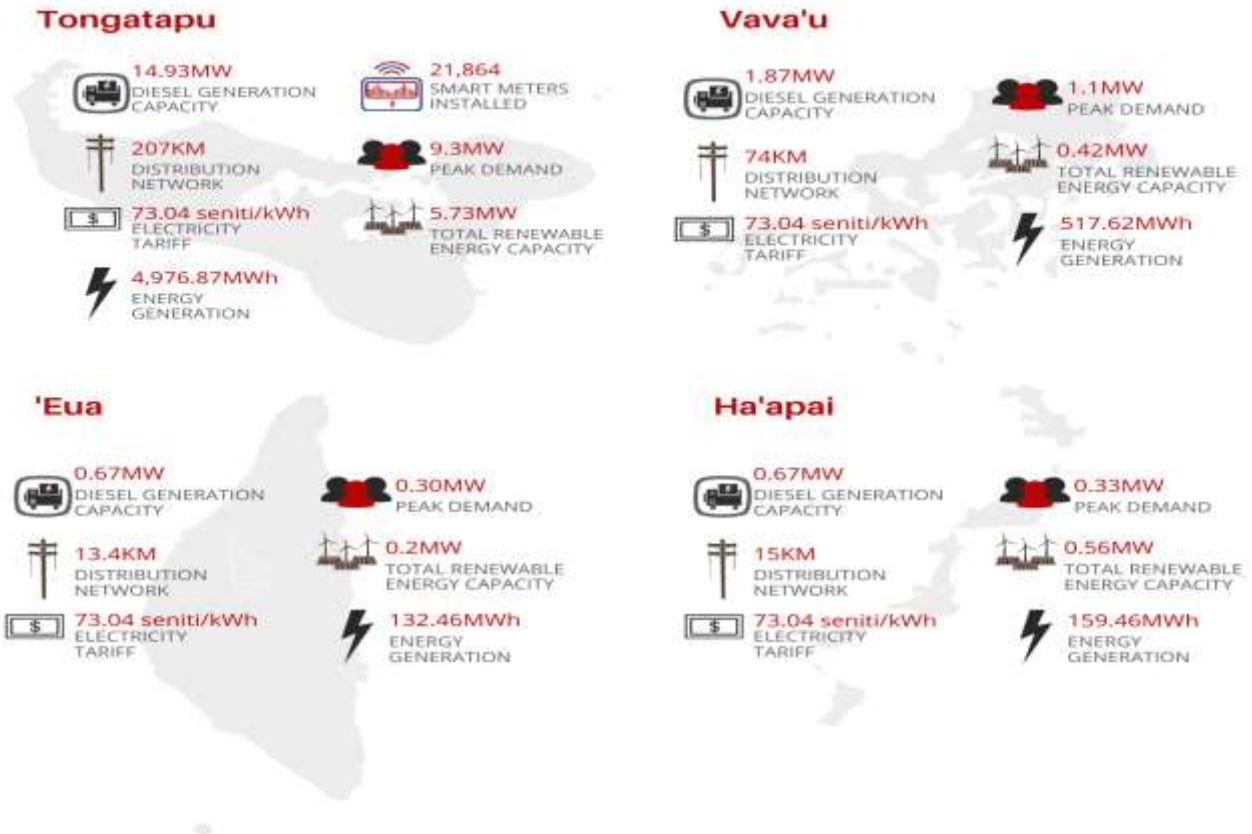
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1. OVERVIEW OF THE BUSINESS

Tonga Power Ltd is a government-owned vertically integrated utility that generates and distributes electricity to the 4 main island groups of the Kingdom of Tonga. Tonga Power's core business is generating, distributing and retailing electric power across our four-grid system within Tonga consisting of more than 25,000 customers. A complementary business is the supply and distribution of LPG through Tonga Gas and Home gas.

The company overview is as follows:



2. POLICIES AND GUIDELINES GOVERNING THE DEVELOPMENT OF THE BUSINESS PLAN

2.1 Ownership Guidelines

TPL's Constitutional structure was promulgated under the Public Enterprises (PE) Act 2010 and amendments, regulated under a Concessions Contract whereby the Electricity Act 2007 established the Tonga Electricity Commission as the Independent Government Entity, Electricity Regulator.

With the power vested on the Minister for Public Enterprises under the PE Act, eight expectation letters were issued to all PE's to adopt and to comply with. The last letter of expectation no 8. issued this year, states several guidelines from the Honorable Minister for Public Enterprises as to how they should operate to which TPL adopted in the development of this Plan. These expectations are exhaustively listed in Annex 1 but the key takeaways for TPL are as follows:

- The company should operate as a successful business and, to this end, to be as profitable and efficient as comparable businesses that are not state owned. With continuous annual improvements in the level of financial performances, and the efficiency & productivity on services delivery.
- A significant emphasis on quality of "service delivery" to the people. In other words, social responsibility is a priority. Improving the quality and efficiency of services to the people is most essential. From the customer services at the counters to service delivery to customers around the country, services must be people-oriented and customer-friendly.
- Return to Surplus is a priority and Return on Equity of 10% are core requirements of the business plan. Annual dividends to be agreed with the shareholding Minister and share certificates are to be submitted to the ministry.
- Key Policies to be standardized across the Public Enterprises.

2.2 Obligations under the TSDF II

The Tonga Strategic Development Framework (TSDF II) aims to improve electricity generation and distribution systems and its safe operation in order to improve the living standards of all Tongans. Under the TSDF II Pillar of Infrastructure and Technology, the following Key Performance indicators are directly related to TPL:

- Cost of electricity to be maintained below \$1.
- Percentage of electricity generated by alternative systems to reach 50% by 2025.
- Renewable energy usage to achieve 50% by 2025.

Under the National Outcome E of the TSDF II the following organizational outcomes are highlighted:

- 13% or below of total system loss due to power failure.
- Reduction in average total duration of power interruption per customer by more than 50%.
- 50% or renewable energy usage by 2025.
- Share of installed renewable capacity % of capacity.

2.3 Boards expectations

The Board of Directors has a role to control and monitor management and take reasonable steps to ensure best practice governance and compliance.

The Board expectations for TPL are:



2.4 Mandate - Energy Policy, Law and Legislation

These are the main policies, laws and acts governing TPL in the electricity sector:

- **Company Act 1995 and amendments**
- **Electricity Act 2007 and amendments**
- **Concession Contract III**
- **Public Enterprises Act 2002 & amendments**
- **Tonga Strategic Development Framework II**
- **Tonga Energy RoadMap 2010-20**
- **The Renewable Energy Act 2008 and amendments**
- **Tonga National Infrastructure Invest Plan (NIIP) 2020-2030**
- **Combined Utility Board Policy Standardization**

We continue to monitor closely the development of the **Energy Bill**. The company is also obligated to comply with the following pieces of legislation:

- **Business Licenses Act 2016 Revised Edition**
- **Ombudsman Act 2020 Revised Edition**
- **Public Audit Act 2020 Revised Edition**
- **Income Tax Act 2020 Revised Edition**
- **Foreign Exchange Control Act 2016 Revised Edition and amendments**
- **Consumption Tax Act 2020 Revised Edition**
- **Land Act 2016 Revised Edition**
- **Public Health Act 2020 Revised Edition**
- **National Retirement Benefit Act 2020 Revised Edition**
- **Price and Wage Control Act 2020 Revised Edition**
- **Public Finance Management Act 2020 Revised Edition**

2.5 Purpose of the Public Enterprise

TPL’s vision is to power the sustainable development for our Kingdom. As highlighted by the TSDF II, electricity is a key driving force of economic development which in turn fuels better living standards. The mission is to provide safe, reliable affordable and sustainable electricity services for Tonga. And to do this by harnessing 50% of electricity requirements through renewable sources all the while remaining financially stable.

Key energy outcomes include the national security of supply of energy, economic development through competitive energy pricing and quality services, better standard of living by making electricity available at every home, and a low carbon energy system.



3. PLANNING INPUTS

3.1 External Elements

A number of external factors may impact on the execution of our mandate. Details of the specific factors considered in the external environmental scan are highlighted here. Complete analysis with TPL's response to the challenges are presented in **Annex 2**:

3.1.1 Policy Issues:

1. Government Policy (TERM and TERM Plus)

The targets under TERM are already considered aggressive and TERM Plus has yet to be formalized but it is expected that the nationally determined contribution (NDC) of 50% by 2025 and 70% RE by 2030 will featured significantly.

Achieving the target is being hampered by the following reasons:

- a. Dependence on donor funding.
- b. Relative cost of RE is high when considering TPL contributions to donor funded projects.
- c. COVID-19 has had a large impact on timelines of all the projects under TERM (refer to Annex 2 for further analysis).

3.1.2 Legal and Political Issues:

1. Government incentive to hold tariff at 65 seniti and impact on TPL

Government has agreed after consultation with TPL in response to the high cost and volatile nature of diesel in the last three years to offer a lifeline tariff from April 2017 to all residential customers on their first 100 units of electricity each month **to an electricity tariff of 70 seniti per kWh. This tariff has been improved to 65 seniti per kWh in March 2020 and ends in 2020.** This initiative has had a major impact on TPL's bottom line.

2. Political intervention

- Standardising of PE policies and benchmarking against government guidelines/policies
- PE Expectation letters issued to PEs
- High Dividend requirement
- Board & Management relationship
- Election year
- Remuneration Review
- Unclear multi utility goals under one roof arrangement (Unpaid other utilities debt)

These initiatives will have a major impact on the company's operation and bottom line. With the changing short term board terms, focus and direction of the company is readjusted when directors contract ends. The previous Board emphasized the combined utility initiative and the 50% RE goal while this Board focuses more on ensuring the company profitability picks up through a more coherent top down management approach by realigning policies and company structures to that required by Government (Public Enterprises & Remuneration Authority), stronger internal controls and improved profitability and thus shareholder returns.

3. Regulations concerning Independent Power Producers (IPP's) & changing IPP environment

Developing appropriate Power Purchase (PPA) Agreements with IPP owners and managing outcomes presents a challenge for TPL. At the same time TPL has to incur additional expenses including the cost of automation to monitor IPP's RE generation facility to ensure safety and stability with fuel savings being passed through to customers. With 11MW or more of renewable generation that could be provided by independent power producers, Regulatory reform and a donor-supported risk reduction facility are needed to better enable investment. This may come in handy given the changing IPP environment.

4. New bill pass & new policy requirements – Energy Bill & Grid Code guidelines

The new Energy Bill that has been submitted to Cabinet for approval may come into effect in the very foreseeable future. Enforcing of the changes required by this law may take some time to be realized. TPL will need to put into its schedule the followings:

- contracts/agreements that the company is managing in case there is a requirement to notify contractors or suppliers
- Emphasis of Health and safety
- Increased compliance requirement therefore extra resources required

Additionally, the new grid code policy that was recently introduced but yet to be formalized will come with a lot of extra compliance requirements that TPL needs to comply with.

5. Limited safety regulations

The old By-Laws developed with the old Tonga Electricity Power Board Act are materially deficient in regard to electrical safety. The safety regulations are materially insufficient when it comes to house wiring, the authority for TPL to clear vegetation from the electricity distribution network and building permitting and its proximity to the electricity network and finally land corridors for reticulation of services. The Energy Bill currently being undertaken and supported through European Union funding, will readdress the Safety Regulations. Under the current regulations, TPL has the authority to disconnect customers when an electrical hazard is found or reported by a third party and is considered hazardous.

3.1.3 Technological Issues:

1. Third Party Generation (on-grid)

Distributed Generators connect to TPL's network mainly because they do not have energy storage facilities for night use, which might bring significant revenue losses to TPL. The challenge becomes greater if the cost of batteries becomes very low and customers choose to disconnect from the grid.

2. Technology/communication failure

A stable and improved network will have a major influence on the company operation as the company slowly moves digital in terms of its IT infrastructure and systems as well as its smart metering technical requirements.

Communication failure and technology downtime are major risks that is beyond the company control but is being closely monitored through ongoing collaboration with the internet providers and key suppliers of key systems at TPL.

3.1.4 Environmental/Social Issues

1. Tonga Climate

The climate in Tonga gives rise to formation of tropical cyclones in Tongan seas on an annual basis. Cyclones often extensively destroy TPL's network and generation assets.

2. Public Health

The pandemic crisis that is COVID-19 represents unprecedented challenges for all economies and a unique working environment proposition. There is a significant challenge to business continuity in an environment where the staff are at risk of catching a highly contagious disease, the public are unable to travel freely and income is uncertain. New regulations and the expectation for tighter control by government especially of essential services will result in a sluggish economy and challenging business environment.

3. Customer perception due to social media disputes

Confidentiality and social media disputes are another major risk that have a major impact on the company reputation and operation. A much more tighter confidentiality policy and key policies to control leaking of company information to the media should be developed and enforced.

3.1.5 Market Issues

The major market issues can be summarized into the following four categories:

1. High Fuel Price Volatility

Petroleum dependency makes Tonga highly vulnerable to oil price shocks, affecting the affordability of food, goods, electricity and transportation. The reliance on fossil fuels has been exposing the Tongan economy to high electricity tariffs linked to volatile oil prices over the last decade. Linked to these fluctuations, the electricity tariff reached its peak in September 2008 at 102 seniti per kWh, and again in July 2011 at 98 seniti per kWh. It has continued to fluctuate dropping to lows of 83 seniti per kWh in March, 2017 and 73 seniti per kWh in March, 2020. Oil prices are expected to rebound to higher levels in the medium to long term.

2. COVID-19 & Flat Electricity Demand Growth

The two major sources of electricity demand growth are the addition of new customers and increased use by existing customers. Both are economically driven factors that may be expected to respond to economic change. For the coming years, electricity demand use by existing customers, especially commercial customers are likely to remain flat due to COVID-19 and other environmental factors. Based on historical trends and taking into account economic growth projections, electricity demand use by existing customers is likely to increase by about 3% to 5%. Until recently the International Monetary Fund (IMF) has predicted 3.7% and 2.9% increase in GDP growth for the years 2020 and 2021 respectively. Mainly due to increasing economic activities, but that may change as a result of the COVID 19 panademics and its effects.

3. Flat Overseas Remittances

At the national level, remittances are the major source of foreign exchange and accounted for about 40 percent of GDP. Most of the power customers rely on remittances for bill payment, as evident in online bill payments from overseas. COVID-19 is likely to have a significant impact on remittances as the global pandemic impacts jobs in all countries around the world.

4. Foreign depreciation of TOP over major trading countries

External Business Risks: The following top eight risks are inherent from the above legal, political, environmental, market and social issues. Further analysis is shown in Annex 2.

- Significant financial and reputational risk if the company cannot achieve the 50% target given the limitations in the local regulatory regimes governing IPP's & changing IPP environment.
- Significant financial and reputation losses to TPL due to government intervention through standardizing of PE policies, PE expectation letters to be adopted, high dividend requirement, remuneration review, etc. which will all have a major impact on TPLs bottom line and operation.
- Significant financial and reputational losses to TPL due to any public discontent resulting from unsustainable electricity tariffs.
- Significant business continuity risks to TPL due tropical cyclones and COVID-19.
- Operational & financial risks that comes with the additional compliance requirements with the introduction on the new energy bill, the new Grid Code & several policy changes.
- Significant financial and reputational losses to TPL due to public lawsuit taken against the company as a result of members of the public getting electrocuted, social media disputes, etc.
- Significant financial and reputational losses to TPL if people disconnect from TPL grid.
- Significant reputational losses to TPL due to network instability impacting company systems and IT infrastructures.

3.2 Internal Elements

A number of internal factors may impact on the execution of our mandate.

3.2.1 Talent challenges

As TPL work towards achieving 50% renewable energy by 2025 and completing its associated major projects, we have become labour intensive and a step change in staff competencies looms in our endeavor to reach our targets. Additionally, the new organization structure as a result of the remuneration review may have an impact on the company staffing costs and additional recruitments if required.

Any increase in staff numbers has subsequently driven up staffing costs which realistically may not be affordable in the near future given the impacts of COVID-19 worldwide. A fine balance between staffing needs and costs must be effectively managed but not impede on staff performance and quality of services provided to TPL customers.

Refer to Figure 1 for TPL's planned organizational chart. The company has continued pushing the structuring of the company into a much more organized chart so that jobs are properly defined and to be in line with the Remuneration Authority recommendations. The impact of this change will be incorporated into the company 5-year plan/budget.

3.2.2 Physical Assets/Equipment Issues

Both Generation and Distribution Asset Management Plans (GAMP and DAMP) address issues regarding network or power station assets in detail. Some of the major issues are highlighted here:

1. Deteriorated network assets

Nuku'alofa CBD and Vava'u network still require further improvement. The poor state of equipment on these networks includes de-rated cables, broken insulators, weak poles, broken air-break switches, incorrect HV/LV fuses, over utilized transformers and sub-standard connectors and much more. We continue to seek funding that will support re-building of these networks.

2. SCADA (Supervisory Control and Data Acquisition) System

The existing SCADA will not support advanced generation and distribution management functionality such as automated generator dispatch, smart grid, outage management, demand response and smart meter applications. Ha'apai and 'Eua do not have SCADA systems and cannot be monitored from the Tongatapu main Power Station due to lack of remote communication capabilities. The Grid Code and central control centre will address the requirements for better SCADA and associated telecommunications.

3. Security of supply (N-1):

Currently Tongatapu and all three outer islands meet the N-1 security policy; however, there is slight ambiguity of maintaining the reliability of supply due to potential load growth. Additional gen-sets are budgeted to be added to all islands over the next 5 years.

4. Bulk Diesel Storage Tank:

TPL currently has only one bulk storage tank installed at the Popua Power Station. In case of catastrophic damage to the present tank due to a disaster (e.g. earthquake, fire etc.), the power station does not have any redundancy plan for storage of fuel for generation of electricity. The transition to RE will reduce the reliance on fossil fuels, the government has plans to increase bulk fuel storage for the nation as a whole and business continuity arrangements with faster supply routes being investigated.

5. Generator Replacement:

Four of the 1400KW CAT generators on Tongatapu have reached then end of their economic lives, hence, requires replacement. Refurbishment of these generators has been scheduled for between 2023 and 2025.

3.2.3 Business Systems and other Resources:

TPL uses numerous software systems for different purposes by different business units. This was particularly obvious with the enterprise resource planning systems and the generation metering (SCADA). The enterprise resource planning systems have now largely been consolidated in the system Tech1. Ongoing development of all modules of the enterprise resource planning platform (Tech1) is ongoing, especially data input and configuration, maintenance scheduling, integration and reporting. The central control center represents an opportunity for all SCADA related software systems to be unified into a single platform for managing all diesel, renewable energy and distribution equipment (circuit breakers, reclosers, smart meters).

Internal Business Risks:

The following are the risks inherent from the above internal issues. Further analysis of the risks is shown in Annex 2.

- Significant business continuity risk as a result of staff lacking the technical expertise to implement the RE projects and to handle changing business environment (new structure & additional tasks/projects).
- Significant revenue loss to TPL due to the poor state of the Nuku'alofa and Vava'u distribution networks that continue to have high voltage fluctuations.
- Significant revenue and reputation loss to TPL due to non- achievement of N-1 security policy as a result of ageing generators which could fail at any time of the day due to sudden breakdowns. This has also caused unnecessary power outages mainly in Tongatapu and Vava'u.
- Significant business continuity risk due to lack of remote communication capabilities between different business units system because the existing SCADA does not support advanced generation and distribution management functionality.
- Significant business continuity risk in the event of a natural disaster given there is no redundancy plan for storage of fuel at Power Station as TPL has only one bulk storage tank.

3.3 Summary and SWOT analysis

The following table summarizes the perceived internal strengths and weaknesses of TPL and the external opportunities and threats faced by TPL.

<p>Strengths</p> <ul style="list-style-type: none"> • Stability of Concession Contract regime • Stability of TERM regime • Healthy Balance Sheet • Reliable Supply • Delivering Projects 	<p>Weaknesses</p> <ul style="list-style-type: none"> • Perceived high tariff and lack of understanding of our cost structures • Small customer base, low energy density, especially in outer islands • Evening peak load • Low consumption per customer • Ageing assets • Capability and resources • Four discrete networks, focus tends to be on Tongatapu • Poorly understood by the public, the media, politicians and officials
<p>Opportunities</p> <ul style="list-style-type: none"> • Multi utility • Offers of grant funding for new projects • Support from shareholder (e.g. lifeline tariff) • Cost reductions • Best practice in the pacific • A large amount of aid funding available for energy development and climate change adaptation for small island developing states • Bilateral air project implementer • Falling solar and storage prices • 3rd party distributed generation 	<p>Threats</p> <ul style="list-style-type: none"> • Loss of revenue where 3rd parties invest in generation • Regulatory and political intrusion • Destabilizing changes to the concession contract • Natural disasters • Loss of credibility with government • Inappropriate projects pursued • Conflicts between shareholder expectations and government international diplomatic aspirations • TPL side lined due to government taking over (policy changes) • Easy political target - monopoly

4. PLANNING PERIOD STRATEGIC OBJECTIVES & TRADEOFFS

TPL has established **six key objectives** that drive the company to achieving its mission to provide safe, reliable affordable and sustainable electricity services for Tonga by harnessing 50% of electricity requirements through renewable sources all the while remaining financially stable.

Strategic Objective	Tradeoffs and risks faced
1. Achieving 50% electricity generation from Renewable Energy generation by 2025 in order to achieve the government TERM target and realistic tariff reductions.	<ul style="list-style-type: none"> ● COVID-19 has added significant lead times to projects. ● Financial burden of fast tracking of projects (TPL contribution to donor funded projects). ● Satisfying development partner reporting needs. ● Cost competitiveness of RE and Diesel. ● Attracting private investment is fraught with challenges. ● Regulations concerning IPPs and changing IPP environment.
2. Adopting technologies to manage the complexities arising from a digitized and decentralized renewable future.	<ul style="list-style-type: none"> ● Capacity building due to step change in staff competencies. ● Difficult to gain Board and development partner funding. ● Technology & communication failure – for TPL network & relevant systems. ● SCADA systems does not support distribution and generation management functionality.
3. Improving the network by replacing ageing assets to improve safety, efficiency and reliability of supply.	<ul style="list-style-type: none"> ● Natural disasters continue to delay progress of projects. ● Uncertainty of development partner funds to complete projects. ● TPL funding capacity constraint. ● AMP needs a close revamp to identify key CAPEX needs. ● New Energy Bill & Grid code
4. Promote a hazard free safety environment to minimize any danger to both the public and staff.	<ul style="list-style-type: none"> ● EC's capacity to develop and promote safety regulations. ● The time for Cabinet approval of safety regulation. ● Adoption of safety regulations by stakeholders.
5. Improving our business processes to enhance customer/employee satisfaction while supporting a healthy and competent team.	<ul style="list-style-type: none"> ● Systems and processes overburden staff. ● High cost of outsourcing for expertise. ● All classes of customers and employees. ● Change management. ● Social media disputes. ● Political intervention.
6. Manage all external funding and internal financing sources successfully in order to increase shareholder value.	<ul style="list-style-type: none"> ● Reduce pool of projects to suit available funds. ● Cost of expertise for 'fuel hedging'. ● Unfavorable economic situations such as COVID-19 and oil prices. ● Fuel price volatility. ● Flat overseas remittances, depreciation of TOP, etc. ● People disconnecting from TPL grid.

5. STRATEGIES/ACTIONS TO SATISFY OBJECTIVES

A major focus of this year’s plan is focusing on driving TPL’s strategic objective number one which is “Achieving 50% electricity generation from RE sources by 2025”. Refer TPL Budget for the funding sources and implementation plan.

Strategic Objective 1

Under objective number 1, the following projects will be implemented before the end of FY2025 to achieve the objective of “achieving 50% electricity generation from RE sources by 2025”.

Year 1	Year 2	Year 3
6MW Sunergise Solar IPP	Distributed Generation	Wind IPP 3.8MW
TREP 300 KW Solar Vava’u	China Wind 2.2MW	Tidal
TREP 350 KW Solar ‘Eua	6MW GET Solar IPP	Wave
	Biomass	Heat Recovery
		Geothermal

Strategic Objective 2

Under objective number 2, the following projects have been put forward to achieve the objective of “adopting technologies to manage the complexities arising from the increasing level of RE penetration”. Most of the projects in Year 1 will be funded through the GCF/ADB Tonga Renewable Energy Project.

Year 1	Year 2	Year 3
TREP BESS #1	SCADA upgrade Outer islands	Electric Vehicle as a form of BESS
TREP BESS #2	Tele-communications Platform (marketing & comms)	BESS #3
TREP BESS VAVA’U	Combined Control Center	Data Warehousing (Reporting Server)
TREP BESS ‘EUA	Tongatapu ring feeder/ fourth feeder – differential protection	EV as a form of BESS
		More reclosers and sectionalizers

Strategic Objective 3

Under objective number 3, the following projects will be implemented to achieve the objective of “improving the network and replacing ageing assets to improve safety and reliability of TPL's services”.

Year 1	Year 2	Year 3
UPDATE AMP'S (Master Plan) <i>*Must include ICT & Retail/Financial Assets</i>	Refurb engine 4&6	
OIEEP (Vava'u remaining 35%)	New generators for Hp and Eua	Refurb Engine #2
NNUP (Area 3)	Tongatapu MAK 7,8 overhaul	Bulk Tank Wall
HV Upgrades for outside Nuku'alofa (Underground)	Off-grid islands O&M	Engine Reset Hp
Vehicle Fleet improvement	PC Replacement	Upgrade Cummins System Control Eua
Complete Asset Management ERP Module	NNUP (Area 4)	
Heat Exchange & Exhaust Silencers G1-G6		NNUP Area 5
Seawater Cooling Pump		
Computers replacement and improvements		
New Generator for Tongatapu		

Strategic Objective 4

Under objective number 4, the following initiatives has been established to achieve the objective of *“Cultivating a hazard free safety culture to minimize any electrical hazards to both the public and staff”*.

Year 1	Year 2
Safety regulation/safety manual	Safety regulation/safety manual
Staff wellbeing initiative	
Safety Trainings	
EC/TPL Working relationship & awareness	

Strategic Objective 5

Under objective number 5, the following projects are selected to achieve the objective of *“Investing in leading business processes and systems to improve operational efficiency and quality of TPL's services to customers.”*

Year 1	Year 2	Year 3
HR-ERP information system	Energy Efficiency Campaign	E-Filing
	Weekly Generation Dispatch	BI System Integration
Training Register	Automated process streamlining	TPL Smartphone App
Policy Review and Training	Reinforce ICT Disaster Recovery	Internal audit reviews
Competency Framework	Social Media Platform	
Formal Succession Plan	Induction & Onboarding Program	
Departmental Planning	Process reviews	
Salary structure	Internal audit reviews	
Energy Bill Implementation	Business Impact Analysis (BIA)	
Remuneration Review & Policy review	Billing processes review	
	Human processes review	

Strategic Objective 6

Under objective number 6, the following initiatives has been prioritized to achieve the objective of “Managing all external funding and internal financing sources successfully in order to maximise the shareholder value”.

Year 1	Year 2	Year 3
Fuel strategy	New Tariff Structure	Self-funded RE
ERP Integrated Budgets	IPP/PPP Policy	Integrate off-grid power
Funding for NNUP & OIEEP Projects	Social responsibility vs Profitability	
Merchant payment	Preventative Maintenance Schedule	
Compliance with IFRS 16 (Lease administration/accounting and financial reporting)		
Integrated financial forecast model		
Formalise Service Level Agreements		
Compliance with IAS 36		
Review of useful life of plant/equipment & software		
Compliance with IAS 16		
Full asset physical verification		

6. PERFORMANCE MEASURES & TARGETS

The effectiveness of the strategic objectives will be measured on an annual basis and results will be compared against the annual targets shown in the table in Annex 4. Only the KPI's most directly related to the strategic objectives are shown here. The variances between the actual and target values will be used to review and update the Business Plan in the next year and are reported in TPL annual report.

ID	Strategic Objective	Strategic Measure	Business Unit	Target	
				FY2021	FY2022
1	Achieving 50% electricity generation from Renewable Energy generation by 2025 in order to achieve the government TERM target and realistic tariff reductions.	i. Accumulated Fuel Displacement	i. Generation	i. 30%	i. 54%
2	Adopting technologies to manage the complexities arising from a digitized and decentralized renewable future.	i. Reliability (SAIDI) ii. Number of Outages	i. Generation & Distribution ii. Generation & Distribution	i. 850mins ii. <3	i. 850mins ii. <3
3	Improving the network by replacing ageing assets to improve safety, efficiency and reliability of supply.	i. Load Factor ii. Distribution Transformer Utilization	i. Generation ii. Distribution	i. >55% ii. >30%	i. >58% ii. >30%
4	Promote a hazard free safety environment to minimize any danger to both the public and staff.	i. Exercise BC/DR plan	i. Risk and Compliance	i. 80%	i. 90%
5	Improving our business processes to enhance customer/employee satisfaction while supporting a healthy and competent team.	i. Customer Satisfaction Rate ii. % of staff trained (formal or informal trainings)	i. Retail ii. HR	i. Improve Baseline by 10% ii. 25%	i. Improve baseline by 10% ii. 25%
6	Manage all external funding and internal financing sources successfully in order to increase shareholder value.	i. Revenue	i. Retail	i. >TOP\$51m	ii. >TOP\$51 m

7. STATEMENT OF COMPLIANCE(S)

Statement of compliance with relevant Government Policies:

Electricity Act 2016 Revised Edition: All requirements including payment of regulatory fees and other levies, offences etc. are met.

Electricity Concession Contract: TPL complies with all the reporting requirements, efficiency, technical and services standards set forth in the Concession Contract II effective September 2015 except for voltage standards. The new contract was effective this year and few non compliances include not meeting line losses target of 10% and fuel efficiency of not more than 4.05kWh.

Product/Service and Supply Issues: TPL's service standards to consumers are regulated through the Electricity Concession Contract. TPL is in compliance with all service standards except the voltage stability standard. Occasionally, breach of this standard occurs due to poor quality networks. In these occasions TPL pays compensations to the affected customers upon completion of an investigation conducted by TPL engineers and if necessary, by independent sources.

Customer complaints: TPL manages all customer complaints through its Customer Complaints Management Policy. All complaints are reported to the Board on a monthly basis and there are on average about 50 customer complaints from all four island groups per month

Reliability of supply: The key reliability measure TPL uses is SAIDI (System Average Interruption Duration Index), which measures the average total duration of interruption per connected customer.

Ministry of Public Enterprise Act 2016 Revised Edition: All the requirements including directors' requirements, Board meeting requirements, and auditing requirements are met. However there were few issues of non compliances mainly on reporting requirements.

Companies Act 2016 Revised Edition: All the requirements including constitution, share register, shareholder rights, directors' duty of care, disclosure interest, keeping accounting records, appointment of auditors, annual report, and annual return requirements are met.

Other legislation requirements to which TPL complies with are: **Renewable energy Act, Business Licenses Act, Public audit Act, Public health Act, National retirement benefit Scheme, Price and wage control Act, Anti-corruption commissioner Act, and Public finance management Act, Consumption Tax Act.**

Statement of Community Services, claims for GPO

TPL has spearheaded the implementation of projects that align with the following GPO.

Under the TSDF II: National Outcome E: More reliable, safe and affordable energy services. The results to date, 11% system losses down from 18% in 2010, Average total duration of power interruption per customer has significantly declined and about 12.0% of energy is coming from renewable energy source in 2020.

Outcome Objective 5 – Appropriately skilled workforce to meet the available opportunities in Tonga and overseas. The TVNU and NNU projects are upskilling TPL lines staff to an internationally recognized standard of line mechanic.

Enabling Theme C – Ensuring Public Enterprises are sustainable and accountable, and where appropriate moved into the private sector.

Under the NIIP: Priority projects E11 and E16 – Recent results, a 1.3MW Wind Farm has been added on Tongatapu with support of JICA, Energy storage and Outer Islands On-Grid RE funded.

Under TERM: Minimizing the need for imported fuels by transitioning to a renewable energy based system. Seeking to achieve greater efficiencies in customer use and distribution through improving network efficiency and energy efficiency awareness campaigns.

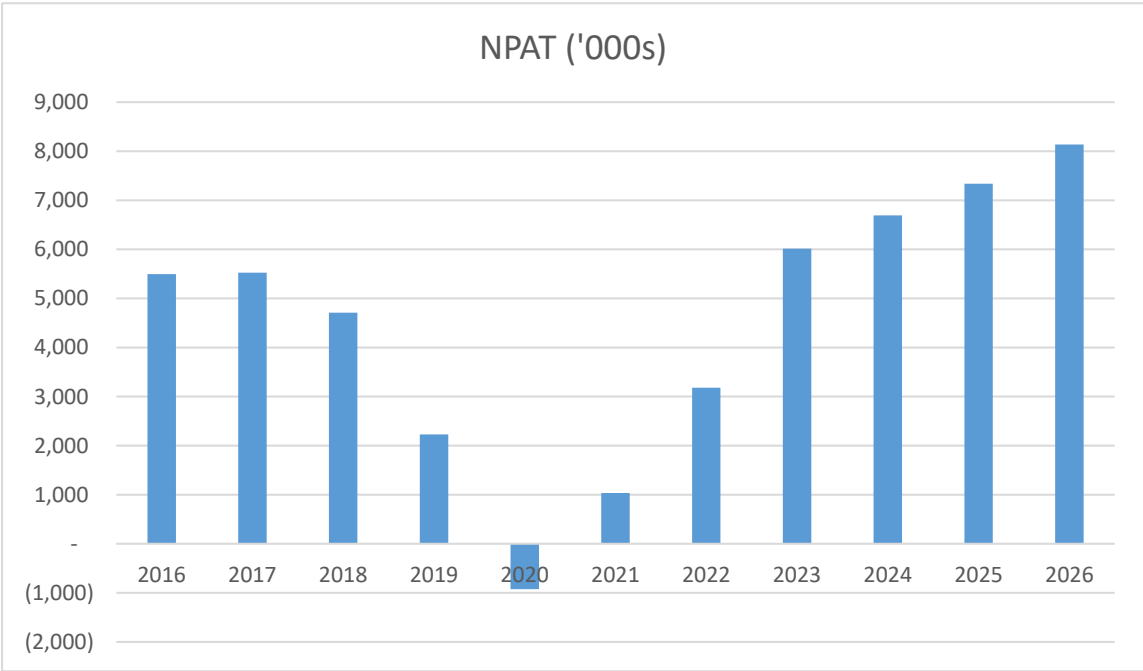
Specific GoT GPO: The lifeline tariff of 65 seniti/kWh power tariff for all customers who uses less than 100kWhrs per month ceased in June 2020.

Statements of Financial capacity in regard to dividends

TPL's dividend policy is that 35% of Net Profit After Tax is paid as dividend to the government.

8. PROFORMA FINANCIALS STATEMENT

The budget supports the 50% Renewable Generation target 2025 while ensuring a better and reliable network and is aimed at projects that will reduce the power tariff over the next 5 years. The challenge to the budget is timing of projects so maximum benefits are realized earlier rather than later. On the network, the budget supports the upgrade work in Vava'u and the continuation of the NNUP. The projected NPAT is as per the graph below. For the detailed financial statements please refer to Annex 5.



Annex 1: ANALYSIS OF POLICIES AND GUIDELINES GOVERNING THE DEVELOPMENT OF THE BUSINESS PLAN

The Ministry of Public Enterprise Letter of Expectations (8 expectation letters), states several guidelines from the Honorable Minister for Public Enterprises as to how they should operate to which TPL adopted in the development of this Plan. In summary of the PE Act and the Letter of Expectations the following key points are note:

- The company should operate as a successful business and, to this end, to be as profitable and efficient as comparable businesses that are not state owned. With continuous annual improvements in the level of financial performances, and the efficiency & productivity on services delivery.
- The board, comprising all of the directors (unless otherwise required by legislation), must exercise their powers collectively. Powers should not be delegated unless a delegation is absolutely necessary to be made to a sub-committee of the board or a particular individual.
- Directors are reminded that expenditures, single or linked, that exceed 10% of equity or net assets - whichever is the lesser - can only be incurred when all of the directors of the Board authorize that expenditure.
- Directors are to be prepared before attending at board meetings and contribute constructively at the meetings to achieve the strategic priorities and performances expected from them by the shareholder. If a director is unable to attend a board meeting for any reason, he/she must send a contribution paper on the agenda items of that meeting to the Chair and the Board Secretary prior to the meeting date to be included in the meeting discussions.
- Directors are urged to work closely and collaboratively with the MPE in order to achieve the customer service and financial objectives required of all PEs. Timely, frequent and effective communication between Directors and the Ministry in all matters relating to the PE's performances, projects and developments is required.
- All boards are expected to complete the director performance reviews on an annual basis and share results with MPE office. All out going directors will complete an Exit Interview, to be undertaken by the Ministry. I would request that your Board facilitate this as appropriate.
- A significant emphasis on quality of "service delivery" to the people. In other words, social responsibility is a priority. Improving the quality and efficiency of services to the people is most essential. From the customer services at the counters to service delivery to customers around the country, services must be people-oriented and customer-friendly.
- Customer complaints and criticisms should be viewed as opportunities to improve performance and transparency rather than a barrier to development. A "Complaint and Suggestions Box" must be installed in areas at all PEs where customers can access and submit any complaints and/or suggestions on any issue. All public fees and charges should be clearly justified and explained to all customers through public media and may include publication in weekly newspapers.
- Return to Surplus is a priority and Return on Equity of 10% is a core requirement of the business plan. Annual dividends to be agreed with the shareholding Minister and share certificates are to be submitted to the ministry.
- The shareholders want all PEs to adhere to a strict 'no surprises' policy.
- Director and CEO travel to be approved by the Hon. Minister of Public Enterprises.
- Key Policies to be standardized across the Public Enterprises.

- Quarterly meetings between all boards and the shareholder to monitor financial and operation performance against the business plan and budget will be called.
- AGM must be held once the annual report and audited financial statements are adopted by the board.
- Management of vehicle assets to be carefully monitored and transparency through marking of public enterprise assets to be conducted.
- The board shall supply to the Minister or any other person, such information relating to the affairs of the public enterprise, as the Minister shall direct.
- Unnecessary expenses must be cut and expense control mechanisms are in-place and are being followed.
- Reform and restructure programs to continue and PPP projects to seek shareholder approval first.
- The board must ensure that any solicitor who has acted or is acting for the PE in any matter, must not also act for the party that is entering or is about to enter into any transaction with the PE.
- All CEO positions (both PEs and subsidiaries) must be advertised when they are due for renewal. The CEO for MPE must be involved from the beginning of the recruitment process and must be a member of the selection panel. All long-term acting appointments for CEOs are to be relayed to the Ministry for Ministerial approval.
- Top management contracted positions must be open competitively advertised when they are due for renewal.

Furthermore, section 18 of the MPE Act outline matters that have been agreed to with the Responsible Minister which are as follows:

- 3.3.1 Corporate Governance - The company is committed to the highest standards of corporate governance, with core values of accountability, probity and transparency. The company is adopting policies and procedures aimed at maintaining these standards.
- 3.3.2 Anti – corruption - The Board, through the Chief executive will ensure compliance by the company with statutory and regulatory requirements including avoidance of any act that would or could be construed as an illegal, corrupt or unethical practice.
- 3.3.3 Share subscriptions or purchases - Subscriptions for shares in any company or acquisition of interests in any other organization that involve equity investment will be subject to prior consultation with the Responsible Minister.
- 3.3.4 Subsidiary companies - The establishment of subsidiary companies or sale of material interest in or assets of subsidiary companies will be subject to prior consultation with the Responsible Minister.
- 3.3.5 Reporting – Annual financial statements, quarterly reports, business plan, asset management plans, business continuity plans to be submitted on time and updated when changes are made to plans and re-submitted accordingly.

Obligations under the TSDF II

The Government of Tonga has initiated the Tonga Strategic Development Framework II (TSDF II) for creating a Tonga that promotes improving equality, justice, and good governance in addition to expanding our economic and social opportunities. Underpinned with a foundation in the Tongan identity bequeathed by Tupou I: ***God and Tonga are my inheritance.***

The TSDF aims to improve electricity generation and distribution systems and its safe operation in order to improve the living standards of all Tongans. The framework highlights a desire to improve services, accountability, and revenue collection, as well as the coordination of development partners, in line with the TSDF vision of “*A more progressive Tonga: Enhancing Our Inheritance*”.

Tonga Power’s major obligations under the TSDF II are:

- Maintaining and where possible expand the provision of reliable, safe and cost-efficient power supplies using traditional and renewable options to all communities.
- Strengthening regulatory compliance and safety oversight of the utility sector to ensure compliance with international safety standards i.e. cost-effective delivery, storage and distribution of LPG products.
- Investing in a healthy, well-educated, skilled and gender equal workforce.
- Enhancing staff development and training to increase the value added to our business.
- Fostering innovation and technological development.
- Maintaining good relations with development partners for mutual partnership, aid effectiveness and donor harmonization.
- Improving profitability, accountability, and return on equity of our public enterprise but at the same time being sensitive to the impact of our cost structures on our customers and their quality of life.
- Implementing the proposed priority projects outlined in the NIIP (National Infrastructure Investment Plan).

Under the TSDF II Pillar of Infrastructure and Technology, the following Key Performance indicators are directly related to TPL:

- Cost of electricity to be maintained below \$1.
- Percentage of electricity generated by alternative systems to reach 50% by 2025.
- Renewable energy usage to achieve 50% by 2025.

Under the National Outcome E of the TSDF II the following organizational outcomes are highlighted:

- 13% or below of total system loss due to power failure.
- Reduction in average total duration of power interruption per customer by more than 50%.
- 50% or renewable energy usage by 2025.
- Share of installed renewable capacity % of capacity.

The company strategic objectives were also built in accordance with these requirements.

Boards expectations

The Board of Directors has a role to control and monitor management and take reasonable steps to ensure best practice governance and compliance. The Board also has a strategic and advisory role, which includes taking steps to ensure proper corporate performance and value creation. The key is working cooperatively between the Board and executive management and to elevate poor and possibly fatal business decisions, but more importantly to set the stage for mutual benefit, respect and value creation.

The Board expectations from TPL are:

- *Maximise shareholder value:* The Board wants management to invest in value added projects that maximise shareholder wealth and enhances profitability.
- *Excellent customer services:* The art of good business is in achieving a high level of effectiveness (doing the right things) with efficiency - thereby delivering the right service for the customer, while remaining cost effective.
- *No surprises or spin:* There should not be any surprises for a Board. The CEO and senior management need to be proactive and advise the Board of the true state of affairs and without any spin.
- *Bad news must reach the board ASAP:* The Board needs to be the first to know of problems when they arise. Management needs to further develop the systems, processes and incentives within the organization that promote full transparency and reporting, right up to the Board and its committees.
- *Deep expertise in the business:* The Board requires expertise across the full management bench with no gaps.
- *Visibility of management thinking:* The Board should see proposed strategic options from management. Management's thinking and assumptions need to be fully transparent to the Board, in writing and open to critique.
- *Full access to information:* Information has five dimensions: quality, quantity, source, format and timeliness. There should be no information funneling or blockage to any dimension. In order to do its job, the Board will have reasonable access to TPL information as directed by the Chairman and ensuring the CEO is notified.

Mandate - Energy Policy, Law and Legislation

In recent years there have been several policy and legislative initiatives in Tonga aimed at improving the legal framework of the electricity sector and the implementation of fossil fuel (diesel) reduction programs and development of renewable energy projects.

Company Act 2020 Revised Edition

- TPL has its own Company Constitution which sets out the rights, powers, duties and obligation of the Board, each director, company secretary and the shareholder as required by the Act.
- It outlines the issue of shares and dividend requirement, administration of companies, audit and records requirement as well as incorporation and registration requirement under the Tonga Registrar of Companies.
- Directors roles include ensuring that companies meet the solvency test.

Electricity Act 2016 Revised Edition & amendments

- Provides the governance framework for the electricity sector of Tonga.
- The establishment of the Electricity Commission as legally defined by the Act – established as the regulatory agency for grid- based diesel generated electricity supply, as the regulator.
- Establishes the role of the **Concession Contract** in producing and delivering electricity.
- Provides the Ministry of Finance with the authority to be a signatory in the Concession Contract between the EC and the Concessionaire (TPL) and to establish regulations to ensure effective management of the electricity utility.

Concession Contract III

- The third concession contract came into force on 1st January 2021.
- Sets out the terms and conditions upon which the Concessionaire (Tonga Power Limited) will generate, distributed and supply electricity to consumers of electricity in the Kingdom of Tonga.
- Spell out tariffs, tariff adjustment formulas, operational efficiency benchmarks, consumer service standards and penalties which are specified between the EC, the Government and Tonga Power Limited.

Public Enterprises Act 2020 Revised Edition

- TPL is required to operate as a successful business and to be as profitable and efficient as profitable and efficient as comparable businesses that are not state owned.
- The Act also requires TPL to report its performance on a periodical basis.

Tonga Strategic Development Framework II

- Puts greater emphasis on energy as a fundamental requirement for developing a progressive and dynamic economy and is a prerequisite for an improved quality of life.
- National Outcome E; infrastructure and technology and Pillar 4 of the TSDF II is “More reliable, safe and affordable energy services” reliable and affordable energy” is considered the lead for this national outcome, supported by improvements in the political institutions, Pillar 3. The economic institutions, Pillar 1, is also important to generate effective demand for the operation and maintenance of a sufficient level of infrastructure and technology. Pillar 5 is also relevant as infrastructure is often disruptive and needs to be built to take account of the environment as well proofing against future climate change impacts.

The Renewable Energy Act 2016 Revised Edition

- Creates a Renewable Energy Authority within the Department of Energy of MEIDECC to deal with matters concerning renewable (off-grid RE) energy uses under the Tonga Energy Road Map (TERM) 2010-2020.
- TERM 2010-2020 was launched in June 2010. TERM consolidates the priorities highlighted in the National Infrastructure Investment Plan (NIIP) and **Tonga Strategic Development Framework II (TSDF II)** and sets out an aggressive set of targets for the electricity sector.

National Infrastructure Investment Plan 2020-2030

- Outlines the Government of Tonga’s priorities and plans for the major initiatives in the economic infrastructure sector (energy, telecom, water, waste and transport) over the next 5 to 10 years. Government’s strategic framework for investing in developing the infrastructure sector is to connect people and business to social and economic opportunities; to provide the basic infrastructure services that support vibrant communities and the economy; and to provide access to reliable and affordable energy, in a way that is sustainable, safe and resilient.

Combined Utility Board Policy Standardisation

- Given the Government initiative of having all utility companies headed by one combined BOD, TPL has led the initiative of developing a Company Policy Manual that are shared by each of the other two utility companies Tonga Water Board and Waste Authority Limited (WAL). The TPL Policy Manual was developed and form the basis for the development of TWB and WAL Company Internal Policies which gives each company a common understanding that all companies operated under one similar policy across the board. This work is currently work in progress, pending PE finalization of TPL policy which should be shared with the other two utility companies.

The company are also obligated to comply with the following pieces of legislation:

- **Business Licenses Act 2016 Revised Edition**
- **Ombudsman Act 2020 Revised Edition**
- **Public Audit Act 2020 Revised Edition**
- **Income Tax Act 2016 Revised Edition**
- **Foreign Exchange Control Act 2016 Revised Edition & amendments**
- **Land Act 2016 Revised Edition**
- **Public Health Act 2020 Revised Edition**
- **National Retirement Benefit Act 2020 Revised Edition**
- **Price and Wage Control Act 2020 Revised Edition**
- **Public Finance Management Act 2020 Revised Edition**
- **Consumption Tax Act 2020 Revised Edition**

Annex 2: ANALYSIS OF PLANNING INPUTS

External Elements

Legal, Policy, Technological, Social, Market & Environmental Issues:

A number of external factors may impact on the execution of our mandate. These factors include the following:

- i) Legal and Political – laws, global issues, legislation and regulations which may have an effect on TPLs mandate either immediately or in the future.
- ii) Environmental/Economic – Environmental and economic issues either locally or globally and their associated effect on TPLs performance either immediately or in the future.
- iii) Social – societal priorities of customers that influence TPLs services and mandate.
- iv) Technological – both local and global technological trends that influence people, processes and the structure of TPL.

Details of the specific factors considered in the external environmental scan, complete with TPL's response to the challenges are presented below:

Policy Issues:

Government Policy (TERM and TERM Plus)

Government issued the Renewable Energy Act in 2008 and a transition to renewable energy has been a stated national priority ever since. Further in 2009, Government issued the Tonga Energy Road Map, 2010 – 2020 (TERM) with a major objective to achieve 50% renewable energy penetration by 2025. Tonga Power therefore reprioritizes its resources and effort in ensuring the target is achieved and to rapidly transform the country to a low carbon, renewable-based economy. Although TERM Plus has yet to be formalized it is expected that the nationally determined contribution (NDC) of 70% RE by 2030 will featured significantly.

The target is considered aggressive but may be hampered by the following reasons:

- a. High level of dependence on donor funding resulted in long lead times.
- b. Relative cost of RE is high particularly initial investment considering TPL contributions to donor funded projects thus affecting TPL bottom line and so as tariff.
- c. COVID-19 has had a large impact on timelines of all the projects under TERM. As an example, the TPL portion of the TREP was expected to be completed by the end of 2021. Specifically, the 50% target was to be met by the end of 2020 but this is dependent on the introduction of batteries under the TREP project. The most likely delays are expected to occur from delayed equipment procurement and manufacture in foreign countries. Construction activities have been impacted by travel restrictions imposed on engineering and construction personnel. On Tongatapu the implementation contractor is currently predicting 90 to 120 days delay for the power station BESS and the villa load shifting BESS. The implications are that there are now shorter time frames available to meet the target and other activities, such as the Independent Power Producers (IPP) renewable generation projects. There are possible significant implications to the broader TPL projects due to their reliance on completion timing of the BESS projects on Tongatapu.

The following recent donor funded projects is as a result of TERM and the support from development partners for TERM. This list highlights the funding details and obligations of TPL in relation to the agreements signed.

[Tonga Renewable Energy Project \(TREP\)](#)

The Tonga Renewable Energy Project (TREP) was approved on 11 March 2019 comprising an ADB grant of USD\$12.2 million equivalent (Grant 0640) from the Asia Development Fund and the administration of grants (Grant 0641 and Grant 0642) not exceeding USD\$29.9 million equivalent and USD\$2.5 million equivalent provided by the Green Climate Fund and the Government of Australia, respectively. Tonga Power Limited (TPL) will pay for land acquisitions including compensation to landowners and other project management and administrative costs totaling USD\$3 million equivalent. The government will finance duties and taxes totaling USD\$5.60 million to bring the total investment cost to USD\$53.20 million.

[Nuku'alofa Network Upgrade Project \(NNUP\)](#)

Area 1 of the Nuku'alofa Network Upgrade Project (NNUP) was approved on 18 May 2018 by the Ministry of Foreign Affairs and Trade of New Zealand comprising a grant of NZD\$11 million (activity code ACT-0812830). Area 2 of the NNUP was approved on 15 June 2018 comprising an ADB grant of USD\$6.8m (Grant 0575). TPL will contribute NZD\$1.4m and USD\$1.4m to Area 1 and Area 2 respectively as in-kind contribution towards staff time for design, supervision and installation works as well as management and administration of the project. The government will provide the equivalent of USD\$3m as exemption of taxes and duties. Bringing the total committed investment to NZD\$ 12.4m and USD\$11.2m.

[China 2.2MW Wind Farm](#)

The Government of China has agreed to commit RMB 87m to the installation of a wind farm on Tongatapu. The signing of the implementation agreement has yet to be confirmed due to COVID-19. MEIDECC as the co-signers of the implementation agreement will be responsible for the project preparations. Including, securing land, environmental and construction permitting, site leveling, site services (water, comms etc.), temporary facilities and road access.

[li 'o Manumataongo Wind Farm](#)

The project for installation of wind power generation system was approved on 2 May 2017 comprising a JPY 2.1 billion grant from the Government of Japan. TPL were responsible for land acquisitions, site clearing, site access, site services, reporting and monitoring of the project totaling TOP\$1.8m.

[Outer Islands Renewable Energy Project](#)

The Outer Islands Renewable Energy Project (OIREP) was approved on 27 June 2013 comprising an ADB loan of \$2.5m and grants of USD\$11.44 million from ADB's Special Funds resources, a grant of Au\$5.5m from the Government of Australia, a grant of Euro\$3.0 million from the European Union, a grant of USD\$0.75m from the Second Danish Cooperation Fund for Renewable Energy and Energy Efficiency for Rural Areas (SDCFREEERA) and a grant of \$2.64m from the Global Environment Facility (GEF), administered by the ADB (Grant 0347, 0348, 0444, 0445, 0446, 0528, 3509, 0586, 0587, 0588). TPL and the Energy Division of MEIDECC will provide the equivalent of USD\$1.57m as in-kind contribution toward land-related and administrative costs. Bringing the total committed investment to \$26.1million.

TPLs response to the challenge is:

- i. TPL has directed all effort and resources available towards pursuing the TERM target and continues to look for innovative ways to overcome implementation challenges such as COVID 19, tropical cyclones and general organizational readiness through ongoing implementation of the above projects.
- ii. Continuing design and engineering work with personnel working remotely where possible.
- iii. Examining whether local contractors can undertake civil construction work onsite, despite international travel restrictions and material shortages and considering impacts on quality assurance.
- iv. In-kind contributions have been budgeted and the financial impact has been factored accordingly in electricity tariffs moving forward.

Regulations concerning Independent Power Producer's (IPP's)

In order for Tonga to reach 50% by 2025, IPP's will play a major role in taking Tonga towards its renewable energy goal. Rapidly transforming the sector requires substantial investments by the company. The ability of Tonga to access public and private financing for such investments is limited therefore engaging private investment is encouraged.

With the company and shareholder limited debt-bearing capacity, the available resources are insufficient to finance the structural shift from diesel generation to renewable energy. Reaching the region's energy targets presents prospects for the private sector to deliver the technical solutions and financing models that will ensure their sustainability. Tonga has continuously been working with development partners and other stakeholders to create an enabling environment for investors to continue investing in RE in Tonga. However, a major unappealing factor is that investors are often deterred by small project size, poor financial returns on investments, lack of previous experience and perceived risk, and incomplete data sets and analysis especially in a small country like Tonga. Specifically, the Foreign Exchange Control Act prohibits foreign contractors from coming and completing works for us here in Tonga as they have off shore accounts. Therefore they have to set up SPV company especially for the project however donors will not sign off on SPV's to complete works as they do not have any experience or financial history which is required by the donors for contract award.

Developing appropriate Power Purchase Agreements (PPA) with IPP owners and managing outcomes will also present a challenge to TPL. At the same time TPL has to incur additional expenses including legal costs, the cost of automation to monitor IPP's RE generation facility to ensure safety and stability with fuel savings being passed through to customers.

With up to 11MW of renewable generation that could be provided by independent power producers, Regulatory reform and a donor-supported risk reduction facility are planned to enable investment.

TPLs response to the challenge is:

- i) A new Energy Bill has been submitted to Cabinet for approval which has considered the need for private sector investment in renewable energy and challenges TPL faced in the current regulatory regime.

New bill pass & new policy requirements – Energy Bill & Grid Code guidelines

The new Energy Bill that has been submitted to Cabinet for approval may come into effect in the very foreseeable future. Enforcing of the changes required by this law may take some time to be realized. TPL will need to put into its schedule the followings:

- contracts/agreements that the company is managing in case there is a requirement to notify contractors or suppliers
- Emphasis of Health and safety
- Increased compliance requirement therefore extra resources required

Additionally, the new grid code policy that was recently introduced but yet to be formalized will come with a lot of extra compliance requirements that TPL needs to comply with.

TPLs response to the challenge is:

- i. A new Energy Bill has been submitted to Cabinet for approval which has considered the need for private sector investment in renewable energy and challenges TPL faced in the current regulatory regime.
- ii. New Grid Code guidelines will mean extra compliance requirements so TPL needs to ensure that it is well resourced to cater for the changing regulatory regime.

Technological Issues:

Third Party Generation (on-grid)

The Electricity Act Revised Edition 2016 allows third party generation both on-grid and off-grid. On-grid or grid-connected systems are also called Distributed Generation (small or large) where third parties generate their own electricity and connect to TPL's main network to inject surplus electricity or draw more electricity if there is deficit in the energy requirement. Distributed Generators connect to TPL's network mainly because they do not have energy storage facilities for night use. With avid global investment in energy storage technology the price of energy storage is likely to decrease significantly in future and become economically viable for homes to invest in. Should homes have self-generation and energy storage then there will be no need for TPL's grid which currently acts as the battery. This will bring significant revenue losses to TPL.

Other risks inherent in the distributed generation includes but not limited to the following:

- i) Loss of grid stability & security of supply:* The private investment in renewable electricity generation of capacity less than 160kW (i.e. SDG or small distributed generation) has impact on grid stability and security of supply in the medium and long run. The greater the degree of renewable penetration, the greater the impact on the centralised generation and distribution assets. This in turn imposes significant financial risks to TPL as it has to invest large amount of money on technologies such as smart technology which includes smart meters, storage facilities and micro-grid controllers to avoid grid instability.
- ii) Deterioration of generation assets:* Due to the intermittent nature of third-party renewable generation, TPL should still maintain a large spinning reserve, keeping existing firm (diesel) generation operating at inefficient levels. This would see TPL incur extra diesel or other fuel costs and likely an accelerated rate of deterioration of existing diesel and other firm generators.

- iii) *Renewable energy spillage*: As more distributed generation are introduced to the network means that at some stage, TPL's own renewable generation would become redundant due to surplus energy in the system. This surplus energy will have to be curtailed somehow.
- iv) *Export tariff charged are unreasonable*: in most global jurisdictions the expectation is for significant subsidies or incentives for third parties to invest in renewable energy and accelerate renewable transitions.

TPLs response to the challenge is:

- i) The new Gross Metering Policy protects the non- fuel revenue of the tariff.
- ii) All distribution generation greater than 4 kWh requires a 3-phase connection which contributes to mitigating grid instability to a degree.
- iii) GCF covers for four sets of BESS for Tongatapu, Vava'u and 'Eua which help to maintain generation assets overall.
- iv) Various mechanisms such as setting up a multi tariff systems to promote usage of electricity during high RE production times.

Technology/communication failure

Stable and improved network have a major influence on the company operation as the company slowly moving digital in terms of its IT infrastructure and systems as well as its smart metering technical requirements.

Communication failure and technology downtime is a major risk that is beyond the company control but is being closely monitored through ongoing collaboration with the internet providers and key suppliers of key system at TPL.

TPLs response to the challenge is:

- i) Close collaboration with the two internet providers to ensure stability of network.
- ii) SCADA upgrade.
- iii) Ongoing dialogue with system vendors to ensure that support is being provided to TPL as and when required.

Limited safety regulations

Given that a paramount consideration of both the EC and TPL is electrical safety of the public, they shall take all reasonable measures to prevent electrical hazards which may include disconnection from TPL network if required. The issue is when, if electrocuted, parties responsible should be held accountable.

The old By-Laws developed with the old Tonga Electricity Power Board Act are materially deficient in regard to electrical safety and a Safety Regulation was presented to Cabinet before to which they showed very little interest. Under the current regulations, TPL has the authority to disconnect customers when an electrical hazard is found or reported by a third party and is considered hazardous.

The role of the EC is clearly outlined in the Electricity Act and all electrical contractors in Tonga are required to comply with the AS/NZS 3000/2007 Wiring Code to ensure electrical wiring safety.

Additionally, vegetation clearance rests with TPL in accordance with the Growth Limit Zone outlined in the Customer Service Agreement. The problem arises when the vegetation/trees

fall beyond the growth limit zone to which TPL considered as an electrical hazard but does not have the legal right to trim down trees/vegetation.

Furthermore, for tall building structures especially in the CBD area and newly constructed houses and buildings built too close to the lines, TPL again follows the growth limit zone requirement of two meters stated in TPL limit zone. TPL has been working in close collaboration with the Ministry of Infrastructure to raise awareness of the minimum clearance from TPL poles and conductors that run overhead next to the boundary. Problems arise when a house is also built right up to the boundary where our lines is built, where there is a high probability that the pole and conductor will touch the roof or some part of the house. It is a concern to TPL because once the design is approved by the Ministry of Infrastructure, construction will continue regardless and TPL is forced to consider underground reticulation of the power supply.

TPLs response to the challenge is:

- i. A provision in the new CC allows TPL to disconnect power from customers if there is a probable electrical hazard.
- ii. TPL has proposed the addition of a Road Reserve clause in the Energy Bill similar to what was already allowed for in past electricity by-laws.
- iii. Under the NNUP, cables used are safer.
- iv. Ongoing Safety awareness programs/campaigns.
- v. The Tonga Grid Code was developed to inform minimum requirements to connect to the TPL grid.
- vi. In partnership with PCREEE and the EC a workshop is being developed for electrical inspectors from NZ to come and build capacity with electrical contractors in Tonga.

Environmental Issues

Tonga Climate: The climate in Tonga is attractive for certain forms of renewable power generation including solar, wind and bio-mass etc. However, the hot weather gives rise to formation of tropical cyclones in Tongan seas on an annual basis. Cyclones often destroy TPL's network and generation assets extensively. Even though insurance and surplus of donor funds are available to reconstruct the damaged network, this takes a considerable amount of time to bring the network back to a normal state of operation. This also imposes various economic and safety risks to the people of Tonga when the nation experiences prolonged outages.

Public Health: The pandemic crisis that is COVID-19 represents unprecedented challenges for all economies and a unique working environment proposition. There is a significant challenge to business continuity in an environment where the staff are at risk of catching a highly contagious disease, the public are unable to travel freely and income is uncertain. Development initiatives are also significantly impacted by the changes to global supply chains and the ability for certain expertise to cross borders. New regulations and the expectation for tighter control by government especially of essential services will result in a sluggish and challenging working environment.

TPLs response to the challenge:

- i. The network upgrade projects by design have significantly improved the resilience of the electrical distribution network to climate events.
- ii. Improved vegetation clearance plans and a shift to preventative maintenance as per the

- Asset Management Plans (AMP) help to reduce the impacts of climate events.
- iii. Having a reliable insurance plan in place.
 - iv. TPL has developed a strategic mitigation plan for COVID-19 which will be used to update the business continuity plan and has been well-practiced during the March lockdown.

Customer perception due to social media disputes

Confidentiality and social media disputes are another major risk that have a major impact on the company reputation and operation. A much more tighter confidentiality policy and key policies to control leaking of company information to the media should be enforced.

TPLs response to the challenge:

- i. Review existing policies to counter social media disputes and leaking of company information to public.

Market Issues:

The major market issues can be summarised into the following four categories and they are discussed in detail below.

- *Fuel price volatility*
- *Rising electricity demand growth*
- *Flat overseas remittances*

Fuel Price Volatility:

Petroleum dependency makes Tonga highly vulnerable to oil price shocks, affecting the affordability of food, goods, electricity and transportation. The reliance on fossil fuels has been exposing the Tongan economy to high electricity tariffs linked to volatile oil prices over the last decade. More than 90% of Tonga's overall grid connected electricity demand was supplied by generators fueled by imported diesel. Linked to these fluctuations, the electricity tariff reached its peak in September 2008 at 102 seniti per kWh, and again in July 2011 at 98 seniti per kWh. It has continued to fluctuate dropping to lows of 83 seniti per kWh in March, 2017 and 73 seniti per kWh in March, 2020.

TPLs response to the challenge:

- i. Investigating a competitive hedging program to avoid fluctuations in oil prices.
- ii. Management seeks to stabilise its cashflows situation especially when there are time lags in passing fuel price volatility to customers.

COVID-19 and Flat Electricity Demand Growth:

The two major sources of electricity demand growth are the addition of new customers and increased use by existing customers. Both are economically driven factors that may be expected to respond to economic change. Based on historical trends and taking into account economic growth projections, electricity demand use by existing customers is likely to increase by about 3% to 5%.

The International Monetary Fund (IMF) has predicted 3.7% and 2.9% increase in GDP growth for the years 2020 and 2021 respectively mainly due to increasing economic activities. Other domestic factors that drive demand for electricity supply are increases in household appliance numbers due to better quality of life aspirations. Increased load is a risk to TPL especially in terms of network reliability and stability.

TPLs response to the challenge:

- i. Promotion of demand side management and energy efficiency such as energy saving light bulbs, the use of energy efficient appliances and off-grid renewable energy sources (e.g. Solar).
- ii. The genuine growth opportunities mentioned above are subject to considerable uncertainty especially in light of COVID-19 and closer monitoring will be implemented.
- iii. Improving asset investment planning and service provision to reduce barriers for growth and encourage more customers to access electricity.

Flat Overseas Remittances:

Like many other Pacific island nations, Tonga has become economically dependent on migrant remittances and foreign aid as its major sources of revenue. At the national level, remittances are the major source of foreign exchange and accounted in 2018 for about 40.7 percent of GDP. At the village and household levels, remittances are an integral part of income and consumption. Seventy-five percent of all Tongan households report receiving remittances from overseas (mainly New Zealand, Australia and United States), making remittances the single most widespread source of income in Tonga.

Most of the power customers rely on remittances for bill payment, as evident in online bill payments from overseas. COVID-19 is likely to have a significant impact on remittances as the global pandemic impacts jobs in all countries around the world.

External Business Risks: The following risk analysis shows the risks inherent from the above legal, political, environmental, technological, market and social issues. The suggested mitigation controls and the current level of control effectiveness are also shown in the table. Below are the top six major external risks.

External Business Risks		
Risk Description	Mitigation Control	Control Effectiveness
Significant financial and reputational risk to TPL due to the aggressive 50% Government policy target to be achieved by 2025. TPL highly dependent on donor funding which results in long lead times. The global pandemic and climatic events have negative impact on implementation timelines. Additionally, initial investment is very high.	Tonga Renewable Energy target is fully supported by the Government of Tonga and TPL has implemented contingency plans to ensure achievement of the goal and consistent updates on progress focus on managing expectations of all stakeholders on the time frame.	Effective
Significant financial and reputational risk if the company cannot achieve the 50% target given the limitations in the local regulatory regimes governing IPP's – the current Act prohibits foreign contractor from completing work in Tonga as they have offshore accounts. Given IPP's is the only viable option that will take TPL further to achieving its 50% target, IPP's is encouraged given the company limited debt-bearing capacity.	The Green Climate Funding supports IPP transactions and areas for IPP involvement. TREP includes a significant energy storage component to withstand additional planned Solar and Wind IPPs. GOT is also working toward developing a coherent and robust Energy Bill including reviewing the legislation to promote private investment.	Partially Effective
Significant financial and reputation losses to TPL due to Government incentive of holding the tariff and the lifeline tariff of 65 seniti, putting pressures on the company bottom-line.	1) Cost cutting measures have already been introduced. 2) Dividend retention requests to be able to cover the under-recovery costs of tariff holds. 3) Aggressive debt collection (12 – 13 days debtors' turnover). 4) Prioritise spending on commitments to 50% RE projects and major generators overhaul. 5) Tight cash management.	Partially Effective
Significant financial and reputation losses to TPL due to any public discontent resulting from unsustainable electricity tariffs through volatile oil prices coupled with achieving the 50% RE target if there are no major changes to tariff.	Tariff reductions have been modelled and will decrease significantly with the 50% RE penetration target. Key stakeholders have been informed accordingly. Government lifeline GPO has also assisted.	Effective

<p>Significant business continuity risks to TPL due to tropical cyclones and COVID 19. The recovering from a cyclone takes a considerable amount of time leaving people of Tonga without power. The pandemic could severely limit the reliability of supply chains, the ability of customers to pay for electricity and thus the financial situation of TPL.</p>	<p>Insurance and donor funds are available to reconstruct the network and power station assets after a cyclone as well as support TPL as an essential service provider if a public health crisis should eventuate. TPL's Business Continuity Plan provides for a speedy recovery.</p>	<p>Partially Effective</p>
<p>Significant financial and reputation losses to TPL due to public lawsuit taken against the company as a result of members of public getting electrocuted from poor house wiring and deteriorated network/lines. TPL may also be sued for vegetation clearance beyond the Growth Limit Zone of 1meter for LV and 2meter for HV or installing poles in private property.</p>	<p>TPL take all possible actions to increase safety awareness to public from electrical hazards. However, new safety regulations must be promulgated with the recommendation of Electricity Commission to hold parties accountable. CCIII also gives TPL the power disconnects electricity if a probable electrical hazard is evident. The network upgrade projects will definitely assist with relevant safety hazards/issues and accurate locating of power poles.</p>	<p>Partially Effective</p>

Internal Elements

A number of internal factors may impact on the execution of our mandate. These factors include the following:

- i) People Issues – staff issues which may have an effect on TPLs mandate either immediately or in the future.
- ii) Physical Assets/Equipment Issues – Assets and equipment issues which may have an impact on the company operation.
- iii) Product/Service and Supply Issues – Product/Service and supply issues which have an impact on TPLs mandate.
- iv) Business System and other resources – Business resources which might have an impact on the business operation and mandate.
- v) Internal Business Risks

Details of the specific factors considered in the internal environmental scan, complete with TPL's response to the challenges are presented below:

Talent Challenges:

Tonga Power Limited (TPL) employs 264 personnel as at March, 2020 with 221 permanent employees and 43 casual employees. About 26% of total employees are female and 74% are male. The number of female employees at TPL continues to grow and is seen as a positive note to have more females in the Energy sector.

The staff retention rate has been within target (i.e. 98.5 % which is above the 90% target) which is a good indication that people are not leaving the workplace and are satisfied with their current work arrangements. The staff absenteeism rate is also below the 5% target and is currently at 2.12%, again a good indication of staff attendance and health.

For the period July to December, 2019, about 25% of TPL staff were able to attend a formal training. About 90% of TPL workforce is under 50 years of age and about 47% are under the age of 30 which highlights the young workforce at TPL.

As TPL work towards achieving 50% renewable energy by 202 and completing its associated major projects, we have become labour intensive and a step change in staff competencies looms in our endeavor to reach our targets. The increase in staff numbers has subsequently driven up staffing costs which realistically may not be affordable in the near future given the impacts of COVID-19 worldwide.

TPLs response to the challenge:

- i) We aim to strike a balance between staffing needs and costs to effectively manage but not impede on staff performance and quality of services provided to TPL customers.
- ii) To improve the HR services available to TPL employees we will refine the foundations of Human Resources Management programs. This includes;
 - a. robust policies
 - b. fair and enabling performance management system
 - c. an affordable yet competitive remuneration system
 - d. a recruitment process that is based on merit and performance
 - e. an on-time training and talent management system for capacity and capability

- enhancement
- f. a support system from onboarding to and when employees exit from TPL
 - iii) Tonga Power wants to facilitate training opportunities, but it means strengthening its staff recruitment and training processes and managing the loss of key personnel.
 - iv) Developing and adding staff to monitor and control the network from a central control perspective will also be a priority given the RE glide path.
 - v) Full transparency with all employees when it comes to the effects of COVID-19 on business in general and to prepare staff for the health challenges that they may face by helping them to take measures that will reduce the risk of their exposure to the pandemic disease. Preparing staff for potential reduced work and reduced numbers even as an essential service provider.

Physical Assets/Equipment Issues:

Both Generation and Distribution Asset Management Plans address issues regarding network or power station assets. Some of the major issues are highlighted below.

Deteriorated network assets:

The poor quality network from prior 2008 presented several risks including high level of line losses, estimated to be up to 20%, voltage fluctuations causing damages to household appliances and safety hazard to the public. With the recent successful completion of TVNUP, the NNUP and outer island network upgrades, total system losses have significantly improved to less than 11%.

Nuku'alofa CBD and Vava'u network status still require further improvement. The poor state of equipment on these networks includes de-rated cables, broken insulators, weak poles, broken air-break switches, incorrect HV/LV fuses, over utilized transformers and connectors and much more. Vava'u is currently work in progress and is target to be completed in 2022, while NNUP started in late 2018, thanks to the generous ongoing support of the NZ Government and the support of the ADB after TC Gita. Funding support for 3 out of the 5 areas under NNUP remain outstanding.

TPLs response to the challenge:

- i) Distribution CAPEX and OPEX budgets support network rebuilds.
- ii) Funding support applications to the government of Tonga and development partners for Areas 3, 4 and 5 of NNUP are ongoing.
- iii) TPL has invested heavily in Asset Management systems to move network asset management practices from reactive based to proactive based.

SCADA (Supervisory Control and Data Acquisition) System:

The SCADA systems installed at Tongatapu (Popua) and Vava'u has been a useful tool for generation (for ongoing monitoring of the engines and generators) and distribution network planning. In the Power Station, each generator can be monitored on a shift by shift basis for fuel use and efficiency. The data is helpful in monitoring any fuel losses including theft as well as engine condition monitoring. However, there are limitations to TPL's current SCADA capabilities such as the absence of supervisory control in each SCADA as well as integration of new generation systems.

The generation from the diesel generators and solar farms on Vava'u, Ha'apai and 'Eua are also telemetered to Popua however there has been difficulties in getting the data from the

Other Islands due to communications difficulties. The existing SCADA will not support advanced generation and distribution management functionality such as automated generator dispatch, smart grid, outage management, demand response and smart meter applications. Ha'apai and 'Eua do not have SCADA systems; these power stations use utility metering with logging capabilities to capture electrical parameters, with the engine parameters monitored locally.

TPLs Response to the challenge

- i) Establish a combined control centre that combines the functions of generation monitoring and distribution monitoring and maintenance and fault crew dispatch at the new TPL offices.
- ii) Procure a replacement SCADA or upgrade the existing SCADA and add to that functionality by purchasing generator dispatch and advanced distribution management modules to support remote control, load control, outage management, smart meter applications and fault crew dispatch.
- iii) Re-establish the existing Popua control room into a Disaster Recovery site for the centralised control centre should that control centre be rendered in operable.
- iv) Provide for comprehensive monitoring of the outer Island generation and distribution networks at the combined control centre. If possible, this will also allow for incorporating current off-grid islands.

Security of supply (N-1):

TPL's Security of Supply Policy ensures enough FIRM (diesel) generation capacity is available at short notice to cover faults or to meet sudden changes in consumer demand. In other words, if the largest capacity generator is out of action due to a breakdown, other generators in the fleet must be able to continue to supply power to meet the consumer demand at any time of the day. The solution for the N-1 redundancy policy is to duplicate the largest generator in each of TPL's four power stations. The policy assumed intermittent generation (solar and wind) cannot be relied on at any time and are excluded. Currently Tongatapu and all three outer islands meet the N-1 security policy; however, there is slight ambiguity of maintaining the reliability of supply due to load growth.

TPLs response to the challenge

- i) Generation Asset Management Plan (GAMP) consistently updated with Power Generation investment and maintenance plans that focus on maintaining N-1 redundancy. The highlights are as follows:
 - A new high 2MW High Speed Gen-set is to be added to the Tongatapu fleet in 2021/2022 and 2024/2025 to meet load growth and maintain N-1 redundancy.
 - A new high 400kW High Speed Gen-set is to be added to the Vava'u fleet in 2020/2021 to meet load growth and maintain N-1 redundancy.
 - A new high 200kW High Speed Gen-set is to be added to the Ha'apai fleet in 2021/2022 to meet load growth and maintain N-1 redundancy.
 - A new high 200kW High Speed Gen-set is to be added to the 'Eua fleet in 2021/2022 to meet load growth and maintain N-1 redundancy.

Bulk Diesel Storage Tank:

TPL currently has only one bulk storage tank installed at the Popua Power Station. The present storage tank has a capacity of 250,000 liters and supplies fuel to diesel generators for 10 days (25,000 liters supply per day). However, in case of catastrophic damage to the present tank due to a disaster (e.g. earthquake, fire etc.), the power station does not have any redundancy plan for storage of fuel for generation of electricity.

TPLs response to the challenge:

- i) With the increasing introduction of Renewable Energy, reliance of imported fossil fuels will be reduced. Current ability to bulk store fuel and need for additional bulk storage will continue as a climate resilience measure. This is in response to the growing strength consistency of Tropical Cyclones that impact Tonga and the global pandemic COVID-19.
- ii) Offer support to the major project that continues to be pursued by the Government of building a new tank farm in Tonga.
- iii) TPL will work with suppliers to identify business continuity plans for supply of fuel including sending of isotainers from close by neighboring countries such as NZ and Australia.

Generator Replacement:

Tongatapu (Popua) power station has six CAT generators (3516B) and two MAK generator (6CM32). All six 1400KW CAT generators have come to the end of their economic lives, hence, requires replacement. TPL have put in place plans to refurbish the generators at low costs effectively returning the generators to 0 hours. The risk is not that significant as long as maintenance schedules are maintained and the old generators are replaced or refurbished at regular intervals in the future in accordance with the manufactures' recommendations.

However, it should be noted that TPL is moving towards the 50% renewable energy (including energy storage solutions) penetration by 2025. In this case, these generators will not be made operational on a continuous basis but will be used as future backup firm generation. It is important to note that the majority of the engineering and planning for the incorporation of renewable energy into the electricity grid has been based on the current diesel generation portfolio.

TPLs response to the challenge:

- i) Cat 1 and Cat 4 have been refurbished in the last two financial years.
- ii) Existing generators will be progressively refurbished to extend their economic life. Cat 5 and Cat 6 are to be refurbished in 2023/2024. Cat 2 and Cat 3 is planned to be refurbished in 2024/2025.

Business Systems and other Resources:

TPL uses various software systems for different purposes by different business units. A summary of software systems used by TPL are:

1. Orion Billing System – Billing and customer relations management
2. Filemaker Software – Network faults recording and reporting
3. ARC GIS software – Geographical Information System
4. Sincal Software – Load flow analysis

5. TechnologyOne (Techone) – Accounting, Asset Management, maintenance and network auditing, risk and compliance reporting, payroll, human resources management
6. Spiceworks – IT Helpdesk and Support System
7. Cimplicity SCADA – Manage, view and extract live data from Generators
8. Skytron, NREC PCS 9799, MICREX-SX, Vergnet SCADA, AcSEerator – Manage, View and extract live data from Solar and Wind generation systems and network protection equipment

All softwares are working well for the purpose it was procured for and there are no issues with it to date. However as can be seen above there are a large number of different systems (at least 6) required to manage, view and extract information from the diesel generators, solar and wind generators and network protection equipment.

TPLs response to the challenge:

- i) The Enterprise Resource Planning (ERP) project encompassed by the TechnologyOne system unifies most of the core enterprise resource planning functions (financial management, purchasing and supplier management, human resources, health and safety and risk and compliance) into one single software platform. The ERP has GONE live on all of the modules procured by TPL (Finance, Asset, Payroll, and HR). Ongoing development of all modules is planned for all relevant divisions, especially data input and configuration, maintenance scheduling and reporting.
- ii) The central control center represents an opportunity for all SCADA related software systems to be unified into a single platform for managing all diesel, renewable energy and distribution equipment (circuit breakers, reclosers, smart meters).

Internal Business Risks: The following risk analysis shows the risks inherent from the above internal issues. The suggested mitigation controls and the current level of control effectiveness are also shown in the table.

Internal Business Risks		
Risk Description	Mitigation Control	Control Effectiveness
Significant business continuity risk as a result of staff lacking the technical expertise to implement the RE projects.	Competency and capability assessments to confirm ability of staff to control and integrate RE followed by On the Job Training (OJT funded by TREP). HR plans to develop competency registers for staff so that training can be identified and prioritized.	Partially effective
Significant revenue loss to TPL due to poor state of the remaining areas of Nuku'alofa and Vava'u distribution networks that contribute to high voltage fluctuations.	Nuku'alofa has been fully designed and planned and is currently underway. Further funding to complete Vava'u has been secured. Funding to complete NNUP is being sought.	Partially Effective
Significant revenue and reputation loss to TPL due to non- achievement of N-1 security policy as a result of ageing generators which could go out of actions any time of the day due to sudden breakdowns. This has also caused unnecessary power outages mainly in Tongatapu and Vava'u.	Generators must be maintained and replaced as per the manufactures' recommendations. A generator investment and refurbishment plan are in place for all four island power stations as documented in the Generation Asset Management Plan (GAMP).	Partially Effective
Significant business continuity risk as a result of loss of key staff trained on international standard qualification (i.e. ESITO)	Strengthening of TPLs staff recruitment and training processes and managing the loss of key personnel.	Partially Effective
Significant reputation and HSE risks to TPL due to lack of both staff and public awareness of TPL products and services i.e. power outages resulting from load imbalances without proper consultation with the regulator, smart meter complaints, removing of transformer and pole covers and vehicle accidents.	Ongoing safety awareness campaigns. Customer awareness offered to the larger public on TPL services and processes.	Effective

Significant financial and reputational risk to TPL due to unreliable reports and information generated from the different software the company uses resulting in incorrect decisions.

Ongoing development of the TechOne ERP system. SCADA upgrade and controller upgrades are planned for the next FY as part of a central control center.

Partially Effective

Annex 3: Strategic Objectives Analysis

Strategic Objective	Tradeoffs and risks faced
<p>1. Achieving 50% electricity generation from Renewable Energy generation by 2025 in order to achieve the government TERM target and realistic tariff reductions.</p>	<ul style="list-style-type: none"> i. Fast tracking of project development and pre-emptive implementation does not come without risk and will need to be properly managed by TPL. i. Building relationships with development partners remains a priority but is also a challenge to TPL. i. The cost of electricity generation from renewable energy sources relative to generation from tradition energy sources still tends to be higher although costs continue to decline. v. Regulation concerning IPP's – investors are often deterred by small project size, poor financial return on investment and incomplete analysis especially in small island like Tonga.
<p>2. Adopting technologies to manage the complexities arising from a digitized and decentralized renewable future.</p>	<ul style="list-style-type: none"> v. High cost associated with the implementation of smart-grid technology means TPL has to turn to donors for funding. i. Difficult to gain Board approval on high-tech projects because the high cost of implementation can often outweigh the economic benefits from the project.
<p>3. Improving the network by replacing ageing assets to improve safety, efficiency and reliability of supply.</p>	<ul style="list-style-type: none"> • There are a number of projects in the pipeline of which TPL has a limited amount of ability to fund. Seeking funding for selected projects may also be a challenge especially as many donors prefer to invest in RE projects to reduce tariff rather than asset improvement projects that enhances safety and reliability. • Continuous review and updating of asset management plans continues to be a challenge to TPL due to limited skilled staff in house and staff commitment to other priority projects. • With all the improvement plans currently set in motion, TPL is still facing challenges of meeting standards stipulated in the Electricity Concession Contract. • TPL funding capacity constraint.
<p>4. Promote a hazard free safety environment to minimize any danger to both the public and staff.</p>	<ul style="list-style-type: none"> • EC's capacity to develop and promoting safety regulations. Given TPL is always in the forefront in the event of fatality and hazard from electrocution, TPL is looking at amending the existing legislation to allow for the promotion of electrical safety in the country. • Safety regulations are to be approved by the Cabinet before they become legally effective. This process normally takes a long period of time. • Adoption of safety regulations by all staff and employees of TPL as well as industry members such as electrical contractors.
<p>5. Improving our business processes to enhance customer/employee satisfaction while supporting a healthy and competent team.</p>	<ul style="list-style-type: none"> • Systems and processes can sometimes overburden the existing staff when adequate staffing levels are not available. • When the staffing levels are reduced, the existing staff can find it difficult to comply with processes and systems which in turn can lead to inaccuracies and/or poor quality outputs. • The lack of key staff availability to perform some major business functions leads the company to outsource expertise at a generally higher cost.

	<ul style="list-style-type: none"> • Design and development of multi-tariff systems to satisfy all classes of customers. • Change management is a key problem because staff are reluctant to change (ERP software).
<p>6. Manage all external funding and internal financing sources successfully in order to increase shareholder value.</p>	<ul style="list-style-type: none"> • Scarcity of capital funding for investment on all the available projects is a key issue for TPL. The challenge for TPL is to choose a portfolio of projects that fits the best available funds for implementation as a number of potentially good projects may be forced outside the five year planning period. • In order to manage the diesel price volatility risk successfully, the Concession Contract allows TPL to undertake 'fuel hedging' to ensure price stability. However, the challenge for TPL is to use the right hedging instrument at the right time, which neutralises profit prospective that requires external advice and expertise at some cost. • Unfavorable economic activities also challenge TPL's profit prospective. This in turn reduces investment funds for TPL funded projects resulting in TPL having to rely heavily on donors to fund future projects. The economic activities such as poor economic growth, high oil prices, low overseas remittances and higher than desirable inflation also has an impact on TPL's ability to deliver a lower electricity tariff to the people of Tonga. • Government lifeline subsidy has put downward pressures on TPL financial stance and cash flow given the increasing diesel costs – TPL has implemented cost cutting measures since late 2018.

Annex 4: All KPI's

ID	Strategic Objective	Strategic Measure	Business Unit	Target	
				FY2021	FY2022
1	Achieving 50% electricity generation from Renewable Energy generation by 2025 in order to achieve the government TERM target and realistic tariff reductions.	<ul style="list-style-type: none"> i. Accumulated Fuel Displacement ii. Tariff Reduction due to RE iii. Installed Capacity (All) 	<ul style="list-style-type: none"> i. Generation ii. Generation iii. Generation 	<ul style="list-style-type: none"> i. 30% ii. 2 seniti/kWh iii. 21 MW 	<ul style="list-style-type: none"> i. 54% ii. 4 seniti/kWh iii. 31 MW
2	Adopting technologies to manage the complexities arising from a digitized and decentralized renewable future.	<ul style="list-style-type: none"> i. Reduction in Maintenance Costs ii. Labor productivity iii. Lube Oil Consumption iv. Forced Outage v. Planned Outage vi. O&M Costs per MWh vii. Frequency Fluctuations viii. Fuel Efficiency ix. Reliability (SAIDI) x. Number of Outages xi. Capacity Factor xii. Voltage Fluctuations xiii. GIS Accuracy xiv. Line Loss or Network Delivery Losses 	<ul style="list-style-type: none"> i. Generation ii. Generation iii. Generation iv. Generation v. Generation vi. Generation vii. Generation viii. Generation ix. Generation & Distribution x. Generation & Distribution xi. Generation xii. Distribution xiii. Distribution xiv. Distribution 	<ul style="list-style-type: none"> i. 5% ii. 1.6 GWh per FTE iii. >1080 kWh/L iv. <5% v. <3% vi. <50 TOP/MWh vii. <1.5% viii. 4.08 ix. 850mins x. <3 xi. >40% xii. No cases > +/- 10% for 1 phase and +/- 5% for 3 phase xiii. 80% xiv. 10% or <5% 	<ul style="list-style-type: none"> i. 5% ii. 1.7 GWh per FTE iii. >1080 kWh/L iv. <5% v. <3% vi. <50 TOP/MWh vii. <1.5% viii. 4.08 ix. 850mins x. <3 xi. >40% xii. No cases > +/- 10% for 1 phase and +/- 5% for 3 phase xiii. 90% xiv. 10% or <5%
3	Improving the network by replacing ageing assets to improve safety, efficiency and reliability of supply.	<ul style="list-style-type: none"> i. Availability Factor ii. Load Factor iii. N+1 Security of Supply iv. Installed Firm Capacity v. Updated Asset Management Plan vi. Parasitic Losses 	<ul style="list-style-type: none"> i. Generation ii. Generation iii. Generation iv. Generation v. Generation & Distribution vi. Generation 	<ul style="list-style-type: none"> i. 98% ii. >55% iii. 100% iv. 17,676 kW v. 1 vi. 3 to 5% vii. > 210 	<ul style="list-style-type: none"> i. 99% ii. >58% iii. 100% iv. 18,076 kW v. 1 vi. 3 to 5% vii. > 220

		<ul style="list-style-type: none"> vii. Customers per Distribution Employee viii. Average age of vehicle fleet ix. Distribution Transformer Utilization 	<ul style="list-style-type: none"> vii. Distribution viii. Distribution ix. Distribution Transformer Utilization 	<ul style="list-style-type: none"> viii. > 6 ix. >30% 	<ul style="list-style-type: none"> viii. > 7 ix. >30%
4	Promote a hazard free safety environment to minimize any danger to both the public and staff.	<ul style="list-style-type: none"> i. HSE Policies are up to date and Audit completed ii. Incident register completed and up to date iii. Completed HSE meetings iv. BCP/DRP up to date v. Exercise BC/DR plan vi. Completed outer island visits vii. Complaints addressed on time; Complaints <50, Reporting to MPE on a timely basis viii. Evacuation Plan completed ix. Up to date risk register (HSE risks) x. HSE forms completed xi. Internal audit completed of working sites xii. Fatality register completed 	<ul style="list-style-type: none"> i. Risk and Compliance ii. Risk and Compliance iii. Risk and Compliance iv. Risk and Compliance v. Risk and Compliance vi. Risk and Compliance vii. Risk and Compliance viii. Risk and Compliance ix. Risk and Compliance x. Risk and Compliance xi. Risk and Compliance xii. Risk and Compliance 	<ul style="list-style-type: none"> i. 90% ii. 90% iii. 90% iv. 90% v. 80% vi. 90% vii. 90% viii. 90% ix. 90% x. 90% xi. 90% xii. 90% 	<ul style="list-style-type: none"> i. 100% ii. 100% iii. 100% iv. 100% v. 90% vi. 100% vii. 100% viii. 100% ix. 100% x. 100% xi. 100% xii. 100%
5	Improving our business processes to enhance customer/employee satisfaction while supporting a healthy and competent team.	<ul style="list-style-type: none"> i. Average customer wait time ii. Billing cycle days iii. Smart Meter Read Rate iv. Business Case for Outer Island Smart Meters v. Alternative Tariff (To reflect the source of power generation) 	<ul style="list-style-type: none"> i. Distribution ii. Retail iii. Retail iv. Retail v. Retail vi. Retail vii. Retail viii. Retail 	<ul style="list-style-type: none"> i. < 4 days ii. Improve by 5% iii. >98% iv. Board approval v. Outerislands vi. Tonga Post 	<ul style="list-style-type: none"> i. < 3 days ii. Improve by 6% iii. 100% iv. Board Approval v. Outerislands vi. Tonga Post vii. Implement Smart Meter Annual OPEX reduction

		<ul style="list-style-type: none"> vi. Outsource bill distribution vii. Reduce Smart Meter Annual OPEX viii. Tariff check ix. Customer Satisfaction Rate x. Customer Categorization xi. Shift to payment online (COVID-19) xii. % of TPL employees completing a performance review xiii. % of staff trained (formal or informal trainings) xiv. No. of policies reviewed or developed xv. Staff Absenteeism (%) xvi. Staff Turnover Rate xvii. TPL Salary Structure xviii. Staff Retention (%) xix. % of recruitments completed xx. HR Team Performance xxi. Staff HR Service Satisfaction Rate xxii. HRIS Populated and used 	<ul style="list-style-type: none"> ix. Retail x. Retail xi. Retail xii. HR xiii. HR xiv. HR xv. HR xvi. HR xvii. HR xviii. HR xix. HR xx. HR xxi. HR xxii. HR 	<ul style="list-style-type: none"> vii. Implement Smart meter annual OPEX reduction viii. 4 ix. Improve baseline by 10% x. Implement policy on all islands xi. Implement online payment incentive xii. >80% xiii. 25% xiv. At least 2 xv. <5% xvi. <5% xvii. 1 xviii. >90% xix. 80% xx. >80% xxi. At least a satisfactory rating xxii. 40% 	<ul style="list-style-type: none"> viii. 4 ix. Improve baseline by 10% x. Implement policy on all islands xi. Implement online payment incentive xii. >80% xiii. 25% xiv. At least 2 xv. <5% xvi. <5% xvii. 1 xviii. >90% xix. 80% xx. >80% xxi. At least a satisfactory rating xxii. 30%
6	Manage all external funding and internal financing sources successfully in order to increase shareholder value.	<ul style="list-style-type: none"> i. Reduction in Material Cost ii. Rework Cost (SO3) iii. CAPEX Job Audits/Annum iv. Revenue v. Collection mobile unit vi. Debt Ratio vii. Debtor Days 	<ul style="list-style-type: none"> i. Distribution ii. Distribution iii. Distribution iv. Retail v. Retail vi. Retail 	<ul style="list-style-type: none"> i. 8% ii. < \$4,000 iii. >80% iv. \$51m v. Implement mobile collection vi. <40% vii. <15 days 	<ul style="list-style-type: none"> i. 11% ii. < \$3,000 iii. >80% iv. \$51m v. Implement mobile collection vi. <30% vii. <10 days

ANNEX 5: PRO FORMA FINANCIALS STATEMENT



Budget Statement 2021/22 and 5-year projections

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Budget Summary

This budget supports the 50% Renewable Generation target 2021/22 while ensuring a better and reliable network and is aimed at projects that will reduce the power tariff over the next 5 years. The strategies in place to reach these competing goals largely depends on TPL experience in project management through donor funding projects and TPL ability to commit to these projects.

The success of this budget rests on Management to deliver projects that are sustainable with the goal of an affordable reduced tariff structure. The challenge to the budget is timing of projects so maximum benefits are realised earlier rather than later.

We have reached 14% Renewable Energy consists of photovoltaic solar farms, pole mounted solar, roof top solar (mixture of 3rd party and TPL owned), small wind turbines and wind farm, thus this budget will enable TPL to reach 59% RE penetration by the end of the budget year. We only included RE IPP that had already signed.

The renewable projects in progress consists of the GCF facilities funded by ADB, which we have commenced logistical works in the past financial year.

On the network, we have completed the upgrade of the electricity network to 50 villages around Tongatapu funded by the NZ government MFAT (low voltage and service lines) and TPL (high voltage lines & transformers) whereby the works in the greater Nuku'alofa area (from Popua to Hofoa to Tofoa) continued in the current financial year. with Area 1 and 2 completed.

Work is currently underway to upgrade the network in the Vava'u CBD, whilst the works on 'Eua is 95% complete, both funded by ADB under the Outer Island Electricity Efficient Project – OIEEP or otherly known as the Outer Island Renewable Energy Project - OIREP. The project also covers the off-grids islands of Kauvai, Uiha, Felemea, Ha'afeva, other islands to be determined and the two Niuas.

Revenue

Based on revenue trend for the last 3 years, and on the current global Covid-19 pandemic's on the price of diesel, there is an indication that the economy is stagnating. We have conservatively forecasted the growth for all islands, an annual growth of 3%. The last 5 years growth averages 3.9% for Tongatapu, Vava'u (6%), Eua (7.1%), Ha'apai (6.6%). However the current financial year 2020/21 growth rates for Tongatapu & Vava'u are forecasted to have zero growth , while 'Eua & Ha'apai are forecasted at 6% and 3.4% respectively.

Expenses

As we tried to push more quality projects as fastest as we can, it is essential that our operational costs be able to facilitate the projects fieldwork. These preliminary works will increase, and so are our commitments to these projects. The increase in costs (operation and capital) will be lower than the expected revenue growth.

Fuel Tariff Component

The starting fuel tariff rate is set at the current fuel tariff rate of 0.3804/kWh. Fuel costs will be equal to the expected fuel revenue. Whatever rate we set for fuel costs will then be matched with the expected fuel revenue as we are not allowed to make any profit on fuel costs but a straight pass through to power consumers.

Non-Fuel Tariff Component

The starting tariff is set at the current rate at \$0.4067/kWh as per the Period 3 Reset Submission to the Electricity Commission.

Inflation

The average inflation in Tonga is around 2 to 5%. At times of reducing petroleum, it yielded negative inflation. We set the annual inflation at 3%.

Dividend

The budget provides for 75% Dividend on Net Profit After Tax.

Loan finance

This budget is set at maximum project we can fund in house before we borrow. So we had endeavoured to spread out capital spending and projects to what we can afford and in the order of our priorities. Based on current projects forecast, we will not be making additional loans in the next 3 years, focusing on repayments. The current cost of finance for TPL is 4% for the next 15 years.

Debt to Equity Ratio

Our current debt to equity ratio is 58%. Please note both the Home Gas Loan and Tonga Gas Ltd Loan is debt neutral to us. It means our debt to finance these projects is being translated into our equity in those businesses. All loans are being paid for by those projects with their assets as

Fixed Assets

The starting Book Value of our assets is \$145.3m. In year 1, we increase our fixed assets by \$10.27m and forecasts for the next 5 years.

Bad Debts is set at 0.2%

TPL : Financial Model
Assumptions
Version 2.0

3657.193616

Description	Audited to June					Projected					
	2016	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
General Assumptions											
Local Inflation		3.8%	0.5%	0.5%	0.9%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
Foreign Inflation		1.5%	1.5%	1.5%	1.5%	1.6%	1.6%	1.6%	1.6%	1.6%	1.6%
Cumulative Local Inflation			4.06%	4.32%	4.32%	4.33%	4.35%	4.37%	4.38%	4.40%	4.42%
Cumulative Foreign Inflation			2.26%	3.03%	3.06%	3.08%	3.11%	3.13%	3.16%	3.18%	3.21%
PPP Exchange Rate TOP:USD		0.44	0.45	0.45	0.45	0.43	0.44	0.44	0.44	0.44	0.44
PPP Exchange Rate USD: TOP		2.27	2.23	2.24	2.25	2.31	2.29	2.29	2.29	2.29	2.29
Fuel Price (nominal USD/bbl)	42.8	81.2	79.9	75.0	65.0	67.0	69.0	71.0	73.2	75.4	77.6
Population :	1986										
Tongatapu											
Population	63,794										
Households	9,723										
Vava'u											
Population	15,175										
Households	2,547										
Ha'apai											
Population	8,919										
Households	1,615										
'Eua											
Population	4,393										
Households	790										
Tonga											
Population	94,649										
Households	15,091										
Demand Projections											
Tongatapu		1									
Medium		49,412	53,803	55,799	55,743	57,415	59,138	60,912	62,739	64,621	66,560
Low		49,412	53,803	55,799	55,743	56,914	58,109	59,329	60,575	61,847	63,146
High		49,412	53,803	55,799	55,743	57,549	59,414	61,339	63,326	65,378	67,496
Vava'u											
Medium		5,556	5,800	6,142	6,099	6,190	6,283	6,378	6,473	6,570	6,669
Low		5,556	5,800	6,142	6,099	6,163	6,228	6,293	6,359	6,426	6,493
High		5,556	5,800	6,142	6,099	6,198	6,298	6,400	6,504	6,609	6,716
'Eua											
Medium		1,352	1,492	1,552	1,645	1,670	1,695	1,721	1,746	1,773	1,799
Low		1,352	1,492	1,552	1,645	1,663	1,680	1,698	1,716	1,734	1,752
High		1,352	1,492	1,552	1,645	1,663	1,680	1,698	1,716	1,734	1,752
Ha'apai											
Medium		1,474	1,697	1,782	1,843	1,870	1,898	1,927	1,956	1,985	2,015
Low		1,474	1,697	1,782	1,843	1,862	1,881	1,901	1,921	1,941	1,962
High		1,474	1,697	1,782	1,843	1,862	1,881	1,901	1,921	1,941	1,962

Description	Audited to June					Projected					
	2016	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Tongatapu Power Statistics (Note 1)											
<i>Tongatapu Nameplate/Rated Capacity (MW) (Note 2)</i>											
2 X 2.78 MW 6CM32 Caterpillar MAC Diesel at Popua Power Station (1998,1999)	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6
6 X 1.4 MW 3516B Caterpillar Diesel at Popua Power Station (2005, 2015)	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4
1 x 1.4MW diesel genset (NEW)						1.4	1.4	1.4	1.4	1.4	1.4
1 x 1.4MW diesel genset (NEW)						-	-	-	-	-	-
1.3 MW Solar Maama Mai at Popua Power Station (2012)	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
1 MW Solar Vaini (2015)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
2 MW Solar Villa (IPP) 2017 (Note 3)		2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
1.3 MW Wind (JICA)				0.8	1.3	1.3	1.3	1.3	1.3	1.3	1.3
2.3 MW Solar PV (IPP), Liukava Sunergise						2.3	2.3	2.3	2.3	2.3	2.3
2.3 MW Solar PV (IPP), Masilamea Sunergise						2.3	2.3	2.3	2.3	2.3	2.3
2.3 MW Solar (IPP), Fualu, Sunergise						2.3	2.3	2.3	2.3	2.3	2.3
2 MW Wind (Govt of China), TREP enabled						-	2.0	2.0	2.0	2.0	2.0
4 MW AKUO Solar PV (IPP), Site unknown TREP enabled						-	-	-	-	-	-
6 MW GET Solar PV (IPP), Site unknown TREP enabled						-	6.0	6.0	6.0	6.0	6.0
TOTAL Tongatapu (MW)	16.3	18.3	18.3	19.1	19.6	27.9	35.9	35.9	37.3	37.3	37.3
Gross Generation (MWh) - diesel	48,523	49,546	54,001	56,239	45,931	37,932	34,276	36,050	37,878	39,760	41,698
Gross Generation (MWh) - Maama Mai Solar	2,041	2,029	2,029	2,029	2,029	2,029	2,029	2,029	2,029	2,029	2,029
Gross Generation (MWh) - Vaini Solar	1,517	1,484	1,484	1,484	1,484	1,484	1,484	1,484	1,484	1,484	1,484
Gross Generation (MWh) - Villa (IPP) Solar (Note 4)		2,336	2,803	2,803	2,803	2,803	2,803	2,803	2,803	2,803	2,803
Gross Generation (MWh) - 1.3MW Wind (Note 4)					3,496	3,496	3,496	3,496	3,496	3,496	3,496
Gross Generation (MWh) 2.3 MW Solar PV (IPP),Liukava Sunergise					-	3,224	3,224	3,224	3,224	3,224	3,224
Gross Generation (MWh) 2.3 MW Solar PV (IPP), Masilamea Sunergise					-	3,224	3,224	3,224	3,224	3,224	3,224
Gross Generation (MWh) 2.3 MW Solar PV (IPP), Fualu Sunergise						3,224	3,224	3,224	3,224	3,224	3,224
Gross Generation (MWh) 2 MW Wind (Govt of China), TREP enabled						5,379	5,379	5,379	5,379	5,379	5,379
Gross Generation (MWh) 3.8 MW AKUO Wind, TREP enabled						-	-	-	-	-	-
Gross Generation (MWh) 6 MW GET Solar PV (IPP), Site unknown TREP enabled						-	-	-	-	-	-
Total Gross Generation (MWh)	52,081	55,395	60,317	62,555	55,743	57,415	59,138	60,912	62,739	64,621	66,560
Total Net Generation (MWh)	50,529	53,789	58,519	60,644	53,988	55,588	57,332	59,034	60,792	62,609	64,492
YoY Generation Growth (%)	9%	-3.5%	8.8%	3.6%	-11.0%	3.0%	3.1%	3.0%	3.0%	3.0%	3.0%
Generation Loss (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
RE Penetration (%)	7%	11%	10%	10%	18%	34%	42%	41%	40%	38%	37%
Peak Load (MW)	9.5	10.6	11.6	12.6	13.6	14.6	15.6	16.6	17.6	18.6	19.6
Capacity Factor	37%	35%	38%	37%	33%	24%	19%	19%	19%	20%	20%
Load Factor	63%	60%	59%	57%	47%	45%	43%	42%	41%	40%	39%
Sales (MWh)	46,242	49,412	53,803	55,799	55,743	57,415	59,138	60,912	62,739	64,621	66,560
Distribution Loss (%)	8%	8%	8%	8%	-3%	-3%	-3%	-3%	-3%	-3%	-3%
Total Loss (%)	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%
Fuel consumed (litres '000s)	11,742	11,994	13,073	13,614	11,119	9,183	8,298	8,727	9,169	9,625	10,094
Fuel efficiency (kWh/litre)	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1
Vava'u Power Statistics											
<i>Vava'u Nameplate/Rated Capacity (MW)</i>											
2 X 600 kW Cummins (2010)	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
1 X 300 kW Cummins (2001)	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
2 X 186 kW Cummins (2000)	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
1 x 1000 kW Cummins KTA50-G3 (NEW 2021)						1.0	1.0	1.0	1.0	1.0	1.0
1 X 400 kW Cummins (2007 lease sent to 'Eua)	-	-	-	-	-	-	-	-	-	-	-
420 kW Solar (La'a Lahi) 2013	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
300 kW TREP RE with BESS				0.3		-	0.3	0.3	0.3	0.3	0.3
TOTAL Vava'u (MW)	2.4	2.4	2.4	2.7	2.4	3.4	3.7	3.7	3.7	3.7	3.7
Gross Generation (MWh) - diesel	4,464	5,423	5,695	5,655	6,027	6,129	5,812	5,917	6,023	6,131	6,241
Gross Generation (MWh) - solar	719	757	757	1,177	757	757	1,177	1,177	1,177	1,177	1,177
Total Gross Generation (MWh)	5,183	6,180	6,452	6,832	6,784	6,886	6,989	7,094	7,201	7,309	7,418
Total Net Generation (MWh)	5,073	6,062	6,327	6,699	6,653	6,755	6,855	6,957	7,062	7,168	7,276
YoY Generation Growth (%)	0%	6.8%	4.4%	5.9%	-0.7%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%
Generation Loss (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
RE Penetration (%)	14%	12%	12%	17%	11%	11%	17%	17%	16%	16%	16%
Peak Load (MW)	1.0	1.4	1.4	4.2	5.2	6.2	7.2	8.2	9.2	10.2	11.2
Capacity Factor	25%	29%	31%	29%	32%	23%	21%	22%	22%	22%	23%
Load Factor	56%	49%	52%	18%	15%	12%	11%	10%	9%	8%	7%
Sales (MWh)	4,575	5,556	5,800	6,142	6,099	6,190	6,283	6,378	6,473	6,570	6,669
Distribution Loss (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Total Loss (%)	12%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Capacity Factor - Solar	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%
Fuel consumed (litres '000s)	1,152	1,400	1,470	1,460	1,556	1,583	1,501	1,528	1,555	1,583	1,611
Fuel efficiency (kWh/litre)	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9

Description	Audited to June					Projected					
	2016	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Ha'apai Power Statistics											
<i>Ha'apai Nameplate/Rated Capacity (MW)</i>											
2 X 186 kW Cummins (2003)	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
1 X 0.3 kW Cummins (????)	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
1 x 400 kW Cummins (NEW)						0.4	0.4	0.4	0.4	0.4	0.4
550kW Solar (April 2017)		0.6	0.6	0.6	0.1	0.1	0.1	0.1	0.1	0.1	0.1
TOTAL Ha'apai (MW)	0.7	1.2	1.2	1.2	0.8	1.2	1.2	1.2	1.2	1.2	1.2
Gross Generation (MWh) - diesel	1,447	1,052	1,328	1,082	1,603	1,940	1,972	2,004	2,037	2,070	2,103
Gross Generation (MWh) - solar		771	771	771	168	168	168	168	168	168	168
Total Gross Generation (MWh)	1,447	1,823	2,099	1,852	1,771	2,108	2,140	2,172	2,205	2,238	2,271
Total Net Generation (MWh)	1,421	1,792	2,062	1,819	1,739	2,070	2,102	2,133	2,165	2,197	2,230
YoY Generation Growth (%)	7%	18%	15%	-12%	-4%	19%	1%	1%	1%	1%	1%
Generation Loss (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
RE Penetration (%)	0%	42%	37%	42%	9%	8%	8%	8%	8%	8%	7%
Peak Load (MW)	0.30	0.33	0.33	3.33	4.33	5.33	6.33	7.33	8.33	9.33	10.33
Capacity Factor	25%	17%	20%	17%	26%	20%	20%	21%	21%	21%	22%
Load Factor	56%	63%	73%	6%	5%	5%	4%	3%	3%	3%	3%
Sales (MWh) Note 5	1,351	1,694	1,950	1,721	1,645	1,870	1,898	1,927	1,956	1,985	2,015
Distribution Loss (%)	5%										
Total Loss (%)	7%	7%	7%	7%	7%	11%	11%	11%	11%	11%	11%
Fuel consumed (litres '000s)	395	299	377	307	455	550	559	568	578	587	597
Fuel efficiency (kWh/litre)	3.7	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
No. of Connections											
Capacity 'Eua Power Plant											
<i>2 X 186 kW Cummins (2004)</i>											
2 X 186 kW Cummins (2004)	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
<i>1 X 400 kW Cummins (2007 lease transferred from Vava'u)</i>											
1 X 400 kW Cummins (2007 lease transferred from Vava'u)	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
<i>1 x 400 kW Cummins (NEW)</i>											
1 x 400 kW Cummins (NEW)						0.4	0.4	0.4	0.4	0.4	0.4
<i>200 kW Solar (Nov 2016)</i>											
200 kW Solar (Nov 2016)		0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
<i>350kW solar with BESS (TREP)</i>											
350kW solar with BESS (TREP)				0.5	-	-	0.5	0.5	0.5	0.5	0.5
Total 'Eua (MW)	0.8	1.0	1.0	1.5	1.0	1.4	1.9	1.9	1.9	1.9	1.9
Gross Generation (MWh) - diesel	1,324	1,322	1,545	663	1,587	1,469	738	765	792	819	847
Gross Generation (MWh) - solar		280	280	1,037	280	280	1,037	1,037	1,037	1,037	1,037
Total Gross Generation (MWh)	1,324	1,602	1,825	1,700	1,868	1,749	1,775	1,802	1,829	1,856	1,884
Total Net Generation (MWh)	1,302	1,570	1,789	1,668	1,833	1,716	1,741	1,768	1,794	1,821	1,848
YoY Generation Growth (%)	12%	14%	14%	11%	10%	-6%	1%	1%	1%	1%	1%
Generation Loss (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
RE Penetration (%)	0%	17%	15%	61%	15%	16%	58%	58%	57%	56%	55%
Peak Load (MW)	0.3	0.3	0.3	3.3	4.3	5.3	6.3	7.3	8.3	9.3	10.3
Capacity Factor	20%	19%	21%	13%	22%	15%	11%	11%	11%	11%	11%
Load Factor	45%	60%	68%	6%	5%	4%	3%	3%	2%	2%	2%
Sales (MWh)	1,172	1,474	1,697	1,498	1,645	1,670	1,695	1,721	1,746	1,773	1,799
Distribution Loss (%)	10%										
Total Loss (%)	11%	8%	7%	12%	12%	5%	5%	5%	5%	5%	5%
Fuel consumed (litres '000s)	370	358	415	176	426	392	197	204	211	219	226
Fuel efficiency (kWh/litre)	3.6	3.7	3.7	3.8	3.7	3.7	3.7	3.7	3.7	3.7	3.7
No. of Connections											
Total Generation											
Tongatapu	87%	85%	85%	86%	84%	84%	84%	85%	85%	85%	85%
Vava'u	9%	10%	9%	9%	10%	10%	10%	10%	10%	10%	9%
Ha'apai	2%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
'Eua	2%	2%	3%	2%	3%	3%	3%	2%	2%	2%	2%
	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Description	Audited to June					Projected					
	2016	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Total Gross Generation (MWh)											
Diesel Installed Capacity	17.28	17.28	17.28	17.28	17.28	20.48	20.48	20.48	21.88	21.88	21.88
Solar Installed Capacity	2.84	5.59	5.59	6.43	5.16	12.06	14.90	14.90	14.90	14.90	14.90
Wind Installed Capacity	-	-	-	0.80	1.30	1.30	3.30	3.30	3.30	3.30	3.30
Total Installed Capacity	20.12	22.87	22.87	24.51	23.74	33.84	38.68	38.68	40.08	40.08	40.08
Gross Generation (MWh) - diesel	55,758	57,344	62,569	63,638	55,148	47,470	42,798	44,735	46,729	48,780	50,889
Gross Generation (MWh) - solar	4,277	7,657	8,124	9,301	7,521	17,192	18,370	18,370	18,370	18,370	18,370
Gross Generation (MWh) - wind	-	-	-	-	3,496	3,496	8,875	8,875	8,875	8,875	8,875
Total Gross Generation (MWh)	60,035	65,000	70,693	72,939	66,166	68,159	70,042	71,980	73,973	76,024	78,134
Total Net Generation (MWh)	58,325	63,213	68,697	70,830	64,213	66,129	68,030	69,892	71,813	73,795	75,846
YoY Generation Growth (%)	8%	-1%	9%	4%	-9%	3%	3%	3%	3%	3%	3%
Generation Loss (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
RE Penetration (%)	7%	12%	11%	13%	17%	30%	39%	38%	37%	36%	35%
Peak Load (MW)	11.17	12.63	13.63	23.47	27.47	31.47	35.47	39.47	43.47	47.47	51.47
Capacity Factor											
Load Factor											
Sales (MWh)	53,340	58,136	63,251	65,160	65,133	67,146	69,015	70,937	72,915	74,949	77,043
Distribution Loss (%)	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%
Total Loss (%)											
Fuel consumed (litres '000s)		14,051	15,334	15,557	13,555	11,708	10,554	11,027	11,514	12,014	12,528
Fuel efficiency (kWh/litre)		4.08	4.08	4.09	4.07	4.05	4.06	4.06	4.06	4.06	4.06
Regulated Tariff (Note)											
Tariff at commencement of second reset period 1/9/2015											
Non Fuel Component (Seniti / kWh)	0.44	0.44	0.43	0.3867	0.41	0.41	0.41	0.41	0.41	0.41	0.41
Fuel Component (Seniti / kWh)	0.33	0.34	0.33	0.3069	0.28	0.3804	0.39	0.40	0.41	0.42	0.44
Regulated Tariff	0.77	0.78	0.75	0.69	0.69	0.79	0.79	0.81	0.82	0.83	0.84
Cost of Production TOP/kWh											
Fuel	0.29	0.37	0.43	0.4078	0.31	0.31	0.28	0.29	0.31	0.32	0.34
Direct Cost	0.18	0.18	0.19	0.2400	0.50	0.51	0.46	0.48	0.48	0.50	0.52
Selling and Admin	0.11	0.17	0.14	0.1292	0.11	0.12	0.12	0.12	0.12	0.12	0.11
Depreciation (net of amortization)	0.15	0.15	0.11	0.0891	0.12	0.14	0.14	0.14	0.14	0.14	0.16
	0.72	0.87	0.87	0.87	1.04	1.09	1.01	1.03	1.05	1.08	1.13
Fuel Cost											
Fuel usage ('000 litres)	13,659	14,051	15,334	15,557	13,555	11,708	10,554	11,027	11,514	12,014	12,528
Fuel Cost (TOP\$'000s)	15,347	21,463	22,650	21,678	16,373	21,074	19,334	20,809	22,380	24,055	25,841
Average Fuel Price (TOP\$/litre)	1.12	1.53	1.48	1.39	1.21	1.80	1.83	1.89	1.94	2.00	2.06

Description	Audited to June					Projected					
	2016	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
IPP Cost											
2 MW Solar Villa (IPP) 2017											
per kWh USD			0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
per kWh TOP			0.34	0.34	0.34	0.35	0.34	0.34	0.34	0.34	0.34
2 MW Solar PV (IPP), Liukava TREP enabled											
per kWh USD					0.10	0.12	0.10	0.10	0.10	0.10	0.10
per kWh TOP					0.22	0.28	0.23	0.23	0.23	0.23	0.23
2 MW Solar PV (IPP), Masilamea TREP enabled											
per kWh USD					0.10	0.12	0.10	0.10	0.10	0.10	0.10
per kWh TOP					0.22	0.28	0.23	0.23	0.23	0.23	0.23
3.8MW Wind (IPP), Niutonua), TREP enabled											
per kWh USD					0.15		0.15	0.15	0.15	0.15	0.15
per kWh TOP					0.34		0.34	0.34	0.34	0.34	0.34
2 MW Solar PV (IPP), Fualu TREP enabled											
per kWh USD						0.12	0.10	0.12	0.10	0.10	0.10
per kWh TOP						0.28	0.23	0.27	0.23	0.23	0.23
6 MW Solar PV (IPP), Site unknown GET TREP enabled											
per kWh USD						-	0.15	0.15	0.15	0.15	0.15
per kWh TOP						-	0.34	0.34	0.34	0.34	0.34
3.8 MW Wind Akuo (IPP), Site unknown TREP enabled											
per kWh USD						-	0.15	0.15	0.15	0.15	0.15
per kWh TOP						-	0.34	0.34	0.34	0.34	0.34
TREP Additional O&M (TOP'000s)											
Tongatapu					243	243	243	243	243	243	243
'Eua					-	-	-	-	-	-	-
Vava'u					52	52	52	52	52	52	52
Sales					295	295	295	295	295	295	295
Tongatapu											
- MWh	46,242	49,412	53,803	55,799	55,743	57,415	59,138	60,912	62,739	64,621	66,560
- TOP\$ '000s	39,367	39,687	40,459	38,701	38,424	45,192	46,946	49,064	51,289	53,626	56,083
- average TOP\$/kWh	0.85	0.80	0.7520	0.6936	0.6893	0.7871	0.7938	0.8055	0.8175	0.8299	0.8426
- average kWh/month/connection	232	230									
- coverage of population		112%									
Vava'u											
- MWh	4,575	5,556	5,800	6,142	6,099	6,190	6,283	6,378	6,473	6,570	6,669
- TOP\$ '000s	3,547	4,141	4,362	4,260	4,204	4,873	4,988	5,137	5,292	5,452	5,619
- average TOP\$/kWh	0.78	0.75	0.7520	0.6936	0.6893	0.7871	0.7938	0.8055	0.8175	0.8299	0.8426
- average kWh/month/connection	116	135									
- coverage of population		96%									
Ha'apai											
- MWh	1,351	1,694	1,950	1,721	1,645	1,870	1,898	1,927	1,956	1,985	2,015
- TOP\$ '000s	1,044	1,152	1,467	1,194	1,134	1,472	1,507	1,552	1,599	1,647	1,698
- average TOP\$/kWh	0.77	0.68	0.7520	0.6936	0.6893	0.7871	0.7938	0.8055	0.8175	0.8299	0.8426
- average kWh/month/connection	105	140									
- coverage of population		68%									
'Eua											
- MWh	1,172	1,474	1,697	1,498	1,645	1,670	1,695	1,721	1,746	1,773	1,799
- TOP\$ '000s	906	1,002	1,276	1,039	1,134	1,315	1,346	1,386	1,428	1,471	1,516
- average TOP\$/kWh	0.77	0.68	0.7520	0.6936	0.6893	0.7871	0.7938	0.8055	0.8175	0.8299	0.8426
- average kWh/month/connection	88	105									
- coverage of population											
Total TPL											
- MWh	53,341	58,136	63,251	65,160	65,133	67,146	69,015	70,937	72,915	74,949	77,043
- TOP\$ '000s	44,864	45,982	47,564	45,194	44,896	52,851	54,787	57,139	59,607	62,197	64,915
- average TOP\$/kWh	0.84	0.79	0.75	0.69	0.69	0.79	0.79	0.81	0.82	0.83	0.84
	8%	-1%	9%	3%	0%	3%	3%	3%	3%	3%	3%

Description	Audited to June					Projected					
	2016	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
YoY % MWh											
Tongatapu	9%	-3%	9%	4%	0%	3%	3%	3%	3%	3%	3%
Vava'u	1%	5%	4%	6%	-1%	1%	1%	1%	1%	1%	1%
Ha'apai	11%	15%	15%	-12%	-4%	14%	1%	1%	1%	1%	1%
Eua	13%	15%	15%	-12%	10%	1%	1%	1%	1%	1%	1%
Total TPL											
Average Tariff	0.77	0.71	0.7618	0.7182	0.7192	0.7211	0.7286	0.7362	0.7439	0.7517	0.7596
No. of Customers											
Tongatapu											
Residential	13,544	14,559	15,075	15,608	16,161	16,733	17,325	17,938	18,573	19,231	19,912
Non residential	3,055	3,368	3,487	3,611	3,738	3,871	4,008	4,150	4,297	4,449	4,606
Total	16,599	17,927	18,562	19,219	19,899	20,604	21,333	22,088	22,870	23,680	24,518
YoY%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Vava'u											
Residential	2,486	2,596	2,678	2,771	2,868	2,969	3,072	3,179	3,290	3,405	3,524
Non residential	804	842	880	911	943	975	1,010	1,045	1,081	1,119	1,158
Total	3,290	3,438	3,558	3,682	3,811	3,944	4,082	4,224	4,371	4,524	4,682
YoY%	-1%	2%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Ha'apai											
Residential	879	808	827	850	874	898	923	948	974	1,001	1,029
Non residential	195	203	212	218	224	230	236	243	250	257	264
Total	1,074	1,011	1,039	1,068	1,098	1,128	1,159	1,191	1,224	1,258	1,293
YoY%	11%	4%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Eua											
Residential	826	856	880	899	918	938	958	979	1,000	1,021	1,043
Non residential	284	309	310	317	324	331	338	345	352	360	368
Total	1,110	1,165	1,190	1,216	1,242	1,269	1,296	1,324	1,352	1,381	1,411
YoY%	3%	1%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Total											
Residential	17,735	18,819	19,460	20,128	20,821	21,538	22,278	23,044	23,837	24,658	25,508
Commercial	4,338	4,722	4,889	5,057	5,229	5,407	5,592	5,783	5,980	6,185	6,396
Total	22,073	23,541	24,349	25,185	26,050	26,945	27,870	28,827	29,817	30,843	31,904
Annual Growth Rate	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Trade & Other Receivables (TOP '000s)											
Trade Receivables	1,233	1,486	1,672	1,654	1,731	1,805	1,888	1,965	2,035	2,098	2,151
Provision for bad debts	(117)	(86)	(97)	(96)	(100)	(104)	(109)	(114)	(118)	(121)	(125)
Trade Receivables (net)	1,116	1,400	1,575	1,559	1,631	1,701	1,779	1,851	1,917	1,976	2,027
No. of days sales	11	12	12	12	12	12	12	12	12	12	12
Prepayments	1,374	1,293	1,275	1,284	1,280	1,282	1,281	1,281	1,281	1,281	1,281
Accrued Income	2,785	3,568	3,314	3,441	3,377	3,409	3,393	3,401	3,397	3,399	3,398
Receivables from subsidiaries	532	676	758	717	737	727	732	729	731	730	730
Consumption Tax Receivable		1,005	600	802	701	752	726	739	733	736	734
Other	418.0	84	79	82	80	81	81	81	81	81	81
	6,225	8,026	7,599	7,884	7,806	7,951	7,991	8,082	8,139	8,203	8,251
Trade receivable days	11	12	12	12	12	12	12	12	12	12	12
Inventory											
Fuel		603	756	746	514	454	392	414	433	449	461
Spares		-									
Fuel inventory days		10	10	10	10	10	10	10	10	10	10

Description	Audited to June					Projected					
	2016	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Income Tax											
Provision at the beginning			1,929	742	(932)	345	1,091	2,177	2,359	2,653	2,822
Tax paid			(1,929)	(742)	932	(345)	(1,091)	(2,177)	(2,359)	(2,653)	(2,822)
Charge of the year			742	(932)	345	1,091	2,177	2,359	2,653	2,822	3,910
Closing Balance			742	(932)	345	1,091	2,177	2,359	2,653	2,822	3,910
Cash collected from customers											
Opening receivables			8,026	7,599	7,884	7,806	7,951	7,991	8,082	8,139	8,203
Sales			53,034	52,137	48,399	54,530	56,528	58,955	61,502	64,174	66,979
Closing receivables			7,599	7,884	7,806	7,951	7,991	8,082	8,139	8,203	8,251
Therefore cash received			53,461	51,852	48,477	54,385	56,488	58,864	61,445	64,110	66,930
Cash paid to suppliers and employees											
Opening balance			11,961	10,816	8,654	5,566	4,389	4,452	4,539	4,616	4,697
Purchases and salaries			47,748	50,626	39,178	38,986	37,338	39,107	40,854	43,086	45,388
Closing Balance			10,816	6,527	12,636	4,389	4,452	4,539	4,616	4,697	13,583
Therefore cash paid to suppliers and employees			48,893	54,915	35,196	40,163	37,275	39,020	40,778	43,005	36,502
Other Income											
Deferred Income		1,853									
Sundry Income		2,302									
Government grant		6,069									
Dividend		202									
		10,426									
Trade and Other payables	5,473	11,203	632	421	799	767	713	743	771	810	850
Days	6	8	6	4	9	9	9	9	9	9	9
Employee entitlements payable	441	759	779	935	816	906	966	1028	1097	1169	1248
Days	32	41	41	41	41	41	41	41	41	41	41
Staff											
- Tongatapu	174	194	202	211	220	229	239	249	260	271	283
- Vava'u	21	28	28	28	28	28	28	28	28	28	28
- Ha'apai	17	17	17	17	17	17	17	17	17	17	17
- Eua	14	14	14	14	14	14	14	14	14	14	14
- Total	226	253	261	270	279	288	298	308	319	330	342
Growth in staff numbers with the last two years											
- Tongatapu		4%	5%	5%	4%	4%	4%	4%	4%	4%	4%
- Vava'u		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
- Ha'apai		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
- Eua		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Salaries Cost (TOP\$'000s) (direct and administrative)	4,997	6,776	6,962	8,355	7,292	8,097	8,629	9,186	9,800	10,442	11,146
Average annual Cost per employee (TOP\$'000s)	22,110	26,782	26,916	27,051	27,294	28,113	28,957	29,625	30,720	31,642	32,591
Salaries Cost (TOP\$'000s) (direct)		4,603	4,772	4,961	5,173	5,500	5,862	6,240	6,657	7,093	7,572
Salaries Cost (TOP\$'000s) (administrative)		2,173	2,253	2,342	2,442	2,597	2,767	2,946	3,143	3,349	3,575

TPL : Table 1
Profit and Loss Account (TOP '000s)
Version 2.0

Year Ended 30 June	Audited				Current Year	Projected				
	2016	2018	2019	2020	2021	2022	2023	2024	2025	2026
ELECTRICITY OPERATIONS										
Regulated Revenue	40,922	45,363	51,030	51,642	46,908	52,851	54,787	57,139	59,607	62,197
Non-regulated Revenue	2,452	1,088	2,004	1,641	1,491	1,680	1,741	1,816	1,895	1,977
Electricity Cost of Sales										
Fuel Cost	15,347	21,463	26,906	24,762	20,047	21,074	19,334	20,809	22,380	24,055
Power Purchase Cost			1,130	1,016	833	3,657	3,172	3,319	3,172	3,172
Salaries	3,122	4,603	4,881	5,274	5,173	5,500	5,862	6,240	6,657	7,093
Maintenance	2,820	3,157	2,376	5,449	2,907	1,214	1,223	1,192	1,202	1,211
Depreciation - Generation	1,181	1,254	1,217	1,213	1,419	1,561	1,592	1,624	1,656	1,689
Third Party Costs	2,232	809	1,867	485	540	179	169	169	119	59
Other	1,541	2,020	2,019	3,040	3,101	2,700	2,278	2,069	1,711	1,621
	26,243	33,305	40,396	41,239	34,019	35,884	33,629	35,423	36,897	38,901
Gross Profit from electricity operations	17,130	13,146	12,638	12,045	14,380	18,646	22,898	23,532	24,605	25,273
Other Income	2,425	10,426	7,509	5,634	5,979	6,454	6,943	7,446	7,964	8,499
Selling & Distribution Expenses										
Depreciation - distribution network	4,840	5,211	6,043	7,552	7,703	8,473	8,643	8,816	8,992	9,172
Repairs & Maintenance	-				700	700	700	700	700	700
Other	56	1,065	70	69	50	50	51	52	52	53
	4,896	6,277	6,113	7,621	8,453	9,224	9,394	9,567	9,744	9,925
Administrative & Other Expenses										
Salaries	1,875	2,173	2,081	2,502	2,120	2,597	2,767	2,946	3,143	3,349
Depreciation & Amortization	938	1,529	1,490	2,012	2,248	2,293	2,339	2,386	2,434	2,482
Electricity Commission fees	528	561	561	561	566	624	637	649	662	676
Legal & Professional Fees	437	1,592	690	1,424	400	612	625	637	650	663
Other	2,737	4,352	5,167	3,208	3,574	3,736	3,692	3,643	3,578	3,606
	6,516	10,207	9,989	9,708	8,908	9,863	10,060	10,261	10,467	10,776
Operating Profit from electricity operations	8,144	7,088	4,045	350	2,997	6,013	10,387	11,149	12,358	13,070
Finance Income	209	132	138	39	39	40	42	43	44	45
Finance Cost	(1,027)	(1,159)	(1,213)	(1,622)	(1,655)	(1,688)	(1,722)	(1,756)	(1,791)	(1,827)
Profit before tax from electricity operations	7,326	6,062	2,970	(1,234)	1,382	4,366	8,707	9,436	10,611	11,289
Income Tax	(1,831)	(1,354)	(742)	308	(345)	(1,091)	(2,177)	(2,359)	(2,653)	(2,822)
PROFIT AFTER TAX - UTILITY OPERATIONS	5,494	4,708	2,227	(925)	1,036	3,274	6,530	7,077	7,958	8,467

**Table 2:
Balance Sheet (TOP '000s)
Version 2.0**

As at 30 June	Audited				Current Year	Projected				
	2016	2018	2019	2020	2021	2022	2023	2024	2025	2026
CURRENT ASSETS										
Cash and Cash Equivalents	3,499	3,215	711	279	1,403	765	2,137	3,947	4,835	1,127
Trade & Other Receivables	6,226	8,029	8,905	7,838	7,806	7,951	7,991	8,082	8,139	8,203
Inventories	1,279	603	1,377	1,064	514	454	392	414	433	449
Held to maturity financial asset	1,423	322	1,332	334	334	334	334	334	334	334
Current Tax Asset				1,305	1,305	1,305	1,305	1,305	1,305	1,305
Donor Reserve Funds										
	12,428	12,169	12,325	10,819	11,362	10,809	12,159	14,082	15,046	11,417
NON CURRENT ASSETS										
Intangible Assets and Goodwill	182	2,029	2,052	1,374	717	64	-	-	-	-
Property, Plant & Equipment	114,572	124,016	154,354	146,227	145,359	143,308	139,531	132,135	125,600	122,848
Held to maturity financial asset	1,700	1,171	167	-	-	-	-	-	-	-
Investment in Subsidiary	3,670	3,950	3,595	3,596	3,596	3,596	3,596	3,596	3,596	3,596
Rights-of-use Assets				1,624	1,624	1,624	1,624	1,624	1,624	1,624
Deferred Tax Asset	140	378	528	868	528	528	528	528	528	528
	120,263	131,544	160,696	153,688	151,824	149,119	145,279	137,882	131,348	128,596
TOTAL ASSETS	132,691	143,713	173,021	164,507	163,186	159,928	157,437	151,964	146,394	140,013
CURRENT LIABILITIES										
Bank Overdraft	-	125								
Trade & Other Payables	5,473	11,203	10,190	8,243	11,784	3,498	3,516	3,556	3,581	3,609
Employee Entitlements	441	759	626	411	853	891	936	983	1,035	1,087
Deferred Income / Donated Assets	1,853	1,853	2,657	3,457	3,457	3,457	3,457	3,457	3,457	3,457
Borrowings	1,914	2,607	2,737	2,965	2,713	2,871	3,029	3,187	3,345	3,503
Financial Instruments										
Provision for Dividend	2,800	3,300	779	-	777	2,456	4,898	5,308	5,969	6,350
Lease Liabilities				34	34	34	34	34	34	34
Tax	866	1,929	1,198	-	345	1,091	2,177	2,359	2,653	2,822
	13,346	21,775	18,187	15,109	19,962	14,298	18,046	18,884	20,073	20,862
NON CURRENT LIABILITIES										
Deferred Tax Liability	8,064	7,436	7,125	8,461	7,461	12,541	9,720	4,281	(2,489)	(10,177)
Deferred Income / Donated Assets	31,818	28,112	56,224	51,969	48,513	45,056	41,600	38,143	34,687	31,230
Lease Liabilities				1,616	1,616	1,616	1,616	1,616	1,616	1,616
Borrowings	21,215	24,977	28,635	26,629	22,971	20,903	14,835	10,768	6,700	2,633
	61,097	60,525	91,984	88,675	80,560	80,116	67,771	54,808	40,514	25,302
TOTAL LIABILITIES	74,443	82,300	110,171	103,784	100,523	94,414	85,818	73,692	60,587	46,164
EQUITY										
Share Capital	33,784	33,784	33,784	33,784	33,784	33,784	33,784	33,784	33,784	33,784
Asset Revaluation Reserve	11,661	10,789	10,368	9,946	9,522	9,098	8,674	8,250	7,826	7,402
Retained Earnings	12,803	16,841	18,699	16,993	19,357	22,632	29,162	36,239	44,197	52,664
	58,248	61,413	62,850	60,723	62,663	65,513	71,620	78,273	85,807	93,849
	132,691	143,713	173,021	164,507	163,186	159,928	157,437	151,964	146,394	140,013

**Table 3: Cashflow Statement (TOP'000s)
Version 2.0**

Year Ended 30 June	Audited				Current Year	Projected				
	2016	2018	2019	2020	2021	2022	2023	2024	2025	2026
Cashflows from Operating Activities:										
Receipt from Customers	43,069	54,898	51,806	57,909	54,636	54,385	56,488	58,864	61,445	64,110
Payments to Suppliers and Employees	(30,703)	(39,607)	(46,146)	(50,868)	(40,011)	(40,163)	(37,275)	(39,020)	(40,778)	(43,005)
Income Tax Paid	(136)	(2,525)	(1,929)	(1,199)	932	(345)	(1,091)	(2,177)	(2,359)	(2,653)
Interest Received	66	166	58	49	24	25	25	25	26	26
Interest Paid	(915)	(1,242)	(1,463)	(1,622)	(1,655)	(1,688)	(1,722)	(1,756)	(1,791)	(1,827)
	11,381	11,690	2,326	4,269	13,927	12,213	16,425	15,936	16,543	16,651
Cashflow from investment activities										
Acquisition of Plant, Property & Equipment	(9,087)	(15,439)	(7,797)	(2,069)	(10,503)	(10,275)	(8,798)	(5,429)	(6,547)	(10,591)
Investment held to maturity	(1,000)	3,523		1,171						
Donor Funds Received	951									
Proceeds from sale of equipment	25		5	6	2,500					
Acquisition of Subsidiary		(280)								
Funds set aside to replace donor funded assets										
Acquisition of Intangibles		(192)	(598)							
Dividends Received	100	280								
Loan to Waste Authority Limited / Loan to subsidiary	(200)									
Contribution to TVNUP Project	(446)									
	(9,658)	(12,108)	(8,390)	(892)	(8,003)	(10,275)	(8,798)	(5,429)	(6,547)	(10,591)
Cashflow from financing activities										
Proceeds from borrowings	2,081	3,696	6,614	1,271		2,000				
Repayment of borrowings	(632)	(2,693)	(2,827)	(3,050)	(4,767)	(3,767)	(3,767)	(3,767)	(3,767)	(3,767)
Grants received							-	-	-	-
Payment of lease liabilities				(32)	(32)	(32)	(32)	(32)	(32)	(32)
Dividends paid	(2,000)	(1,200)	(100)	(1,981)		(777)	(2,456)	(4,898)	(5,308)	(5,969)
	(551)	(197)	3,687	(3,793)	(4,799)	(2,577)	(6,255)	(8,697)	(9,107)	(9,768)
Net Change in Cash and Cash Equivalents	1,171	(615)	(2,377)	(416)	1,125	(639)	1,372	1,810	889	(3,708)
Effect on Exchange rate movements on cash held	67	(34)	(2)	(16)						
Cash and Cash Equivalents at the beginning of Year	2,261	3,739	3,090	711	279	1,403	765	2,137	3,947	4,835
Cash and Cash Equivalents at the End of Year	3,499	3,090	711	279	1,403	765	2,137	3,947	4,835	1,127

5: Statement of Financial Position as at 30 June

CURRENT ASSETS

Cash and Cash Equivalents
Trade & Other Receivables
Inventories
Held to maturity financial asset
Current Tax Asset
Donor Reserve Funds

NON CURRENT ASSETS

Intangible Assets and Goodwill
Property, Plant & Equipment
Held to maturity financial asset
Investment in Subsidiary
Rights-of-use Assets
Deferred Tax Asset

TOTAL ASSETS

CURRENT LIABILITIES

Bank Overdraft
Trade & Other Payables
Employee Entitlements
Deferred Income / Donated Assets
Borrowings
Financial Instruments
Provision for Dividend
Lease Liabilities
Tax

NON CURRENT LIABILITIES

Deferred Tax Liability
Deferred Income / Donated Assets
Lease Liabilities
Borrowings

TOTAL LIABILITIES

EQUITY

Share Capital
Asset Revaluation Reserve
Retained Earnings

Table 4: Statement of Financial Performance (by Division) for year ending 30 June 2022

	Total	Generation	Distribution	Retail	Indirect
Revenues					
Fuel Revenue	25,542,377			25,542,377	
Electricity Commission Fees	561,192			561,192	
Non-Fuel Revenue	26,747,127			26,747,127	
Fees Revenue	-				
Non-Regulated Revenue	8,173,897			1,679,765	6,494,132
Total Revenues	61,024,593			54,530,462	6,494,132
Cost of Sales					
Fuel Cost	21,073,923	21,073,923			
Direct Labour	4,866,109	1,682,516	2,529,672	653,921	
TPL Contribution to Retirement Fund	182,094	53,560	88,025	40,509	
Labour Cost Capitalisation	(369,702)		(369,702)		
Third Party Contract Costs	179,000		179,000		
Maintenance Costs - Generation	864,500	864,500			
Maintenance Costs - Distribution	349,346		349,346		
Utilities	183,733	10,403	62,930	110,400	
Telephone and Communications	181,323	24,720	31,803	124,800	
Auto Expenses	809,066	134,930	597,202	76,934	
Transport Cost Capitalisation	(341,556)		(341,556)		
Freight Expense	129,361	55,620	70,441	3,300	
Licenses Expenses	25,542	2,987	17,255	5,300	
Other Repairs and Maintenance	415,218	270,890	65,028	79,300	
Office Expense	44,279	7,210	13,533	23,536	
Duties and Fees	34,465	23,690	5,075	5,700	
Computer & Equip Consumables	823,981	17,510	9,203	797,268	
Rent or Lease Expense	159,647	127,720	3,289	28,638	
Supplies and Consumables	146,181	46,350	79,711	20,120	
Uniforms & Safety Gears	280,649	108,150	172,499	-	
Travel Expenses	324,862	182,310	118,552	24,000	
Security Wages	266,656	206,000	10,556	50,100	
Renewables Costs	3,657,194	3,657,194			
Other-network write-offs	700,000		700,000		
Total Cost of Sales	34,985,869	28,550,182	4,391,861	2,043,826	-
Gross Profit	26,038,724				
Expenses					
Media Announcements	167,639		50,073		117,565
Electricity Commission	624,240				624,240
Indirect Labour Costs	2,470,663				2,470,663
TPL Contribution to Retirement Fund	109,970				109,970
Legal and Professional Exp	612,483				612,483
Auto Expenses	127,969				127,969
Bad and Doubtful Debts	119,655				119,655
Bank Charges	156,060				156,060
Office Sundries	74,302	21,630	9,778	6,480	36,414
Dues and Subscription	124,848				124,848
Freight	28,777				28,777
Gifts Expense	52,020				52,020
Insurance	1,560,600				1,560,600
Licenses Exp - Indirect	12,901				12,901
Repairs and Maintenance	81,671				81,671
Office Expense - Indirect	43,697				43,697
Duties and Fees	9,426				9,426
Computer & Equip - Indirect	52,020				52,020
Supplies & Consumables	156,060				156,060
Rent/Lease Expenses	-				-
Uniforms & Safety Gears	-				-
Travel Exp - Indirect	504,594				504,594
Utilities Expenses	52,020				52,020
Telephone and Communication	139,830				139,830
Foreign Currency Loss (Gain)	-				-
Loss on Assets Disposal (Gain)	-				-
Sponsorship	104,040				104,040
Recruitment Costs	52,020				52,020
Directors Fees & Benefits	72,828				72,828
Directors - Other Costs	104,040				104,040
Health and Safety expenses	43,281				43,281
Total Expenses	7,657,655	21,630	59,851	6,480	7,569,693
Earnings before Interest and Depreciation (EBIT)	18,381,069				
Depreciation Expense	11,657,276	1,560,653	8,473,457		1,623,166
Amortisation Expense	670,000				670,000
Interest Expense	1,687,964				1,687,964
Earnings Before Term Loan Adjustments (EBTLA)	4,365,829				
Mark to Market Unrealised Gain (Loss)	-				
Net Profit Before Tax (NPBT)	4,365,829				
Taxation (25%)	1,091,457				
Net Profit After Tax (NPAT)	3,274,372				

Table 6: Statement of Cash Flows at 30 June 2022

\$

Cashflows from Operating Activities:	
Receipt from Customers	54,385,383
Payments to Suppliers and Employees	(40,163,292)
Income Tax Paid	(345,412)
Interest Received	24,507
Interest Paid	(1,687,964)
	12,213,222
Cashflow from investment activities	
Acquisition of Plant, Property & Equipment	(10,275,313)
Investment held to maturity	
Donor Funds Received	
Proceeds from sale of equipment	
Acquisition of Subsidiary	
Funds set aside to replace donor funded assets	
Acquisition of Intangibles	
Dividends Received	
Loan to Waste Authority Limited / Loan to subsidiary	
Contribution to TVNUP Project	
	(10,275,313)
Cashflow from financing activities	
Proceeds from borrowings	
Repayment of borrowings	(3,767,158)
Grants received	-
Payment of lease liabilities	(32,182)
Dividends paid	(777,177)
	(4,576,517)
Net Change in Cash and Cash Equivalents	(2,638,608)
Effect on Exchange rate movements on cash held	
Cash and Cash Equivalents at the beginning of Year	1,403,223
Cash and Cash Equivalents at the End of Year	(1,235,385)

Table 7: 2021/2022 - Summary of Capital Expenditure (By Division)

Division	Island	Category	Description	Reason	Discretionary / Non Discretionary
Generation					
Generation	Tongatapu	Growth Ancillary	NEW OFFICE SPACE FOR CENTRAL CONTROL	Meet Service Standards	Non-discretionary
Generation	Tongatapu	Growth Ancillary	ADDITIONAL WORK UTE FOR RE CREW	Meet Service Standards	Non-discretionary
Generation	Tongatapu	Growth Genset	GENERATOR - PROCUREMENT AND INSTALLATION (HIGH SPEED C	Meet Service Standards	Non-discretionary
Generation	Tongatapu	Replacement Genset	Engine RESET TO ZERO RUNNING HOUR ENGINE #5	Meet Service Standards	Non-discretionary
Generation	Tongatapu	Replacement Ancillary	SEAWATER COOLING PUMP IMPROVEMENTS	Meet Service Standards	Non-discretionary
Generation	Tongatapu	Replacement Ancillary	HEAT EXCHANGER G1 TO G6	Meet Service Standards	Non-Discretionary
Generation	Tongatapu	Replacement Ancillary	AIR FILTERS FOR E7 & E8 (NZD25K EACH)	Meet Service Standards	Non-Discretionary
Generation	Tongatapu	Replacement Ancillary	G1-G6 EXHAUST SILENCERS (USD25K EACH)	Meet Service Standards	Non-Discretionary
Generation	Tongatapu	Growth Ancillary	TOWN WATER TANK - UPGRADE	Meet Service Standards	Discretionary
Generation	Tongatapu	Growth Ancillary	BUILDING IMPROVEMENTS - NOISE REDUCTION	Meet Service Standards	Discretionary
Generation	Tongatapu	Growth Ancillary	BUILDING IMPROVEMENT - II O MANUMATAONGO	Meet Service Standards	Discretionary
Generation	Tongatapu	Growth - Ancillary	OVERHAUL OF GENSETS	Meet Service Standards	Discretionary
Generation	Vava'u	Replacement Genset	Engine RESET TO ZERO RUNNING HOUR (CUMMINS)	Meet Service Standards	Non-discretionary
Generation	Vava'u	Replacement Ancillary	UPGRADE CUMMINS SYSTEM CONTROLLER	Meet Service Standards	Non-discretionary
Generation	Vava'u	Growth Ancillary	EXPANSION WORK TO SCADA & SYSTEM UPGRADE Engine controll	Meet Service Standards	Discretionary
Generation	Vava'u	Growth Ancillary	VENTILATION FANS FOR ENGINE HALL	Meet Service Standards	Non-discretionary
Generation	Vava'u	Replacement	VEHICLE UTE (5 YEAR REPLACEMENT)	Meet Service Standards	Discretionary
Generation	Vava'u	Growth - Ancillary	OVERHAUL OF GENSETS	Meet Service Standards	Discretionary
Generation	Ha'apai	Growth - Ancillary	GENSET SHED	Meet Service Standards	Non-discretionary
Generation	Ha'apai	Growth - Ancillary	OVERHAUL OF GENSETS	Meet Service Standards	Discretionary
Generation	Eua	Growth - Ancillary	OVERHAUL OF GENSETS	Meet Service Standards	Discretionary
Subtotal	Generation				
Distribution					
	Tongatapu	Growth	Third Party Contracts	Meet Service Standards	Non Discretionary
Distribution	Tongatapu	Growth	City, main centres, LV upgrade light conductor to ABC	Meet Service Standards	Non Discretionary
Distribution	Tongatapu	Growth	New transformer structure and box	Meet Service Standards	Non Discretionary
Distribution	Tongatapu	Safety	Replace aging, short or missing HV wood poles	Meet Service Standards	Non Discretionary
Distribution	Tongatapu	Safety	Feeders, HV Cable Uprating (undersized Hv Cables)	Meet Service Standards	Non Discretionary
Distribution	Tongatapu	Improvements	New reclosers	Meet Service Standards	Discretionary
Distribution	Tongatapu	Improvements	Feeders, HV upgrade, Undersized Conductors & Poles	Meet Service Standards	Discretionary
Distribution	Tongatapu	Improvements	Feeders, HV upgrade, replace light conductor to underground	Meet Service Standards	Discretionary
Distribution	Tongatapu	Improvements	Replace old transformer box	Meet Service Standards	Discretionary
Distribution	Tongatapu	Improvements	Replace existing transformer structures	Meet Service Standards	Discretionary
Distribution	Tongatapu	Improvements	Replace Customer Connection 1 Phase (DONOR)	Meet Service Standards	Discretionary
Distribution	Tongatapu	Improvements	Replace Customer Connection 3 Phase (DONOR)	Meet Service Standards	Discretionary
Distribution	Tongatapu	Improvements	Re-pole - LV poles only, No fittings	Meet Service Standards	Discretionary
Distribution	Tongatapu	Revenue Protection	Meter Replacement - single phase (7,261 TVNUP, 10,686 I	Meet Service Standards	Discretionary
Distribution	Tongatapu	Revenue Protection	Meter Replacement - three phase - CT Meter (381 TVNUP,	Meet Service Standards	Discretionary
Distribution	Tongatapu	Street lights	Install new street lighting controls	Meet Service Standards	Discretionary
Distribution	Tongatapu	Office Furniture	various	Meet Service Standards	Discretionary
Distribution	Tongatapu	Office and Computre Equipmer	various - (by IT dept only)	Meet Service Standards	Discretionary
Distribution	Tongatapu	Tools & Equipment	Various	Meet Service Standards	Discretionary
Distribution	Tongatapu	Vehicle	Utility, double cab, flat deck	Meet Service Standards	Non Discretionary
Distribution	Tongatapu	Vehicle	Truck - bucket - larger two man lift	Meet Service Standards	Non Discretionary
Distribution	Tongatapu	Vehicle	Truck Line - crane and auger	Meet Service Standards	Non Discretionary
Distribution	Tongatapu	Building	Building - Vehicle Garage	Meet Service Standards	Non Discretionary
Distribution	Tongatapu	Safety	Labour	Meet Service Standards	Non Discretionary
Distribution	Tongatapu	Improvements	Transport	Meet Service Standards	Non Discretionary
Distribution	Vava'u	Growth	Third party Contracts	Meet Service Standards	Non Discretionary
Distribution	Vava'u	Growth	City, main centres, LV upgrade light conductor to HV ABC	Meet Service Standards	Non Discretionary
Distribution	Vava'u	Safety	Replace aging, short or missing HV wood poles	Meet Service Standards	Non Discretionary
Distribution	Vava'u	Improvements	Feeders, HV upgrade, replace light conductor to underground HV U	Meet Service Standards	Non Discretionary
Distribution	Vava'u	Improvements	Replace old transformer box	Meet Service Standards	Non Discretionary
Distribution	Vava'u	Improvements	Replace existing transformer structures	Meet Service Standards	Non Discretionary
Distribution	Vava'u	Revenue Protection	Meter Replacement - single phase	Meet Service Standards	Non Discretionary
Distribution	Vava'u	Revenue Protection	Meter Replacement - three phase - CT Meter	Meet Service Standards	Non Discretionary
Distribution	Vava'u	Steet lights	Install new street lighting controls	Meet Service Standards	Non Discretionary
Distribution	Vava'u	Office & Computer Equipment	various	Meet Service Standards	Non Discretionary
Distribution	Vava'u	Tools and Equipment	Various	Meet Service Standards	Non Discretionary
Distribution	Vava'u	Vehicle	Metering Utility Van	Meet Service Standards	Non Discretionary
Distribution	Vava'u	Building	Building - Vehicle Garage	Meet Service Standards	Discretionary

Table 7: 2021/2022 - Summary of Capital Expenditure (By Division)

Division	Island	Category	Description	Reason	Discretionary / Non Discretionary
Distribution	Ha'apai	Growth	Third party Contracts	Meet Service Standards	Non Discretionary
Distribution	Ha'apai	Safety	Replace aging, short or missing HV wood poles	Meet Service Standards	Non Discretionary
Distribution	Ha'apai	Improvements	Re-insulation strains, joints	Meet Service Standards	Non Discretionary
Distribution	Ha'apai	Revenue Protection	Meter Replacement - single phase	Meet Service Standards	Discretionary
Distribution	Ha'apai	Revenue Protection	Meter Replacement - three phase - CT Meter	Meet Service Standards	Discretionary
Distribution	Ha'apai	Street lights	Install new street lighting controls	Meet Service Standards	Discretionary
Distribution	Ha'apai	Office Furniture	various	Meet Service Standards	Discretionary
Distribution	Ha'apai	Office & Computer Equipment	various	Meet Service Standards	Non Discretionary
Distribution	Ha'apai	Tools and Equipment	Various	Meet Service Standards	Non Discretionary
Distribution	Ha'apai	Vehicle	Utility, double cab, flat deck	Meet Service Standards	Non Discretionary
Distribution	Ha'apai	Building	Building - Vehicle Garage	Meet Service Standards	Discretionary
Distribution	Eua	Growth	Third party Contracts	Meet Service Standards	Non Discretionary
Distribution	Eua	Safety	City, main centres, install new LV Poles and ABC	Meet Service Standards	Non Discretionary
Distribution	Eua	Improvements	Replace aging, short or missing HV wood poles	Meet Service Standards	Non Discretionary
Distribution	Eua	Revenue Protection	Meter Replacement - single phase	Meet Service Standards	Non Discretionary
Distribution	Eua	Revenue Protection	Meter Replacement - three phase - CT Meter	Meet Service Standards	Non Discretionary
Distribution	Eua	Streetlight	Install new street lighting controls	Meet Service Standards	Non Discretionary
Distribution	Eua	Utility, double cab, flat deck	Various	Meet Service Standards	Non Discretionary
Distribution	Eua	Building	Building - Vehicle Garage	Meet Service Standards	Discretionary
Subtotal	Distribution				
Retail	Tongatapu	Office & Computer Equipment	Replacement PCs & Printers	Meet Service Standards	Non Discretionary
Retail	Tongatapu	Vehicle	Meter Reader Vehicle 8 seater shuttle	Meet Service Standards	Non Discretionary
Retail	Vava'u	Office & Computer Equipment	Replacement PCs & Printers	Meet Service Standards	Non Discretionary
Retail	Vava'u	Building	Major Renovation	Meet Service Standards	Non Discretionary
Retail	Ha'apai	Office & Computer Equipment	Replacement PCs & Printers	Meet Service Standards	Non Discretionary
Retail	Ha'apai	Building	Major Renovation	Meet Service Standards	Non Discretionary
Retail	Eua	Office & Computer Equipment	Replacement PCs & Printers	Meet Service Standards	Non Discretionary
Retail	Eua	Vehicle	Utility, double cab	Meet Service Standards	Non Discretionary
Subtotal	Retail				
Indirect		IT	Office and Computer Equipment	Meet Service Standards	Discretionary
Indirect		Admin	Replacement vehicle (ADMIN& IT Smart Meter)	Meet Service Standards	Discretionary
Indirect		IT	Network Security/Reliability	Meet Service Standards	Discretionary
Indirect		Strategy	Engineering Standards & Tools	Meet Service Standards	Discretionary
Indirect		Strategy	Marketing Tools	Meet Service Standards	Discretionary
Indirect		Strategy	Vava'u and 'Eua - TREP Contribution	Meet Service Standards	Discretionary
Indirect		Strategy	Permitting requirement - EIA & Building	Meet Service Standards	Discretionary
Indirect		Strategy	More Solar & Wind (Customer Owned)	Meet Service Standards	Discretionary
Indirect		Strategy	Combined Control Center, Comms and Comms O&M Technicians	Meet Service Standards	Discretionary
Indirect		Strategy	EV as a form of BESS	Meet Service Standards	Discretionary
Indirect		Strategy	Marketing and comms	Meet Service Standards	Discretionary
Indirect		Strategy	Energy Efficiency	Meet Service Standards	Discretionary
Indirect		Strategy	QIREP&QIEEP	Meet Service Standards	Discretionary
Indirect		Strategy	NNUP TPL Contribution outside of distribution Capex	Meet Service Standards	Discretionary
Indirect		Strategy	China Wind 2.2MW	Meet Service Standards	Discretionary
Indirect		Strategy	Wind IPP 3.8MW	Meet Service Standards	Discretionary
Indirect		Strategy	Tidal, geothermal, Biomass or whatever the next initiative is	Meet Service Standards	Discretionary
Subtotal	Indirect				
Total 2021/2022 Capital Expenditures					

Table 8 : 5 year forecast - Capital Expenditure Summary by Division

DIVISIONAL CAPEX SUMMARY	2020/21	2021/22	2022/23	2023/24	2024/25	Total
Generation Equipment	1,758,125	4,109,223	2,849,098	1,584,400	2,539,679	11,672,400
Distribution Network Equipment	6,352,129	3,869,491	4,283,423	3,005,944	3,528,644	19,080,984
Retail	185,000	287,000	2,000	6,000	-	540,000
Indirect	110,000	110,000	160,000	110,000	180,000	1,230,000
Renewables & other projects	564,200	1,899,600	1,503,129	722,761	298,761	9,117,262
Company Total	8,969,454	10,275,313	8,797,650	5,429,105	6,547,084	41,640,645
GENERATION:						
	2020/21	2021/22	2022/23	2023/24	2024/25	Total
Tongatapu:						
Growth - ancillary. SCADA & System Upgrade	800,000	-	-	-	-	-
Replacement - ancillary MAK/CAT Load sharin	400,000	-	-	-	-	-
Growth - ancillary. New office space central	50,000	200,000	-	-	-	200,000
Growth - ancillary. Additional work ute	-	90,000	-	-	-	90,000
Growth - ancillary. Crane truck replacement	-	-	120,000	-	-	120,000
Growth - Generator - (High Speed)	-	1,500,000	-	-	1,500,000	3,000,000
Replace - Engine #2	-	-	-	450,000	-	450,000
Replace - Engine #4	-	-	450,000	-	-	450,000
Replace - Engine #5	-	-	450,000	-	-	450,000
Replace - Engine #6	-	-	450,000	-	-	450,000
Replace - Sea-water pump	-	150,000	-	-	-	150,000
Replace - Heat Exchangers G1-G6	75,000	188,679	188,679	188,679	188,679	754,716
Replacement - ancillary AIR FILTERS FOR E7 &	88,125	88,125	-	-	-	88,125
Replace - Exhaust Silencers G1-G6	-	189,419	189,419	-	-	378,837
Replace - Air conditioner units	-	-	4,000	-	4,000	8,000
Replace - CAT Protection Switchboard	-	-	-	83,721	-	83,721
Ancillary - Town Water Tank upgrade	-	10,000	-	-	-	10,000
Ancillary - Bulk tank bund wall rework	-	-	-	100,000	-	100,000
Ancillary - Building improvements at Niutoua Wind Farm	-	-	-	-	-	-
Ancillary - Building improvements Noise redu	-	23,000	-	-	-	23,000
Ancillary - Overhaul of Gensets	-	1,000,000	320,000	220,000	640,000	2,400,000
	1,413,125	3,439,223	2,172,098	1,042,400	2,332,679	9,206,400
Vava'u						
Growth - High Speed Generator 600kW	200,000	-	-	-	-	-
Replacement - Engine reset to zero running h	-	-	100,000	-	-	100,000
Replace - Cummins System Controller	-	200,000	-	-	-	200,000
Growth - ancillary SCADA & system upgrade E	75,000	-	-	-	-	-
Growth - ancillary ventilation fans for engine hall	-	20,000	-	-	-	20,000
Replace - Vehicle Ute (5-yr replacement due)	70,000	70,000	-	-	70,000	140,000
Replace - Air conditioner units	-	-	2,000	-	-	2,000
Ancillary - Overhaul of Gensets	-	35,000	65,000	180,000	75,000	535,000
	345,000	325,000	167,000	180,000	145,000	997,000
Ha'apai						
Growth - 200 kWGenerator - (High Speed)	-	-	100,000	-	-	100,000
Growth - ancillary Genset shed	-	-	-	-	-	-
Replace - Cummins System Controller	-	-	-	-	-	100,000
Replace - Air conditioner units	-	-	-	2,000	-	2,000
Growth - Genset Shed	-	250,000	-	-	-	250,000
Ancillary - Overhaul of Gensets	-	50,000	30,000	50,000	30,000	190,000
	-	300,000	130,000	52,000	30,000	642,000
Eua						
Growth - 200 kWGenerator - (High Speed)	-	-	100,000	-	-	100,000
Replacement - Engine reset to zero running h	-	-	-	150,000	-	150,000
Replace - Cummins System Controller	-	-	-	100,000	-	100,000
Replace - Air conditioner units	-	-	-	-	2,000	2,000
Growth - Genset Shed	-	-	250,000	-	-	250,000
Ancillary - Overhaul of Gensets	-	45,000	30,000	60,000	30,000	225,000
	-	45,000	380,000	310,000	32,000	827,000
Total Generation	1,758,125	4,109,223	2,849,098	1,584,400	2,539,679	11,672,400
Total Generation	1,758,125	4,109,223	2,849,098	1,584,400	2,539,679	11,672,400

DIVISIONAL CAPEX SUMMARY	2020/21	2021/22	2022/23	2023/24	2024/25	Total
DIVISIONAL CAPITAL EXPENDITURE - 5 YEAR FORECAST						
DISTRIBUTION:	2020/21	2021/22	2022/23	2023/24	2024/25	Total
Tongatapu						
Growth	908,459	650,823	1,007,224	766,787	1,089,505	4,281,644
Submarine Cable	-	-	-	-	-	-
Fourth Feeder	-	-	-	-	-	-
Safety	426,629	300,797	393,347	293,841	300,675	1,988,674
Improvements	1,838,747	796,467	622,707	506,333	518,108	3,088,002
Meters/Smart Grid	60,000	42,000	60,000	60,000	60,000	267,000
	3,233,834	1,790,087	2,083,278	1,626,961	1,968,287	9,625,320
Vava'u						
Growth	150,000	155,000	114,909	117,590	149,162	687,396
Safety	113,560	79,492	-	-	-	79,492
Improvements	172,813	128,331	-	-	-	128,331
Meters/Smart Grid	35,000	24,500	25,000	20,000	20,000	89,500
	471,373	387,323	139,909	137,590	169,162	984,719
Eua						
Growth	50,000	45,500	50,000	50,000	55,000	255,500
Safety	20,000	4,200	6,000	6,000	6,000	28,200
Improvements	160,000	-	-	-	-	-
Meters/Smart Grid	20,000	14,000	10,000	10,000	10,000	44,000
	250,000	63,700	66,000	66,000	71,000	327,700
Ha'apai						
Growth	-	35,000	35,000	35,000	40,000	185,000
Safety	10,000	7,000	10,000	10,000	10,000	47,000
Improvements	50,000	35,000	50,000	-	-	85,000
Meters/Smart Grid	20,000	14,000	10,000	10,000	10,000	44,000
	80,000	91,000	105,000	55,000	60,000	361,000
Sub Total Direct CAPEX	4,035,207	2,332,111	2,394,187	1,885,552	2,268,450	11,298,740
Capitalised Labour and Transport	1,016,083	711,258	832,692	745,954	763,301	3,722,333
Total Direct CAPEX	5,051,290	3,043,369	3,226,879	2,631,505	3,031,751	15,021,073
Non Direct						
Other Non Direct CAPEX (Vehicles, safety gear)	1,300,839	826,122	1,056,544	374,439	496,893	4,059,911
	1,300,839	826,122	1,056,544	374,439	496,893	4,059,911
Total Distribution	6,352,129	3,869,491	4,283,423	3,005,944	3,528,644	19,080,984
RETAIL	2020/21	2021/22	2022/23	2023/24	2024/25	Total
Office Furniture	1,000	-	1,000	4,000	-	6,000
Office and Computer Equipment	3,000	27,000	-	-	-	30,000
Tools and Equipment	1,000	-	1,000	2,000	-	4,000
Vehicles	60,000	160,000	-	-	-	400,000
Buildings	120,000	100,000	-	-	-	100,000
Total Retail	185,000	287,000	2,000	6,000	-	540,000
CORPORATE/ INDIRECT	2020/21	2021/22	2022/23	2023/24	2024/25	Total
Office Furniture	-	-	-	-	-	-
Office and Computer Equipment	60,000	60,000	60,000	60,000	60,000	540,000
Tools and Equipment	-	-	-	-	-	-
Vehicles	-	-	50,000	-	70,000	240,000
Buildings	-	-	-	-	-	-
Network security/ reliability	50,000	50,000	50,000	50,000	50,000	450,000
Total Corporate/ Indirect	110,000	110,000	160,000	110,000	180,000	1,230,000
Renewables & other projects						
Detailed	564,200	1,899,600	1,503,129	722,761	298,761	9,117,262
GRAND TOTAL	8,969,454	10,275,313	8,797,650	5,429,105	6,547,084	41,640,645

Table 10: 5 year forecast - Generation Operating Expenses	Forecast 2020/21	Forecast 2021/22	Forecast 2022/23	Forecast 2023/24	Forecast 2024/25	Forecast Total
OTHER COST OF SALES EXPENSES						
ENGINE / GENERATOR MAJOR MAINTENANCE	1,245,000					-
ENGINE / GENERATOR OTHER MAINTENANCE	860,000	864,500	869,135	873,909	878,826	4,370,261
PREVENTATIVE MAINTENANCE						-
SAFETY AND REMEDIAL FAULTS						-
VEGETATION CONTROL COSTS						-
THIRD PARTY CONTRACTS						-
DIRECT LABOUR	860,000	1,040,500	1,071,715	1,103,866	1,136,982	5,524,156
CALLOUT	404,316	416,446	428,939	441,807	455,062	2,210,967
CAPITALISED LABOUR						-
EMPLOYER CONTRIBUTION (SUPERANNUATION)	52,000	53,560	55,167	56,822	58,526	284,357
WAGES	69,000	71,070	73,202	75,398	77,660	377,320
EMPLOYEE BENEFITS	64,000	65,920	67,898	69,935	72,033	349,978
MEALS AND ENTERTAINMENT	26,000	26,780	27,583	28,411	29,263	142,179
SUPPLIES AND CONSUMABLES	45,000	46,350	47,741	49,173	50,648	246,078
UNIFORMS & SAFETY GEARS	105,000	108,150	111,395	114,736	118,178	574,183
STAFF TRAINING	60,000	61,800	63,654	65,564	67,531	328,105
AUTO EXPENSES - DIESEL FUEL	115,000	118,450	122,004	125,664	129,434	628,867
AUTO EXPENSES - REPAIR AND MAINTENANCE	16,000	16,480	16,974	17,484	18,008	87,495
CAPITALISED TRANSPORT						-
FREIGHT EXPENSES	54,000	55,620	57,289	59,007	60,777	295,294
DUTIES AND FEES	23,000	23,690	24,401	25,133	25,887	125,773
LICENSES AND FEES	2,900	2,987	3,077	3,169	3,264	15,858
REPAIRS AND MAINTENANCE - GROUND	112,000	115,360	118,821	122,385	126,057	612,462
REPAIRS AND MAINTENANCE - BUILDING	76,000	78,280	80,628	83,047	85,539	415,599
REPAIRS AND MAINTENANCE - EQUIPMENT	75,000	77,250	79,568	81,955	84,413	410,131
OFFICE EXPENSES/STATIONARY	7,000	7,210	7,426	7,649	7,879	38,279
OFFICE SUNDRIES	21,000	21,630	22,279	22,947	23,636	114,837
MEDIA ANNOUNCEMENTS						-
RENT AND LEASE FEES	124,000	127,720	131,552	135,498	139,563	678,083
UTILITIES	10,100	10,403	10,715	11,037	11,368	55,231
TRAVEL EXPENSES	177,000	182,310	187,779	193,413	199,215	967,909
TELEPHONE AND COMMUNICATIONS	24,000	24,720	25,462	26,225	27,012	131,242
SITE SECURITY	200,000	206,000	212,180	218,545	225,102	1,093,682
COMPUTER AND EQUIPMENT CONSUMABLES	17,000	17,510	18,035	18,576	19,134	92,963
RENEWABLE EXPENSES						
OTHER NETWORK WRITE-OFFS						
TOTAL BUDGETED OPERATIONAL EXPENDITURE	4,844,316	3,840,696	3,934,617	4,031,355	4,130,996	20,171,289

Table 11: 5 year forecast - Distribution Operating Expenses	Forecast 2020/21	Forecast 2021/22	Forecast 2022/23	Forecast 2023/24	Forecast 2024/25	Forecast 2024/25	Forecast Total
OTHER COST OF SALES EXPENSES							
ENGINE / GENERATOR MAJOR MAINTENANCE							-
ENGINE / GENERATOR OTHER MAINTENANCE							
PREVENTATIVE MAINTENANCE	62,710	62,710	63,004	23,298	23,592	23,886	196,490
SAFETY AND REMEDIAL FAULTS	188,113	188,113	190,893	193,673	196,453	199,233	968,367
VEGETATION CONTROL COSTS	98,523	98,523	99,979	101,435	102,891	104,347	507,173
THIRD PARTY CONTRACTS	539,542	179,000	169,000	169,000	119,000	59,000	695,000
DIRECT LABOUR	2,025,518	2,029,234	2,012,647	2,041,687	2,067,630	2,093,573	10,244,771
CALLOUT	123,597	123,597	107,680	100,248	92,557	84,608	508,690
CAPITALISED LABOUR	- 528,146 -	- 369,702 -	- 432,822 -	- 387,736 -	- 396,753 -	- 347,803 -	1,934,816
EMPLOYER CONTRIBUTION (SUPERANNUATION)	88,025	88,025	89,326	90,627	91,927	93,228	453,133
WAGES	87,078	79,162	80,332	81,502	82,672	83,842	407,509
EMPLOYEE BENEFITS	60,844	105,844	107,408	108,973	110,537	112,101	544,863
MEALS AND ENTERTAINMENT	17,593	17,593	17,853	18,113	18,373	18,633	90,567
SUPPLIES AND CONSUMABLES	79,711	79,711	80,889	82,067	83,245	84,423	410,337
UNIFORMS & SAFETY GEARS	162,499	172,499	183,718	184,938	176,157	199,220	916,532
STAFF TRAINING	177,433	174,241	171,666	144,906	125,786	118,966	735,567
AUTO EXPENSES - DIESEL FUEL	420,564	400,834	383,332	364,859	341,657	448,392	1,939,075
AUTO EXPENSES - REPAIR AND MAINTENANCE	196,368	196,368	198,235	200,103	201,970	203,838	1,000,513
CAPITALISED TRANSPORT	- 487,937 -	- 341,556 -	- 399,871 -	- 358,217 -	- 366,548 -	- 321,325 -	1,787,517
FREIGHT EXPENSES	70,441	70,441	71,482	72,523	73,564	74,605	362,615
DUTIES AND FEES	5,075	5,075	5,150	5,225	5,300	5,375	26,125
LICENSES AND FEES	17,255	17,255	17,510	17,765	18,020	18,275	88,825
REPAIRS AND MAINTENANCE - GROUND	26,390	26,390	26,780	27,170	27,560	27,950	135,850
REPAIRS AND MAINTENANCE - BUILDING	17,323	17,323	17,579	17,835	18,091	18,347	89,173
REPAIRS AND MAINTENANCE - EQUIPMENT	21,315	21,315	21,630	21,945	22,260	22,575	109,725
OFFICE EXPENSES/STATIONARY	13,533	13,533	13,733	13,933	14,133	14,333	69,667
OFFICE SUNDRIES	9,778	9,778	9,922	10,067	10,211	10,356	50,334
MEDIA ANNOUNCEMENTS	50,073	50,073	50,813	51,553	52,293	53,033	257,767
RENT AND LEASE FEES	3,289	3,289	3,337	3,386	3,434	3,483	16,929
UTILITIES	62,930	62,930	63,860	64,790	65,720	66,650	323,950
TRAVEL EXPENSES	118,552	118,552	120,304	122,056	123,808	125,560	610,280
TELEPHONE AND COMMUNICATIONS	31,803	31,803	32,273	32,743	33,213	33,683	163,717
SITE SECURITY	10,556	10,556	10,712	10,868	11,024	11,180	54,340
COMPUTER AND EQUIPMENT CONSUMABLES	9,203	9,203	9,339	9,475	9,611	9,747	47,373
RENEWABLE EXPENSES							-
OTHER NETWORK WRITE-OFFS	- 700,000	700,000	700,000	700,000	700,000	700,000	3,500,000
TOTAL BUDGETED OPERATIONAL EXPENDITURE	3,079,552	4,451,713	4,297,697	4,340,809	4,259,390	4,453,315	21,802,923

Table 12: 5 year forecast - Retail Operating Expenses	Forecast 2020/21	Forecast 2021/22	Forecast 2022/23	Forecast 2023/24	Forecast 2025/26	Forecast Total
OTHER COST OF SALES EXPENSES						
ENGINE / GENERATOR MAJOR MAINTENANCE						
ENGINE / GENERATOR OTHER MAINTENANCE						
PREVENTATIVE MAINTENANCE						
SAFETY AND REMEDIAL FAULTS						
VEGETATION CONTROL COSTS						
THIRD PARTY CONTRACTS						
DIRECT LABOUR	540,121	540,121	540,121	540,121	540,121	2,700,605
CALLOUT						
CAPITALISED LABOUR						
EMPLOYER CONTRIBUTION (SUPERANNUATION)	40,509	40,509	40,509	40,509	40,509	202,545
WAGES	49,200	49,200	49,200	49,200	49,200	246,000
EMPLOYEE BENEFITS	32,200	32,200	32,200	32,200	32,200	161,000
MEALS AND ENTERTAINMENT	12,400	12,400	12,400	12,400	12,400	62,000
SUPPLIES AND CONSUMABLES	20,120	20,120	20,120	20,120	20,120	100,600
UNIFORMS & SAFETY GEARS						
STAFF TRAINING	20,000	20,000	20,000	20,000	20,000	100,000
AUTO EXPENSES - DIESEL FUEL	52,714	52,714	52,714	52,714	52,714	263,570
AUTO EXPENSES - REPAIR AND MAINTENANCE	24,220	24,220	24,220	24,220	24,220	121,100
CAPITALISED TRANSPORT						
FREIGHT EXPENSES	3,300	3,300	3,300	3,300	3,300	16,500
DUTIES AND FEES	5,700	5,700	5,700	5,700	5,700	28,500
LICENSES AND FEES	5,300	5,300	5,300	5,300	5,300	26,500
REPAIRS AND MAINTENANCE - GROUND	54,300	54,300	54,300	54,300	54,300	271,500
REPAIRS AND MAINTENANCE - BUILDING	5,000	5,000	5,000	5,000	5,000	25,000
REPAIRS AND MAINTENANCE - EQUIPMENT	20,000	20,000	20,000	20,000	20,000	100,000
OFFICE EXPENSES/STATIONARY	23,536	23,536	23,536	23,536	23,536	117,680
OFFICE SUNDRIES	6,480	6,480	6,480	6,480	6,480	32,400
MEDIA ANNOUNCEMENTS						
RENT AND LEASE FEES	28,638	28,638	28,638	28,638	28,638	143,190
UTILITIES	110,400	110,400	110,400	110,400	110,400	552,000
TRAVEL EXPENSES	24,000	24,000	24,000	24,000	24,000	120,000
TELEPHONE AND COMMUNICATIONS	124,800	124,800	124,800	124,800	124,800	624,000
SITE SECURITY	50,100	50,100	50,100	50,100	50,100	250,500
COMPUTER AND EQUIPMENT CONSUMABLES	797,268	797,268	797,268	797,268	797,268	3,986,340
RENEWABLE EXPENSES						
OTHER NETWORK WRITE-OFFS						
TOTAL BUDGETED OPERATIONAL EXPENDITURE	2,050,306	2,050,306	2,050,306	2,050,306	2,050,306	10,251,530

Table 13: 5 year forecast - Indirect Operating Expenses

	Forecast 2020/21	Forecast 2021/22	Forecast 2022/23	Forecast 2023/24	Forecast 2024/25	Forecast 2025/26	Forecast Total
OTHER EXPENSES							
IMPAIRMENT LOSS							
INDIRECT LABOUR	1,883,199	1,920,863	1,959,281	1,998,466	2,038,436	2,079,204	9,996,251
EMPLOYER CONTRIBUTION (SUPERANNUATION)	107,814	109,970	112,170	114,413	116,701	119,035	572,290
EMPLOYEE BENEFITS	102,000	104,040	106,121	108,243	110,408	112,616	541,428
WAGES	26,520	27,050	27,591	28,143	28,706	29,280	140,771
SUPPLIES AND CONSUMABLES	153,000	156,060	159,181	162,365	165,612	168,924	812,143
STAFF TRAINING	106,255	312,380	318,628	325,000	331,500	338,130	1,625,639
AUTO EXPENSES - DIESEL and PETROL FUEL	79,560	81,151	82,774	84,430	86,118	87,841	422,314
AUTO EXPENSES - REPAIR AND MAINTENANCE	45,900	46,818	47,754	48,709	49,684	50,677	243,643
FREIGHT EXPENSES	28,213	28,777	29,353	29,940	30,539	31,150	149,759
DUTIES AND FEES	9,241	9,426	9,615	9,807	10,003	10,203	49,053
LICENSES AND FEES	12,648	12,901	13,159	13,422	13,691	13,964	67,137
REPAIRS AND MAINTENANCE - GROUND	22,440	22,889	23,347	23,814	24,290	24,776	119,114
REPAIRS AND MAINTENANCE - BUILDING	51,000	52,020	53,060	54,122	55,204	56,308	270,714
REPAIRS AND MAINTENANCE - EQUIPMENT	6,630	6,763	6,898	7,036	7,177	7,320	35,193
MEALS AND ENTERTAINMENT	54,244	106,329	108,455	110,625	112,837	115,094	553,340
OFFICE EXPENSES/STATIONERY	42,840	43,697	44,571	45,462	46,371	47,299	227,400
OFFICE SUNDRIES	35,700	36,414	37,142	37,885	38,643	39,416	189,500
MEDIA ANNOUNCEMENT	50,260	117,565	119,917	122,315	124,761	127,256	611,814
RENT AND LEASE FEES							-
UTILITIES	51,000	52,020	53,060	54,122	55,204	56,308	270,714
TRAVEL EXPENSES	294,700	504,594	514,686	524,980	535,479	546,189	2,625,927
TELEPHONE AND COMMUNICATIONS	137,088	139,830	142,626	145,479	148,388	151,356	727,680
SITE SECURITY							-
BAD DEBTS	117,309	119,655	122,048	124,489	126,979	129,519	622,691
GIFTS EXPENSE	51,000	52,020	53,060	54,122	55,204	56,308	270,714
LEGAL AND PROFESSIONAL EXPENSE	400,474	612,483	624,733	637,228	649,972	662,972	3,187,389
DUES AND SUBSCRIPTIONS	72,400	124,848	127,345	129,892	132,490	135,139	649,714
BANK CHARGES	153,000	156,060	159,181	162,365	165,612	168,924	812,143
ELECTRICITY COMMISSION	612,000	624,240	636,725	649,459	662,448	675,697	3,248,570
SPONSORSHIP	102,000	104,040	106,121	108,243	110,408	112,616	541,428
DIRECTOR'S FEES	71,400	72,828	74,285	75,770	77,286	78,831	379,000
Board Travel & Other Expenses	102,000	104,040	106,121	108,243	110,408	112,616	541,428
COMPUTER AND EQUIPMENT CONSUMBLES	51,000	52,020	53,060	54,122	55,204	56,308	270,714
INSURANCE	1,530,000	1,560,600	1,591,812	1,623,648	1,656,121	1,689,244	8,121,425
RECRUITMENT COSTS	51,000	52,020	53,060	54,122	55,204	56,308	270,714
HSE ADMINISTRATION	42,432	43,281	44,146	45,029	45,930	46,848	225,234
RISK & COMPLIANCE	100,000	-	-	-	-	100,000	100,000
							-
TOTAL OTHER EXPENSES	6,756,268	7,569,693	7,721,087	7,875,509	8,033,019	8,293,680	39,492,988

Table 14: 5 year forecast - Generation Capital Expenditure										
Division	Island	Category	Description	Reason	Discretionary / Non Discretionary	2021/2022	2022/2023	2023/2024	2024/2025	2025/2026
Generation	Tongatapu	Growth Ancillary	EXPANSION WORK TO SCADA & SYSTEM UPGRADE	Meet Service Standards	Non-discretionary					
Generation	Tongatapu	Replacement Ancillary	MAK/CAT LOAD SHARING GOVERNING SYSTEM UPGRADE	Meet Service Standards	Non-discretionary					
Generation	Tongatapu	Growth Ancillary	NEW OFFICE SPACE FOR CENTRAL CONTROL	Meet Service Standards	Non-discretionary	200,000				
Generation	Tongatapu	Growth Ancillary	ADDITIONAL WORK UTE	Meet Service Standards	Non-discretionary	90,000				
Generation	Tongatapu	Replacement Ancillary	CRANE TRUCK REPLACEMENT	Meet Service Standards	Non-discretionary		120,000			
Generation	Tongatapu	Growth Genset	GENERATOR - PROCUREMENT AND INSTALLATION (HIGH SPEED GENERATOR)	Meet Service Standards	Non-discretionary	1,500,000			1,500,000	
Generation	Tongatapu	Replacement Genset	Engine RESET TO ZERO RUNNING HOUR ENGINE #2	Meet Service Standards	Non-discretionary			450,000		
Generation	Tongatapu	Replacement Genset	Engine RESET TO ZERO RUNNING HOUR ENGINE #4	Meet Service Standards	Non-discretionary		450,000			
Generation	Tongatapu	Replacement Genset	Engine RESET TO ZERO RUNNING HOUR ENGINE #5	Meet Service Standards	Non-discretionary		450,000			
Generation	Tongatapu	Replacement Ancillary	Engine RESET TO ZERO RUNNING HOUR ENGINE #6	Meet Service Standards	Non-discretionary		450,000			
Generation	Tongatapu	Replacement Ancillary	SEAWATER COOLING PUMP IMPROVEMENTS	Meet Service Standards	Non-discretionary	150,000				
Generation	Tongatapu	Replacement Ancillary	HEAT EXCHANGER G1 TO G6	Meet Service Standards	Non-Discretionary	188,679	188,679	188,679	188,679	
Generation	Tongatapu	Replacement Ancillary	AIR FILTERS FOR E7 & E8 (NZD25K EACH)	Meet Service Standards	Non-Discretionary	88,125				
Generation	Tongatapu	Replacement Ancillary	G1-G6 EXHAUST SILENCERS (USD25K EACH)	Meet Service Standards	Non-Discretionary	189,419	189,419			
Generation	Tongatapu	Replacement Ancillary	AIR CONDITIONING UNITS	Meet Service Standards	Discretionary		4,000		4,000	
Generation	Tongatapu	Replacement Ancillary	REPLACE CAT GE PROTECTION RELAYS AT CAT SWITCHBOARD WITH SR489	Meet Service Standards	Discretionary			83,721		
Generation	Tongatapu	Growth Ancillary	TOWN WATER TANK - UPGRADE	Meet Service Standards	Discretionary	10,000				
Generation	Tongatapu	Growth Ancillary	BULK TANK BUND WALL REWORK	Meet Service Standards	Discretionary			100,000		
Generation	Tongatapu	Growth Ancillary	BUILDING IMPROVEMENTS - NOISE REDUCTION	Meet Service Standards	Discretionary					
Generation	Tongatapu	Growth Ancillary	BUILDING IMPROVEMENT - II O MANUMATAONGO	Meet Service Standards	Discretionary	23,000				
Generation	Tongatapu	Replacement Ancillary	Overhauls of Gensets	Meet Service Standards	Discretionary	1,000,000	320,000	220,000	640,000	220,000
			TOTALS (TONGATAPU)			3,439,223	2,172,098	1,042,400	2,332,679	220,000
Generation	Vava'u	Growth Genset	GENERATOR - PROCUREMENT AND INSTALLATION (HIGH SPEED GENERATOR) 600KW	Meet Service Standards	Non-discretionary					
Generation	Vava'u	Replacement Genset	Engine RESET TO ZERO RUNNING HOUR (CUMMINS)	Meet Service Standards	Non-discretionary		100,000			
Generation	Vava'u	Replacement Ancillary	UPGRADE CUMMINS SYSTEM CONTROLLER	Meet Service Standards	Non-discretionary	200,000				
Generation	Vava'u	Growth Ancillary	EXPANSION WORK TO SCADA & SYSTEM UPGRADE Engine controllers	Meet Service Standards	Discretionary					
Generation	Vava'u	Growth Ancillary	VENTILATION FANS FOR ENGINE HALL	Meet Service Standards	Non-discretionary	20,000				
Generation	Vava'u	Replacement	VEHICLE UTE (5 YEAR REPLACEMENT)	Meet Service Standards	Discretionary	70,000			70,000	
Generation	Vava'u	Replacement Ancillary	AIR CONDITIONING UNITS	Meet Service Standards	Discretionary		2,000			
Generation	Vava'u	Replacement Ancillary	Overhauls of Gensets	Meet Service Standards	Discretionary	35,000	65,000	180,000	75,000	180,000
			TOTALS (VAVA'U)			325,000	167,000	180,000	145,000	180,000
Generation	Ha'apai	Growth Genset	GENERATOR - PROCUREMENT AND INSTALLATION (HIGH SPEED GENERATOR) 200KW	Meet Service Standards	Non-discretionary		100,000			
Generation	Ha'apai	Replacement Genset	Engine RESET TO ZERO RUNNING HOUR (CUMMINS)	Meet Service Standards	Non-discretionary					
Generation	Ha'apai	Replacement Ancillary	UPGRADE CUMMINS SYSTEM CONTROLLER	Meet Service Standards	Non-discretionary					100,000
Generation	Ha'apai	Replacement Ancillary	AIR CONDITIONING UNITS	Meet Service Standards	Discretionary			2,000		
Generation	Ha'apai	Growth - Ancillary	GENSET SHED	Meet Service Standards	Non-discretionary	250,000				
Generation	Ha'apai	Replacement Ancillary	Overhauls of Gensets	Meet Service Standards	Discretionary	50,000	30,000	50,000	30,000	30,000
			TOTALS (HA'APAI)			300,000	130,000	52,000	30,000	130,000
Generation	'Eua	Growth Genset	GENERATOR - PROCUREMENT AND INSTALLATION (HIGH SPEED GENERATOR) 200KW	Meet Service Standards	Non-discretionary		100,000			
Generation	'Eua	Replacement Genset	Engine RESET TO ZERO RUNNING HOUR (CUMMINS)	Meet Service Standards	Non-discretionary			150,000		
Generation	'Eua	Replacement Ancillary	UPGRADE CUMMINS SYSTEM CONTROLLER	Meet Service Standards	Non-discretionary			100,000		
Generation	'Eua	Replacement Ancillary	AIR CONDITIONING UNITS	Meet Service Standards	Discretionary				2,000	
Generation	'Eua	Growth - Ancillary	GENSET SHED	Meet Service Standards	Non-discretionary		250,000			
Generation	'Eua	Replacement Ancillary	Overhauls of Gensets	Meet Service Standards	Discretionary	45,000	30,000	60,000	30,000	60,000
			TOTALS ('EUA)			45,000	380,000	310,000	32,000	60,000
			GRAND TOTAL			4,109,223	2,849,098	1,584,400	2,539,679	590,000

Table 15: 5 year forecast - Distribution Capital Expenditure	Forecast 2020/21	Forecast 2021/22	Forecast 2022/23	Forecast 2023/24	Forecast 2024/25	Forecast 2025/26	Forecast Total
Distribution							
Tongatapu							
Growth	908,459	650,823	1,007,224	766,787	1,089,505	767,306	4,281,644
Submarine Cable							-
Fourth Feeder							-
Safety	426,629	300,797	393,347	293,841	300,675	700,014	1,988,674
Improvements	1,838,747	796,467	622,707	506,333	518,108	644,387	3,088,002
Meters/Smart Grid	60,000	42,000	60,000	60,000	60,000	45,000	267,000
	3,233,834	1,790,087	2,083,278	1,626,961	1,968,287	2,156,707	9,625,320
Vava'u							
Growth	150,000	155,000	114,909	117,590	149,162	150,734	687,396
Safety	113,560	79,492	-	-	-	-	79,492
Improvements	172,813	128,331	-	-	-	-	128,331
Meters/Smart Grid	35,000	24,500	25,000	20,000	20,000	-	89,500
	471,373	387,323	139,909	137,590	169,162	150,734	984,719
Eua							
Growth	50,000	45,500	50,000	50,000	55,000	55,000	255,500
Safety	20,000	4,200	6,000	6,000	6,000	6,000	28,200
Improvements	160,000	-	-	-	-	-	-
Meters/Smart Grid	20,000	14,000	10,000	10,000	10,000	-	44,000
	250,000	63,700	66,000	66,000	71,000	61,000	327,700
Ha'apai							
Growth	-	35,000	35,000	35,000	40,000	40,000	
Safety	10,000	7,000	10,000	10,000	10,000	10,000	47,000
Improvements	50,000	35,000	50,000	-	-	-	85,000
Meters/Smart Grid	20,000	14,000	10,000	10,000	10,000	-	44,000
	80,000	91,000	105,000	55,000	60,000	50,000	176,000
Sub Total Direct CAPEX	4,035,207	2,332,111	2,394,187	1,885,552	2,268,450	2,418,441	11,113,740
Capitalised Labour and Transport	1,016,083	711,258	832,692	745,954	763,301	669,128	3,722,333
Total Direct CAPEX	5,051,290	3,043,369	3,226,879	2,631,505	3,031,751	3,087,569	14,836,073
Non Direct							
Other Non Direct CAPEX (Vehicles, safety gear, buildings etc)	1,300,839	826,122	1,056,544	374,439	496,893	1,305,913	4,059,911
	1,300,839	826,122	1,056,544	374,439	496,893	1,305,913	4,059,911
Total Distribution	6,352,129	3,869,491	4,283,423	3,005,944	3,528,644	4,393,482	18,895,984

Table 16: 5 year forecast - Retail Capital Expenditure

Description	Forecast 2020/2021	Forecast 2021/22	Forecast 2022/23	Forecast 2023/24	Forecast 2024/25	Forecast 2025/26	Forecast Total
Office Furniture							
Office and Computer Equipment	1,000	0	1,000	4,000	0	1,000	6,000
Tools and Equipment	3,000	27,000	0	0	0	3,000	30,000
Vehicle	1,000	0	1,000	2,000	0	1,000	4,000
Utility, single cab, flat deck							0
Utility, double cab, flat deck	0	60,000	0	0	0	140,000	200,000
Line truck - bucket, pole lift, borer	0	0	0	0	0	0	0
Truck - 3 M/T, crane and tail lift	0	0	0	0	0	0	0
Van - 8 Seater	0	0	0	0	0	0	0
Van - 8 Seater	60,000	0	0	0	0	0	0
Building & Premises	0	100,000	0	0	0	100,000	200,000
Build/Acquire Office Building/Major Renovation	0	0	0	0	0	0	0
	120,000	100,000	0	0	0	0	100,000
Total	185,000	287,000	2,000	6,000	0	245,000	540,000

Table 17: 5 year forecast - Indirect Capital Expenditure						
Description	Forecast 2020/2021	Forecast 2021/22	Forecast 2022/23	Forecast 2023/24	Forecast 2025/26	Forecast Total
Office Furniture						
various						
Office and Computer Equipment						
various						
Tools and Equipment	60,000	60,000	60,000	60,000	60,000	300,000
IT Tools						
Vehicle						
Replacement vehicle (2 ADMIN)			50,000	0	0	120,000
Extra vehicle (Smart Meter)			50,000	0	0	50,000
Extra vehicle (SDU)		0	0	0	0	70,000
Building						
Major Upgrade to building						
Information Technology						
Softwares	0	0	0	0	0	0
Network Security/Reliability	50,000	50,000	50,000	50,000	50,000	250,000
Renewable and Other Projects						
Engineering Standards & Tools	7,200	2,560	2,048	1,638	1,638	9,523
Marketing Tools	2,000	2,040	2,081	2,122	2,122	10,488
Generation and Distribution Master Plan	20,000	0	0	0	0	0
Grid Integration studies	75,000	0	0	0	0	0
Renewable energy forecasting	20,000	0	0	0	0	0
Reserve management tool	0	0	0	0	0	0
Vava'u and 'Eua - TREP Contribution	70,000	110,000	0	0	0	110,000
Project management	240,000	40,000				
Eua HV extension		70,000				
Permitting requirement - EIA & Building	0	550,000				550,000
Vava'u and 'Eua and China Wind and 3.8 MW Wind	0	0	0	0	0	0
TREP - S01	0					
Biomass Or Another Alternative Source	0					
Heat Recovery	0					
Tidal	100,000					
Wave						
Geothermal	0					
More Solar & Wind (Customer Owned)	20,000	25,000	50,000	50,000	50,000	225,000
Combined Control Center, Comms and Comms O&M Technicians	10,000	30,000	100,000	30,000	0	190,000
Project management		30,000	50,000	30,000		
Renovations			50,000			
EV as a form of BESS		25,000	50,000	50,000	50,000	225,000
Marketing and comms		15,000	15,000	15,000	15,000	75,000
Energy Efficiency		15,000	30,000	50,000	50,000	195,000
OIREP&OIEEP		400,000	0	0	0	400,000
Legal fees		5,000				
Utilities		5,000				
Vehicle expenses		50,000				
Management		40,000				
Linesmen hours		100,000				
Vehicle fuel		50,000				
Project Management		150,000				
6MW Solar intergration						
Fibre link activities						
HV link activities						
Project commissioning ceremony						
Technical Aid consultancy						
Project management						
HV metering systems & weather monitoring systems						
Wind Farm						
NNUP TPL Contribution outside of distribution Capex		365,000	365,000	0	0	730,000
Management		40,000	40,000			
Project Office		30,000	30,000			
Linesmen hours		65,000	65,000			
Retirement fund		20,000	20,000			
Vehicle fuel		150,000	150,000			
R&M		50,000	50,000			
Utilities		10,000	10,000			
Stabilisation BESS installation		0	0			
Load shifting BESS installation		0	0			
Vava'u and Eua Solar + storage install		0	0			
China Wind 2.2MW		160,000	10,000	0	0	170,000
Project management		10,000	10,000			
Land acquisition		100,000				
Construction costs		50,000				
Wind IPP 3.8MW		100,000	779,000	424,000	0	1,303,000
Land Acquisition		100,000	100,000			
EIA			100,000			
Project Management			107,500	107,500		
Time Management			10,000	10,000		
Stationary			250	250		
Transport and R&M			1,250	1,250		
Permits			5,000	5,000		
Site Clearance			40,000	40,000		
Road Access			50,000	50,000		
Project Consultation			5,000			
Project Groundbreaking/Commissioning Ceremony			10,000	10,000		
HV Link Installation			200,000			
Fibre Link Installation			50,000			
Technical Aid Consultancy			100,000	200,000		
Tidal, geothermal, Biomass or whatever the next initiative is		100,000	100,000	100,000	100,000	500,000
GRAND TOTAL	674,200	2,009,600	1,663,129	832,761	378,761	5,363,011

Table 18
TPL : Financial Model
Ratios
Version 2.0

Description	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Average Yield	0.71	0.76	0.72	0.72	0.72	0.73	0.74	0.74	0.75	0.76
Average Cost of Production	0.87	0.87	0.87	1.04	1.09	1.01	1.03	1.05	1.08	1.13
Cost Recovery	82%	88%	83%	69%	66%	72%	71%	71%	69%	67%
Fuel component of tariff	0.34	0.33	0.31	0.28	0.38	0.39	0.40	0.41	0.42	0.44
Fuel cost + IPP Cost	0.37	0.91	0.89	1.93	2.00	2.74	2.82	2.77	2.79	2.80
Fuel cost recovery	91%	36%	34%	15%	19%	14%	14%	15%	15%	16%
Gross Profit Margin	28%	24%	23%	30%	34%	41%	40%	40%	39%	37%
Selling & Distribution Expenses to Sales	14%	12%	15%	18%	17%	17%	17%	16%	16%	14%
Administration Expenses to Sales	23%	20%	19%	19%	19%	18%	18%	18%	17%	19%
Selling & Distribution & Admin Expenses to Sales	36%	32%	34%	37%	36%	36%	35%	34%	33%	33%
Profit Margin	10%	4%	-2%	2%	6%	12%	12%	13%	14%	14%
Total Salaries	\$6,775,965	\$6,962,000	\$7,776,372	\$7,292,474	\$8,096,618	\$8,629,083	\$9,186,209	\$9,799,716	\$10,441,767	\$11,146,111
Salaries YoY										
Total Salaries over Total Revenue	15%	13%	15%	15%	15%	15%	16%	16%	16%	17%
Total Salaries over Total Expenses	13%	12%	13%	14%	14%	16%	16%	17%	17%	17%
Administration Expenses YoY	27%	-7%	-3%	-16%	10%	2%	2%	2%	3%	15%
Current Ratio	0.61	0.79	0.93	0.69	1.00	0.83	0.91	0.91	0.66	1.02
Quick Ratio	0.58	0.70	0.84	0.66	0.96	0.81	0.89	0.88	0.63	0.96
Debt Service Coverage Ratio	3.2	2.6	2.1	1.9	2.9	3.5	3.6	3.8	3.9	5.6
Debt to total assets	5%	4%	5%	5%	8%	6%	3%	-2%	-7%	4%
Debt to Equity	57%	64%	63%	62%	59%	55%	48%	41%	33%	49%
Return on fixed assets employed WDV	4%	1%	-1%	1%	2%	5%	5%	6%	7%	5%
Debtor days	12	12	12	12	12	12	12	12	12	12
Creditor days	8	6	4	9	9	9	9	9	9	9



BUSINESS PLAN

2021/22 - 2023/24

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EXECUTIVE SUMMARY

This Business Plan was developed to provide the roadmap to guide the operation of Tonga Gas Limited (TGL), a subsidiary of Tonga Power Limited (TPL) to achieve its *Corporate objectives*. The TGL aims to *maximize its full potential in terms of profitability, sustainable quality, accessibility, affordability of Liquefied Petroleum Gas (LPG) and the service it delivers to the people of Tonga*. TGL core business responsibility is to import and distribute LPG throughout the whole country. TGL has the potential and opportunity to expand its business operations into other services. TGL has focused on operational profit and is obliged to return dividend to TPL, the Parent Company.

This Business Plan covers three financial years, from 2021/2022 to 2023/2024. The focus of this three-year plan to achieve our **vision** *“To be the leading Liquefied petroleum gas distribution and related services company in the Kingdom”*. To achieve this, TGL sets its **Mission** *“To provide all customers with reliable, safe and timely supply of LPG and other services, with professional and efficient services.”* TGL will train and develop competencies across the organization to enable the company to demonstrate that we excel at what we do in the Kingdom.

The Capital Expenditure for the Financial Year 2021/2022 is expected to be TOP\$236,764. TGL is planning to fund this expense through the company’s finance and to seek fund from Donors.

In order to achieve the corporate objective of the Company, Procurement guidelines and purpose, applied to gain value for money. Achieve effectiveness (meet purpose of the procurement), efficiency (best procurement method to achieve its purpose), economy (to best use of the Company’s resources) and ethical (to prevent conflict of interests).

The number of staff is expected to maintain at 45 staff in the Financial Year (2021/22). All Vacant Posts are to be filled within this Financial year and mostly are terminal staff due to increase demands for LPG and to service the terminals efficiently. Moreover, there is also increase demand for timely provision of LPG supplies and services to the kingdom.

There will be challenges expected throughout the term of this Plan, due to the impact of Covid-19. However, TGL expects that the economy can now recover. TGL has developed strategies to put in place to mitigate Covid’s impacts on business continuity. TGL will also create an environment where it will be able to fulfil its commitments and obligations, not only to its shareholder but also to its loyal customers.

The major Goals/objectives that need to be achieved in the course of this Business Plan are stated in the Table below, with the strategies and the Key Performance Indicators.

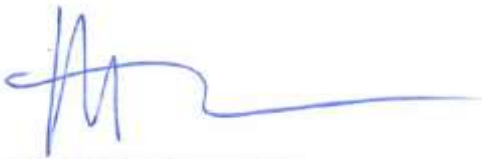
Goals/Objectives	Strategies	Key Performance Indicators
<p>1. Deliver quality, accurate and timely financial information, obligation and advices.</p>	<ul style="list-style-type: none"> • Prepare a comprehensive monthly financial report of Financial Performance, Financial Position, Cash-flow and Owner equity with accordance with IFRS, IAS. • Disclose a clear, correct, free of bias financial report. • Provide a timely financial report for effective decision making 	<ul style="list-style-type: none"> • Consistent monthly financial reports follow 100% with the IFRS and IAS. • 100% accurate of all Financial reports provided. • Unqualified external audit report • 100% compliance with due dates for financial reports
<p>2. Strengthen Financial Performance and provide return on investment</p>	<ul style="list-style-type: none"> • Maximize Revenue collection. • Optimize cost efficiency • Improve Cash Flow • Reduce Debtors turnover • Compliance with Internal control process and procedures 	<ul style="list-style-type: none"> • Monthly Actual Revenue is greater than Budget • Weekly Actual spending is less than budgeted expense • Monthly comparison of Actual EBITDA vs Budgeted EBITDA. • 10% ROE. • NPAT achieved more than 80% • Dividend of 50% on NPAT • 5% reduction in debtor turnover • 100% compliance with internal control processes
<p>3. To provide Safe, Reliable and timely LPG supplies.</p>	<ul style="list-style-type: none"> • To ensure health and safety is adequately accounted and complied with. • To ensure Reliable supplies of LPG • To provide timely LPG supplies. 	<ul style="list-style-type: none"> • Comply 100% with Health and safety practice at all gas terminals • Monthly discharge of LPG bunker. • 100% compliance with minimum level of LPG on monthly Dips • 100% compliance with regular trading hours • 100% staff attendance at every gas depot.

		<ul style="list-style-type: none"> • 100% open to public on time. • Weekly check of Agents for top up. • Refill any weight at the terminals
4. Maintenance and servicing of LPG appliances and related products	<ul style="list-style-type: none"> • Selling of efficient and reliable gas appliances and other related products • Maintenance of LPG appliances and related products. 	<ul style="list-style-type: none"> • Increase sales by 20% • At least 5 appliances serviced monthly
5. To maximize credit sales through agents	<ul style="list-style-type: none"> • Timely collection of credit sales from agents. • Increase number of agents 	<ul style="list-style-type: none"> • 80% of all customer payment terms must be within the current. • 20% within 30 days of the invoice • Increase collection of credit sales by 5% each month. • A weekly aging debtor report. • Improve revenue collection and profitability by 80%
6. Timely and accurate advice for decision makings.	<ul style="list-style-type: none"> • Provide advice to the Board on effective operation of the company • To lead, direct, monitor and evaluate the work of all divisions. • Talent management 	90% employment engagement and retention.

1.2 Financial Results:

TGL financial position will continue to be strong during the term of this Business Plan and the details of the financial projections can be seen in Section 7.

Results	2021/22	2022/23	2023/24	2024/25
Revenue	\$8,190,165	\$9,882,190	\$10,178,656	\$1,0484,016
Net Profit After Tax	586,700	651,406	691,610	733,129
Return on Equity (RoE)	10.53%	11.96%	11.30%	11.68%



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Dr. Aisake Valu Eke
Chairman, Board of Directors
Utility Sector and TGL

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SECTION 1: POLICIES AND GUIDELINES GOVERNING THE DEVELOPMENT OF THE BUSINESS PLAN

1.1 TGL Human Resources and Finance Policies

TGL operation is guided by the TGL Human Resource and Finance Policy revised version 2021 which contains the operation and administration policies, human resources and financial management of the Company.

1.2 Public Enterprises Act 2016 with Amendments:

TGL is governed by a Board of Directors, appointed by the Parent's Company's Board of Directors, Tonga Power Limited. The Board of Directors to the Tonga Power Limited were appointed by the Minister for Public Enterprises. TGL will fully comply with the requirement of the Public Enterprise Act 2016 as Amended, which states the primary objective for public enterprises is to operate as a successful business.

1.3 Obligations under the TSDF

The following outcomes from Tonga Strategic Development Framework (TSDF) were taken into consideration in the formulation of this Business Plan.

Pillar 1: Organizational Outcome 1.4: Improved public enterprise performance

- ***TSDF Organisational Outcome 1.4:*** Improved public enterprise performance to generate appropriate returns on government investment while supporting inclusive, sustainable development and the growth of businesses and communities.

Pillar 4 - Organisational Outcome 4.1: More reliable, safe and affordable energy services.

- ***TSDF Organisational Outcome 4.1:*** More reliable, safe, affordable and widely available energy services built on an appropriate mix between traditional and renewable energies

Pillar 5 - Organisational Outcome 5.3: Cleaner environment with improved waste recycling.

- ***TSDF Organisational Outcome 5.3:*** Better protects of the environment, and ensures more appropriate placement of infrastructure, so as to improve conditions for both communities and businesses.

1.4 Link to the national outcomes

TSDf Organizational Outcomes	TGL Goals / Objectives
<p>➤ <i>TSDf Organisational Outcome 1.4: <u>Improved public enterprise performance</u></i> Improved public enterprise performance to generate appropriate returns on government investment while supporting inclusive, sustainable development and the growth of businesses and communities.</p>	<ul style="list-style-type: none"> • Strengthen Financial Performance and provide return on investment
<p>➤ <i>TSDf Organisational Outcome 4.1: <u>More reliable, safe and affordable energy services.</u></i> More reliable, safe, affordable and widely available energy services built on an appropriate mix between traditional and renewable energies</p>	<ul style="list-style-type: none"> • To provide Safe, Reliable and timely LPG supplies.
<p>➤ <i>TSDf Organisational Outcome 5.3: <u>Cleaner environment with improved waste recycling.</u></i> Better protects of the environment, and ensures more appropriate placement of infrastructure, so as to improve conditions for both communities and businesses.</p>	<ul style="list-style-type: none"> • Maximise efficiency through provision of LPG with strong focus in health, safety and environmental issues

1.5 Legislation and Mandates

TGL operations are guided by the following Acts and Regulations:

- Human Resources policy and Finance policy. (Revised 2021)
- Public Enterprises Act 2016 as amended
- Companies Act 1995
- Tonga Competent Authority (TCA)
- Income Tax 2017
- Consumption Tax 2002
- National Retirement Benefits Scheme Act 2010 (as amended)
- Environmental Assessment Impact Act.

1.6 Purpose of the Subsidiary Company

1.6.1 Vision

“To be the leading Liquefied petroleum gas distribution and related services company in the kingdom”

1.6.2 Mission

“To provide all customers with reliable, safe and timely supply of LPG and other services, with professional and efficient services.”

1.6.3 Values

1. To customer - TGL values satisfactory customer services.
2. To employee - TGL values maintaining good employee relationship and respect.
3. To Shareholder – TGL values its role to provide returns on Investment
4. To the Nation – TGL values loyalty, ethical, respectful, professional, accountable and transparency.

1.6.4 CORE Business

Core Business	Detail
Terminal LPG supplies and maintenance	Provides LPG supplies, end user consultation, installation, maintenance and repairs of appliances for customers.
Operational	Maximise efficiency through provision of other LPG related products and control all customers related tasks.

Finance	Deliver quality, accurate and timely financial information, obligation and advices.
Management	Planning, executing and implementing and of Policies and budgets.

SECTION 2: PLANNING INPUTS

2.1 External Elements

2.1.1 Legal and Environmental Issues

The viability of TGL depends upon its ability to understand and compliance with the Company Act and TGL policies and procedures. TGL continues to operate in full compliance with environmental legislation. TGL has recognized environmental management as imperative for the long-term sustainable development of Tonga Gas.

TGL operates in this financial year with intension to decrease the usage of biomass and firewood by at least 10%.

TGL services are governed by legal contracts which are intended to protect the legal interest of the Company. The Company also enters into legally binding contracts for the engagement of external services and for the purchase of external goods and subject to its procurement processes.

2.1.2 Market & Competitor Issues

a. Target Market and Market Positioning

The target market is the whole Kingdom of Tonga which has a population of 100,651 at the 1996 census. The market segment is the total households in the Kingdom which is 18,198 at the 1996 census as well as tourism, hospitality and social services. These customers' main use of LPG is mostly for cooking and heating water, despite its many other applications around the world.

TGL's positioning strategies is in its product price. The TGL's competitive price is cheaper than its competitor's price per kilogram. Moreover, the product quality, use and application is another way the company positions itself in the market. The high quality

of the LPG product can be used in household appliances for comfortable cooking and heating water for washing and a soothing warm bath that even when electricity fails. Our positioning statement is: "For upscaling of Tongan families, LPG is the family's number one energy that offers maximum efficient service".

Biogas and firewood are our main competitors in terms of energy resources. Firewood is readily available and almost free of charge to the communities. In recent years, the price of firewood sold commercially has risen from \$5 per bundle to \$10 but still its standing as the TGL main competitor has remained unchanged. It will remain as such for the foreseeable future.

Although biogas helps to reduce waste, it is high cost and have adverse environmental effect. There is also need for ongoing supply of pig waste in order to harness the energy most efficiently. Another competitor who is new to the market is GoGas Ltd. GoGas is a subsidiary of Jones Industries and is an independent importer of LPG to Tonga. Its LPG market share currently stands at 3%. In order to push them out of the industry, we allow any weight of LPG to refill from our depots. LPG as a fuel substitute is in competition with diesel and petrol. And more recently battery systems on hybrid vehicles.

However, TGL is at a competitive advantage due to its ongoing reliable supply of gas to the households of Tonga throughout the year. It is convenient to use in all kinds of weather and when there is power failure, the LPG household appliances can still be used.

In developing this business plan, management has identified potential areas for future development. Business as usual still has room for improvement. Transportation and power generation have been mentioned in previous business plans and will be investigated further. There is currently a small number of vehicles running on LPG. But as noted above, its impact is inconsequential. On the other hand, LPG for power generation has not been established as yet.

2.1.3 Marketing Strategies

(i) Marketing Key Objectives

1. Increase market share to push out the current minor competitor.
2. Improve financial performance at least 10%
3. Build a Social Media Presence, advertise
4. The publicity stunt (word of mouth)

5. Revive the Company Facebook.

(ii) Competition

TGL competitors are summarised in the table below:

TGL	Competitors	
Goods and Services	Go-Gas	Stores
LPG supplier	LPG Supplier	
Other LPG products/appliances		Sells LPG product parts.
Repair Services to LPG Appliances		

(iii) Competitive Edge

TGL is the only provider of LPG supplies that reach to all islands in Tonga including the two Niuas. Here are some of its competitive advantages:

a) Irresistible Offers

Creating a good offer for Agent Commission will promote more LPG reselling agents.

b) Customer Service Excellence

Good Customer service is the responsibility of everyone at TGL. Maximising the lifetime investment of each customer in view of the vital goal to get customers back to TGL again and again.

c) Unique Selling Proposition

Creating the point of difference that sets TGL apart from its competitors gives us the competitive advantage and makes certain customers know exactly what we have to offer that the other Companies do not have. TGL can refill any amount of LPG demanded and afford by Customers.

d) Branding strategy

TGL's brand consistency is a key driver. In the upcoming Financial Year TGL marketing team will continue to regularly populate all social media in responding and interacting with the community. It's all about building trust in the community on our products and services.

e) Optimize Social Media for online marketing via Facebook page

Aims to be clear and functional as possible with clear messaging and easily found information, to ensure TGL's Facebook is reaching its full potential.

2.2 Internal Elements

2.2.1 People Issues - Tonga Gas Limited staff by Departments as at June 2021

<i>Department</i>	<i>Office GM</i>	<i>Terminal Division</i>	<i>Finance Division</i>	<i>Operation Division</i>	<i>Vavaú</i>	<i>Haápai</i>	<i>Eua</i>	<i>Total Staff</i>
<i>Total Number of Staff</i>	2	21	5	8	8	1	1	46

2.2.2 Physical Assets/Equipment Issues

- TGL has been facing a major problem with its shortage capacity of LPG tanks for storage purposes. TGL hire another 2 x 10 tonnes ISO tanks from Fiji Gas to increase the safety level for back up storage for unforeseen circumstances, vessel delay and adverse weather conditions. Future planning for a Project proposal for an 80 Metric ton to replace the 8x10 metric ton.

2.2.3 Company Structure and Other Resources

There are only 3 major divisions within TGL, namely, Terminal, Operation and Finance. The General Manager (GM) is in charge of the overall operation of the company, and assist with the Human resources and Administration division.

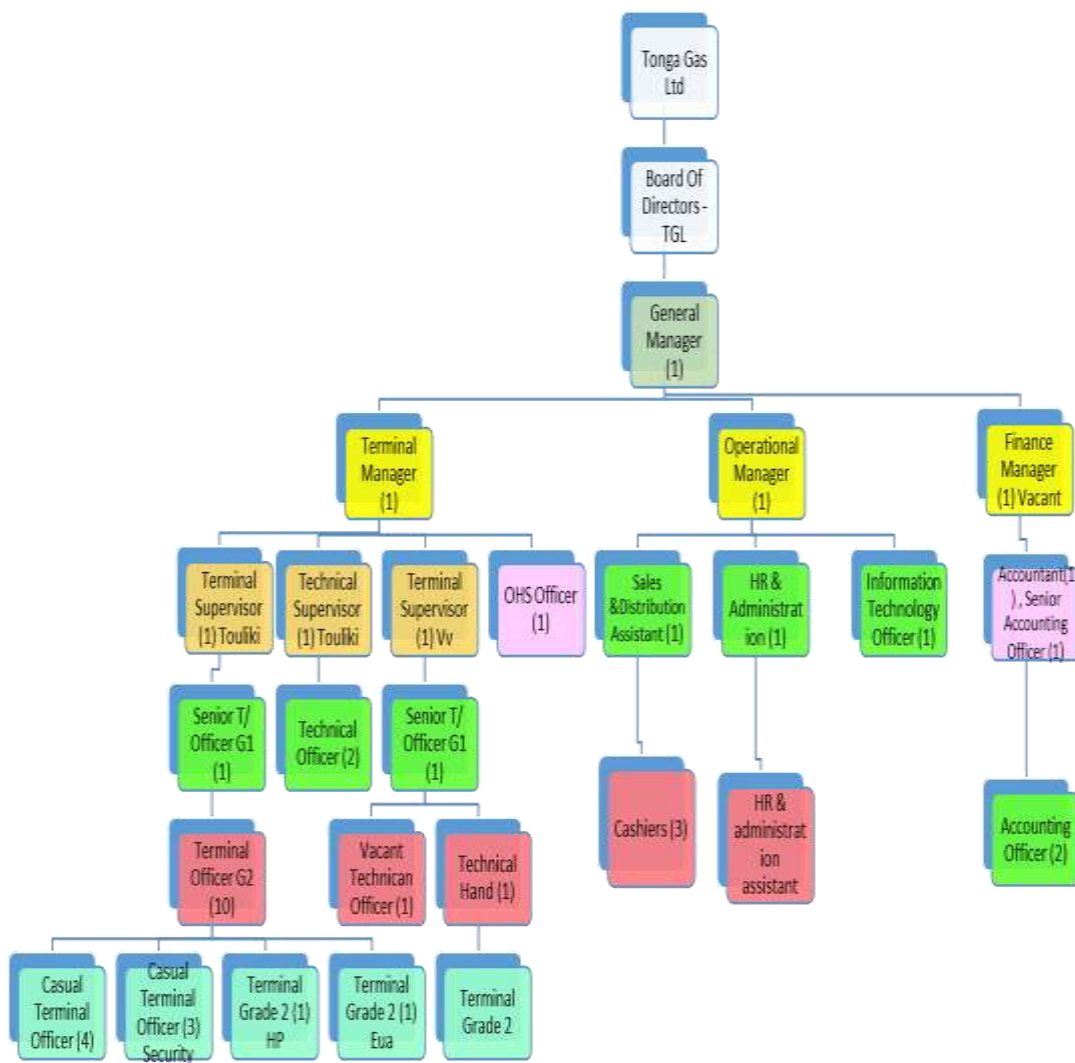
The Human Resource and Administration division is responsible for the administrative work, human resource development and management, professional development plan and capacity building programmes for all staff.

The Terminal Manager is responsible to the technical and the terminal support which operate and work together with the Technical supervisor, Terminal Supervisor and it staffs to implement safe services at the gas terminals.

The Financial Manger is in charge of the Account and Finance. Accountant and other Accounting Officers will also assist in the Management and Financial Accounting of the Company.

The Operation Manager and the Finance Manager is responsible for developing the marketing plan of the Company, and strategies to improve debt collections.

2.2.4 Organizational structure of the company



2.3 Summary and SWOT¹ Analysis

Strengths	Weaknesses
<ul style="list-style-type: none"> • Dominate market share on the LPG Industry. • LPG is a clean, low carbon alternative energy • Being a member of the Utility Group of companies and its ties to Tonga Power Ltd • Well-known brand name with years in service • Back up reserve ISO tanks to maintain reliable service • allow to refill different weight. • Strong focus in health, safety and environmental issues • Vast growing network of reselling agents • Strong and complete management team 	<ul style="list-style-type: none"> • Competitive biogas price (firewood and pig manure) • lowers LPG sales during fine weather • The weakness is lack of maintenance or lack of fund to purchase new equipment • Lack of effective internal communications • Poor employee attitude, lack of good work relationships and complacency • Lack of effective succession planning • Lack of effective Debt Management • Merger of TGL and HGL into one entity not yet finalized.
Opportunities	Threats
<ul style="list-style-type: none"> • LPG power generation, combined heat and power application (CHP). • Increase storage capacity at Touliki terminal • Substitute the 8 ISO tanks with one bullet 80 mt tank. • Expansion in terminal locations • Autogas or LPG for vehicles which is more environmentally friendly 	<ul style="list-style-type: none"> • Vulnerable to LPG price movement • High LPG landed price due to high freight costs • Government regulated LPG price • Possible explosion if the mixture of LPG and air is within the explosive limits and there is an ignition source • Suffocation due to LPG displacing air, causing a decrease in oxygen concentration

¹ Business Strengths, Weaknesses, Opportunities and Threats

<ul style="list-style-type: none">• Increase number of Gas stations, one for the East and one for the West.• Penetrate in the LPG market with different product and services. (Market penetration)• Extend service time to customers	<ul style="list-style-type: none">• Improper storage at the end customer's home• Rapid changes in technology• Slow growth in economy• Fraudulent activities• Weak enforcement of legislation and policies• Unsafe practices• PG power generation, combined heat and power application (CHP).• Minor Competitor is in the Market• Product substitution which use electricity.
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2.4 Specific Challenges and Focus of Planning Period

The SWOT Analysis had identified following key weaknesses and mitigations that need to be addressed in this Plan. The end results will not only be the bottom line but also high quality of service, exceptional customer experience, successful capacity building and the projects are completed on time and within budget.

Weaknesses:	Mitigations:
•	
• Deteriorating of Property Plant and Equipment	Cover from remaining budget 2020/2021 and include budget maintenances in 2021/2022
• Poor marketing service	Engage in social networks, by reviving TGL Face Book page and Marketing through Radio and TV programmes.
• Poor customer service (lack of attention for customer needs)	Training in Customer Services Attend to customer complaints straight away with no delay.
• Lack of effective internal communications	One-on-One meeting is vital to identify the problem and provide adequate solution. Professional development on workplace communications
• Poor employee attitude, lack of good work relationships and complacency	Weekly Divisional Meeting and a monthly meeting for all staff. Performance Management System for rewarding of employees Create a spiritual, happy and enjoyable working environment with social functions.
• Poor succession planning	Cross-training employees so that they develop skills, company knowledge, and a holistic understanding of the company.

• Poor Billing system and Debt Management	Establishing of QuickBooks software. Training of staff to use the Quick Book effectively and efficiently.
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SECTION 3: STRATEGIES/ACTIONS TO ACHIEVE OBJECTIVES

3.1 Key Strategies

Goals/Objectives	Strategies	Key Performance Indicators
1. Deliver quality, accurate and timely financial information, obligation and advices.	<ul style="list-style-type: none"> • Prepare a comprehensive monthly financial report of Financial Performance, Financial Position, Cash-flow and Owner equity with accordance with IFRS, IAS. • Disclose a clear, correct, free of bias financial report. • Provide a timely financial report for effective decision making 	<ul style="list-style-type: none"> • Consistent monthly financial reports follow 100% with the IFRS and IAS. • 100% accurate of all Financial reports provided. • Unqualified external audit report • 100% compliance with due dates for financial reports
2. Strengthen Financial Performance and provide return on investment	<ul style="list-style-type: none"> • Maximize Revenue collection. • Optimize cost efficiency • Improve Cash Flow • Reduce Debtors turnover • Compliance with Internal control process and procedures 	<ul style="list-style-type: none"> • Monthly Actual Revenue is greater than Budget • Weekly Actual spending is less than budgeted expense • Monthly comparison of Actual EBITDA vs Budgeted EBITDA. • 10% ROE. • NPAT achieved more than 80% • Dividend of 50% on NPAT • 5% reduction in debtor turnover • 100% compliance with internal control processes
3. To provide Safe, Reliable and timely LPG supplies.	<ul style="list-style-type: none"> • To ensure health and safety is adequately accounted and complied with. • To ensure Reliable supplies of LPG • To provide timely LPG supplies. 	<ul style="list-style-type: none"> • Comply 100% with Health and safety practice at all gas terminals • Monthly discharge of LPG bunker. • 100% compliance with minimum level of LPG on monthly Dips • 100% compliance with regular trading hours

		<ul style="list-style-type: none"> • 100% staff attendance at every gas depot. • 100% open to public on time. • Weekly check of Agents for top up. • Refill any weight at the terminals
4. Maintenance and servicing of LPG appliances and related products	<ul style="list-style-type: none"> • Selling of efficient and reliable gas appliances and other related products • Maintenance of LPG appliances and related products. 	<ul style="list-style-type: none"> • Increase sales by 20% • At least 5 appliances serviced monthly
5. To maximize credit sales through agents	<ul style="list-style-type: none"> • Timely collection of credit sales from agents. • Increase number of agents 	<ul style="list-style-type: none"> • 80% of all customer payment terms must be within the current. • 20% within 30 days of the invoice • Increase collection of credit sales by 5% each month. • A weekly aging debtor report. • Improve revenue collection and profitability by 80%
6. Timely and accurate advice for decision makings.	<ol style="list-style-type: none"> 1. Provide advice to the Board on effective operation of the company 2. To lead, direct, monitor and evaluate the work of all divisions. 3. Talent management 	90% employment engagement and retention.

3.2 Other aspects of the business that contribute to earnings.

The roles of the Internal Audit, in the Finance Division are very crucial to the operations of the company in terms of ensuring that policies, processes and procedures are being followed by all the staff. In fact, it will help to prevent fraud and the misuse of the company's fund and assets which will have an impact on the company's overall profit.

The importance of regularly reviewing, monthly, by the management and Board of Directors of the company's financial accounts and operations will allow them to promptly identify any issues or problems and make timely interventions, if necessary. This will help the company to achieve its goals as well as its targeted earnings.

TGL continues to improve and develop its internal business systems such as migrating to Quick Books accounting systems to properly manage the TGL finance and provide a true and fair view financial reports. It continues to use the electronic fingerprint scanning for about 3 years now for both the Touliki and Matatoa terminal, while the main office is still using the register sign in book. TGL had also continued to monitor the implementation of internal systems of control to prevent revenue leakages in unaccounted loss of LPG through establishing of more effective internal controls and proper documenting processes to keep track of official records.

SECTION 4: PERFORMANCE MEASURES

4.1 Key Performance Indicators

Key Performance Indicators	Measure	When		
		2021/22	2022/23	2023/24
Total Revenue	Greater than or equal to Budget	√	√	√
Total Expenditure	5% lower than Budget	√	√	√
Net Profit After Tax	Greater than or equal to Budget	√	√	√
Cash and cash equivalents	Greater than TOP1.00	√	√	√
Return on Equity	Greater than or equal to	8%	10%	12%
Equity ratio	Greater than or equal to 55%	√	√	√
Debt ratio	Not more than 45%	√	√	√
Average Debtor Days	Less than or equal to	14 days	7 days	7 days
Planned projects to be completed.	Greater than or equal	50%	70%	90%
Staff overall appraisal mark	% of Staff greater than	75%	80%	100%
Customer Satisfaction	Greater than or equal to	90%	95%	100%
Quarterly Reports to be submitted	Before the end of every quarter	√	√	√
Half Yearly Report to be submitted	Before the end of February	√	√	√
Annual Report to be submitted	Before December	√	√	√

SECTION 5: STATEMENT OF COMPLIANCE(S)

5.1 Compliance with relevant Government Policies

TGL will continue to honour its obligations to the Shareholder and also comply with relevant Government policies.

5.2 Support from Government and / or Development Partners and details of contracts

Obligations and financial impact on business

5.3 Financial capacity in regard to external borrowings and dividends.

TGL will try to meet its obligations in relation to the Government of Tonga expectation.

The Dividend policy for the financial year will be according to the requirements of the Shareholder.

SECTION 6: FINANCIAL FORECASTS

TONGA GAS GROUP STATEMENT OF FINANCIAL PERFORMANCE	Current Yr Fest 2020-21	Yr-1 Budget 2021-22	Yr-2 Fest 2022-23	Yr-3 Fest 2023-24	Yr-4 Fest 2024-25
<i>Tonnes Sold</i>	2,474	2,521	2,597	2,675	2,755
Gas revenue	9,429,669	9,545,880	9,832,256	10,127,224	10,431,040
Shop revenue	42,498	48,480	49,934	51,432	52,975
Revenue	9,472,167	9,594,360	9,882,190	10,178,656	10,484,016
Cash sales	4,830,922	4,817,021	4,961,531	5,110,377	5,263,688
Credit sales	4,641,245	4,773,859	4,917,075	5,064,587	5,216,525
	9,472,167	9,590,880	9,878,606	10,174,964	10,480,213
Gas cost of sales	6,599,639	6,488,492	6,683,147	6,883,641	7,090,150
Shop cost of sales	26,561	31,500	32,445	33,418	34,421
Cost of Sales	6,626,200	6,519,992	6,715,592	6,917,060	7,124,571
Gross profit	2,845,967	3,074,368	3,166,599	3,261,596	3,359,444
<i>Gross margin</i>	30.05%	32.04%	32.04%	32.04%	32.04%
Other income	0				
Total income	2,845,967	3,074,368	3,166,599	3,261,596	3,359,444
Salaries, wages & oncosts	800,110	854,177	879,802	906,196	933,382
Directors fees & expenses	141,199	142,611	146,889	151,296	155,835
Rent	18,173	18,000	18,540	19,096	19,669
Selling & distribution	74,443	77,049	79,360	81,741	84,193
Travel	6,554	10,000	10,300	10,609	10,927
Repairs & maintenance	113,294	179,329	184,709	190,250	195,957
Fuel	35,501	36,744	37,846	38,981	40,151
Other expenses	425,727	463,130	477,024	491,334	506,074
Operating expenses	1,615,001	1,781,039	1,834,470	1,889,504	1,946,189
EBITDA	1,230,966	1,293,329	1,332,129	1,372,093	1,413,255
Depreciation - TGL ROU assets	31,786	31,786	31,786	31,786	31,786
Depreciation - HGL ROU assets	5,895	5,895	5,895	5,895	5,895
Amortisation - TGL	65,016	0	0	0	0
Depreciation expense - HGL	14,136	14,136	14,136	14,136	14,136
Depreciation expense -TGL	336,065	333,691	333,691	333,691	333,691
Total Depreciation	452,898	385,508	385,508	385,508	385,508
EBIT/ Operating profit	778,068	907,821	946,620	986,584	1,027,747
Interest expense - TGL lease liabilities	(36,093)	(36,093)	(36,093)	(36,093)	(36,093)
Interest expense - HGL lease liabilities	(12,462)	(12,462)	(12,462)	(12,462)	(12,462)
Interest income	6,457	6,219	6,219	6,219	6,219
Bank loan interest	(61,444)	(48,850)	(35,743)	(22,102)	(7,905)
Total interest expenses	(103,542)	(91,186)	(78,079)	(64,438)	(50,241)
PROFIT BEFORE TAX	674,526	816,634	868,541	922,146	977,506
<i>Profit before tax as a % of Revenue</i>	7.12%	8.51%	8.79%	9.06%	9.32%
Tax expense	168,631	204,159	217,135	230,537	244,376
PROFIT AFTER TAX	505,894	612,476	651,406	691,610	733,129

TONGA GAS GROUP STATEMENT OF FINANCIAL POSITION	Current Yr Fest 2020-21	Yr-1 Budget 2021-22	Yr-2 Fest 2022-23	Yr-3 Fest 2023-24	Yr-4 Fest 2024-25
Current assets					
Cash and cash equivalents	688,066	797,116	1,054,974	1,131,149	685,427
Held-to-maturity investments	426,991	433,210	439,429	445,648	451,867
Related party receivable from TGL	42,320	42,320	42,320	42,320	42,320
Trade & other receivables	114,442	119,346	122,927	126,615	130,413
Prepayments	17,500	17,500	17,500	17,500	17,500
Inventories	669,820	669,820	689,915	710,612	731,930
Total current assets	1,959,139	2,079,313	2,367,065	2,473,845	2,059,457
Current liabilities					
Trade & other payables	749,970	740,708	762,929	785,817	809,391
Related party payable to HGL	42,322	42,322	42,322	42,322	42,322
Related party payable to TPL	374,859	389,259	400,937	412,965	425,354
ANZ Term Loan	321,711	334,818	348,459	362,655	0
Lease liability - TGL	18,416	18,416	18,416	18,416	18,416
Lease liability - HGL	1,911	1,911	1,911	1,911	1,911
Current tax liability - TGL	168,631	204,159	217,135	230,537	244,376
Current tax liability - HGL	-	0	0	0	0
Employee entitlements	26,000	26,000	26,780	27,583	28,411
Total current liabilities	1,703,820	1,757,592	1,818,889	1,882,206	1,570,181
Working capital	255,319	321,721	548,176	591,639	489,276
Non current assets					
Property plant & equipment					
HGL Opening fixed assets carrying amount	806,055	791,919	777,783	763,647	749,511
Current year capital expenditure	0				
Current year depreciation	(14,136)	(14,136)	(14,136)	(14,136)	(14,136)
HGL Closing fixed assets carrying amount	791,919	777,783	763,647	749,511	735,375
TGL Opening fixed assets carrying amount	2,366,611	2,130,546	2,033,619	2,125,927	2,103,236
Current year capital expenditure	100,000	236,764	426,000	311,000	861,000
Current year depreciation	(336,065)	(333,691)	(333,691)	(333,691)	(333,691)
TGL Closing fixed assets carrying amount	2,130,546	2,033,619	2,125,927	2,103,236	2,630,545
Advances to related party	2,538,007	2,898,007	2,934,007	3,294,007	3,654,007
Right-of-use-assets					
HGL opening fixed asset net carrying amount	305,662	299,767	293,872	287,977	282,082
Current years depreciation	(5,895)	(5,895)	(5,895)	(5,895)	(5,895)

HGL Closing ROU net asset value	299,767	293,872	287,977	282,082	276,187
TGL opening fixed asset net carrying amount	870,528	838,742	806,956	775,170	743,384
Current years depreciation	(31,786)	(31,786)	(31,786)	(31,786)	(31,786)
TGL Closing ROU net asset value	838,742	806,956	775,170	743,384	711,598
Intangible assets					
Opening carrying amount	65,015	0	0	0	0
Current year acquisition	1				
Current year amortisation	(65,016)				
Closing carrying amount	0	0	0	0	0
Deferred tax asset	0	0	0	0	0
Total non-current assets	6,598,981	6,810,237	6,886,728	7,172,220	8,007,712
Non current liabilities					
ANZ Term loan	1,045,932	711,114	362,655	0	
Lease liability - HGL	305,897	305,897	305,897	305,897	305,897
Lease liability - TGL	847,775	847,775	847,775	847,775	847,775
Deferred tax liabilities	145,078	145,078	145,078	145,078	145,078
Total non-current liabilities	2,344,682	2,009,864	1,661,405	1,298,750	1,298,750
Net assets	4,509,617	5,122,093	5,773,499	6,465,109	7,198,238
Capital & reserves					
HGL Capital	130,100	130,100	130,100	130,100	130,100
TGL Capital	462,163	462,163	462,163	462,163	462,163
HGL Retained earnings					
Opening retained earnings	713,673	713,673	713,673	713,673	713,673
Current year net profit after tax	0				
Dividend	0				
HGL Closing retained earnings	713,673	713,673	713,673	713,673	713,673
TGL Retained earnings					
Opening retained earnings	2,697,787	3,764,747	3,816,157	4,467,563	5,159,173
Current year net profit after tax	505,894	51,410	651,406	691,610	733,129
Dividend	0				
Closing retained earnings	3,203,681	3,816,157	4,467,563	5,159,173	5,892,302
Shareholders' equity	4,509,617	5,122,093	5,773,499	6,465,109	7,198,238

TONGA GAS GROUP	Current Yr Fcst	Yr-1 Budget	Yr-2 Fcst	Yr-3 Fcst	Yr-4 Fcst	Yr-5 Fcst
STATEMENT OF CASH FLOWS	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26
EBIT	778,068	907,821	946,620	986,584	1,027,747	1,070,145
Tax on EBIT	(194,517)	(226,955)	(236,655)	(246,646)	(256,937)	(267,536)
NOPAT	583,551	680,865	709,965	739,938	770,810	802,609
Changes in operating working capital	(111,467)	(14,167)	(674)	(694)	(715)	(736)
Capex	(100,000)	(236,764)	(426,000)	(311,000)	(861,000)	(111,000)
Depreciation & amortisation expense	452,898	385,508	385,508	385,508	385,508	385,508
Free cash Flow	824,982	815,443	668,800	813,753	294,604	1,076,381
Financing cash flow						
Tax paid on prior year tax payable	(78,328)	(168,631)	(204,159)	(217,135)	(230,537)	(244,376)
Tax deferred on current year tax payable	168,631	204,159	217,135	230,537	244,376	256,952
Increase in term deposit	(8,372)	(6,219)	(6,219)	(6,219)	(6,219)	(6,219)
Borrowing repayments	(329,444)	(321,711)	(334,818)	(348,459)	(362,655)	0
Interest expense (after tax)	(77,657)	(68,390)	(58,559)	(48,329)	(37,681)	(31,752)
Changes in TPL intercompany accounts	(297,678)	(345,600)	(24,322)	(347,972)	(347,611)	(347,239)
Total financing cash flows	(622,847)	(706,392)	(410,942)	(737,577)	(740,327)	(372,635)
Current year change in cash	202,135	109,050	257,858	76,175	(445,723)	703,746
Cash brought forward	485,932	688,067	797,117	1,054,975	1,131,150	685,428
Cash carried forward	688,067	797,117	1,054,975	1,131,150	685,428	1,389,174

7.1.5 CAPEX

Capital Equipment	\$T Cost
1. New Cylinders (13kg and 9kg) (High)	67,764
2. Annual Inspection (High)	9,000
3. Extension of Matatoa LPG dispensing unit (Low)	30,000
4. Increase Agents Equipment due to increase demand (Low)	85,000
5. Fixtures & Fittings for Repairs and Maintenance (Low)	45,000
TOTAL	\$236,764



TONGA POWER LIMITED AND TONGA GAS LIMITED

Consolidated Financial Statements

Consolidated : Table 19
Profit and Loss Account (TOP '000s)
Version 2.0

Year Ended 30 June	Projected				
	2022	2023	2024	2025	2026
ELECTRICITY OPERATIONS					
Regulated Revenue	52,851	54,787	57,139	59,607	62,197
Non- regulated Revenue	1,650	1,680	1,722	1,767	1,814
Gas Revenue	9,546	9,832	10,127	10,431	10,744
Cost of Sales					
Fuel Cost	21,074	19,334	20,809	22,380	24,055
Power Purchase Cost	3,657	3,172	3,319	3,172	3,172
Gas Cost	6,488	6,683	6,884	7,090	7,303
Salaries	5,500	5,862	6,240	6,657	7,093
Maintenance	1,214	1,223	1,192	1,202	1,211
Depreciation - Generation	1,561	1,592	1,624	1,656	1,689
Third Party Costs	179	169	169	119	59
Other	2,657	2,234	2,024	1,664	1,572
	42,330	40,268	42,261	43,940	46,155
Gross Profit from electricity operations	21,717	26,031	26,728	27,865	28,599
Other Income	6,506	7,050	7,611	8,192	8,791
Selling & Distribution Expenses					
Depreciation - distribution network	8,473	8,643	8,816	8,992	9,172
Repairs & Maintenance	700	700	700	700	700
Other	127	130	133	136	140
	9,301	9,473	9,649	9,829	10,012
Administrative & Other Expenses					
Salaries	3,531	3,730	3,937	4,164	4,400
Depreciation & Amortization	2,679	3,118	3,566	4,022	4,488
Electricity Commission fees	624	637	649	662	676
Legal & Professional Fees	612	625	637	650	663
Other	3,634	3,587	3,534	3,466	3,491
	11,080	11,696	12,324	12,964	13,718
Operating Profit from electricity operations	7,842	11,912	12,366	13,264	13,660
Finance Income	47	54	62	70	78
Finance Cost	(1,785)	(1,905)	(2,014)	(2,111)	(2,202)
Profit before tax from electricity operations	6,103	10,060	10,414	11,223	11,537
Income Tax	(1,526)	(2,515)	(2,604)	(2,806)	(2,884)
PROFIT AFTER TAX - UTILITY OPERATIONS	4,577	7,545	7,811	8,417	8,653

**Table 20: Consolidated
Balance Sheet (TOP '000s)
Version 2.0**

As at 30 June	Projected				
	2022	2023	2024	2025	2026
CURRENT ASSETS					
Cash and Cash Equivalents	1,265	1,628	2,775	2,163	(1,812)
Trade & Other Receivables	8,088	8,132	8,227	8,287	8,355
Inventories	1,124	1,082	1,125	1,165	1,203
Held to maturity financial asset	767	773	780	786	792
Current Tax Asset	1,305	1,305	1,305	1,305	1,305
Donor Reserve Funds					
	12,549	12,920	14,211	13,705	9,842
NON CURRENT ASSETS					
Intangible Assets and Goodwill	64	-	-	-	-
Property, Plant & Equipment	145,341	141,657	134,238	128,231	125,256
Held to maturity financial asset	-	-	-	-	-
Investment in Subsidiary					
Rights-of-use Assets	2,724	3,787	4,813	5,801	6,751
Deferred Tax Asset	528	528	528	528	528
	148,658	145,973	139,579	134,560	132,535
TOTAL ASSETS	161,207	158,893	153,790	148,265	142,377
CURRENT LIABILITIES					
Bank Overdraft					
Trade & Other Payables	4,299	4,341	4,406	4,456	4,510
Employee Entitlements	917	917	918	919	920
Deferred Income / Donated Assets	3,457	3,457	3,457	3,457	3,457
Borrowings	3,206	3,220	3,234	2,871	2,871
Financial Instruments					
Provision for Dividend	3,433	5,659	5,858	6,313	6,489
Lease Liabilities	54	74	95	115	135
Tax	1,526	2,515	2,604	2,806	2,884
	16,891	20,183	20,571	20,936	21,266
NON CURRENT LIABILITIES					
Deferred Tax Liability	8,060	(2,016)	(12,228)	(23,809)	(35,952)
Deferred Income / Donated Assets	45,056	41,600	38,143	34,687	31,230
Lease Liabilities	2,770	3,923	5,077	6,231	7,384
Borrowings	21,614	21,266	20,903	20,903	20,903
	77,500	64,773	51,895	38,012	23,566
TOTAL LIABILITIES	94,391	84,956	72,466	58,948	44,832
EQUITY					
Share Capital	33,784	33,784	33,784	33,784	33,784
Asset Revaluation Reserve	9,098	8,674	8,250	7,826	7,402
Retained Earnings	23,934	31,480	39,290	47,707	56,360
	66,816	73,937	81,324	89,317	97,546
	161,207	158,893	153,790	148,265	142,377

**Table 21: Consolidated Cashflow Statement (TOP'000s)
Version 2.0**

Year Ended 30 June	Projected				
	2022	2023	2024	2025	2026
Cashflows from Operating Activities:					
Receipt from Customers	55,142	57,096	59,615	61,675	65,120
Payments to Suppliers and Employees	(40,163)	(37,275)	(39,020)	(40,778)	(43,005)
Income Tax Paid	(514)	(1,710)	(2,712)	(2,813)	(3,028)
Interest Received	25	25	25	26	26
Interest Paid	(1,854)	(1,964)	(2,062)	(2,149)	(2,233)
	12,635	16,172	15,846	15,961	16,879
Cashflow from investment activities					
Acquisition of Plant, Property & Equipment	(10,512)	(9,224)	(5,740)	(7,408)	(10,702)
Investment held to maturity	(6)	(6)	(6)	(6)	(6)
Donor Funds Received					
Proceeds from sale of equipment					
Acquisition of Subsidiary					
Funds set aside to replace donor funded assets					
Acquisition of Intangibles					
Dividends Received					
Loan to Waste Authority Limited / Loan to subsidiary					
Contribution to TVNUP Project					
	(10,518)	(9,230)	(5,746)	(7,414)	(10,709)
Cashflow from financing activities					
Proceeds from borrowings	2,000				
Repayment of borrowings	(4,113)	(3,791)	(4,115)	(4,115)	(4,114)
Grants received		-	-	-	-
Payment of lease liabilities	(53)	(73)	(93)	(113)	(134)
Dividends paid	(777)	(3,433)	(5,659)	(5,858)	(6,313)
	(2,942)	(7,297)	(9,867)	(10,086)	(10,561)
Net Change in Cash and Cash Equivalents	(826)	(355)	232	(1,539)	(4,391)
Effect on Exchange rate movements on cash held					
Cash and Cash Equivalents at the beginning of Year	2,091	1,984	2,543	3,702	2,579
Cash and Cash Equivalents at the End of Year	1,265	1,628	2,775	2,163	(1,812)