



2020 Business Plan

The year of delivery



Powering the sustainable
development for our Kingdom

Executive Summary

It is with great servility that Tonga Power Limited (TPL) presents the 2020 Business Plan recognized as “The Year of Delivery” in powering the sustainable development for our Kingdom and moving towards 50% Renewable Energy penetration. 2020 represents 12 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 profile of more than 25,000.

TPL’s Constitutional structure was promulgated under the Public Enterprises Act 2010, Regulated under a Concessions Contract whereby the Electricity Act 2007 established the Tonga Electricity Commission as the Independent Government Entity, Electricity Regulator.

“The Year of Delivery” encapsulates the Ministry of Public Enterprises expectations of TPL’s operation, focusing on “service delivery” while continuing to meet and improve its financial performance. The embodiment of TPL’s 2020 Business Plan, has incorporated the Tonga Strategic Development Framework II (TSDFI) National Objectives in order to achieve the Kingdoms Sustainable Development Goals (SDG).

Electricity provision is a **Critical Essential Service** which has a profound impact across All 7 National Objectives under the TSDFI. TPL has built in the TSDFI Pillar 4 “Infrastructure and Technology Inputs” Organizational Outcome 4.1 relating to a more reliable, safe, affordable and widely available energy services built on an appropriate energy mix moving towards increased use of renewable energy. TPL aligns more closely with objectives 5 & 6 of the TSDFI:

- A more inclusive, sustainable and successful provision and maintenance of infrastructure and technology
- A more inclusive, sustainable and effective land administration, environment management, and resilience to climate and risk

Since the Tonga Energy Road Map (TERM) 2010, TPL with the assistance of Development Partners has made substantial improvements to the Distribution and Renewable Energy Generation infrastructure and the Business plan means TPL will be better prepared to provide adequate reliability and resilience beyond 2020 whereby tackling Climate Change and Disaster Risk Management are integral factors in shaping a better future. Ongoing projects will ensure the reliability of TPL’s infrastructure, continues with enabling technologies such as Battery Energy Storage, meaning the electricity network will operate differently in the future as we move towards a more renewable energy dependence.

Energy efficiency will also continue to play its part in shaping the overall electricity demand in a variety of ways which TPL will continue to work closely with various stakeholders such as the Energy Department of MEIDEC and also the Pacific Center for Renewable Energy and Energy Efficiency (PCREEE). Many new technologies are expected to reduce consumption, however in the near future, this may be partially offset by the uptake of electric vehicles. This uptake could be rapid due to associated benefits such as emission reductions and lower running cost, but must be managed in a phased manner. TPL’s continued growth is reflected in projected increases in the four main island electricity demand, however, the Covid-19 Pandemic and subsequent Financial Recession, creates a degree of uncertainty about future electricity consumption.

In order to be better prepared for the ensuing changes in the midst of such unprecedented times, the Tonga Renewable Energy Project with the Network Upgrade Projects are integral in the Business Plan to overcome the current difficulties and to rebound quickly by Building Back Better while at the same time continue to advance Tonga’s energy transition into Renewable Energy dependence, while achieving more inclusive and sustainable development growth.

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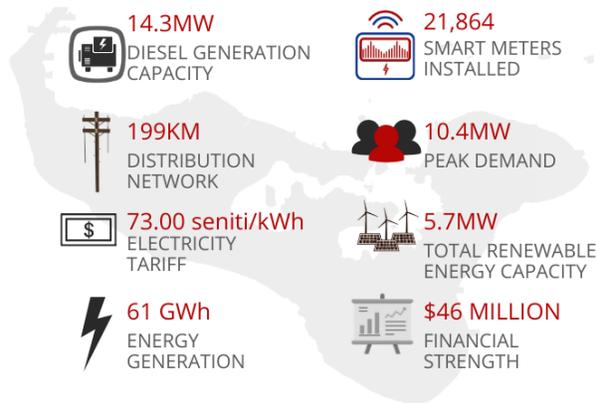
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1. OVERVIEW OF THE BUSINESS

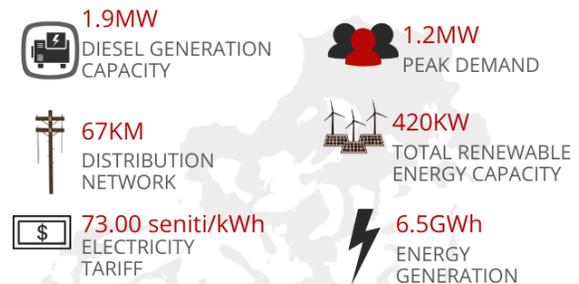
Tonga Power Ltd is a government-owned vertically integrated utility that generates and distributes electricity to the 4 main island groups of the Kingdom Of Tonga. Tonga Power's core business is generating, distributing and retailing electric power across our four-grid system within Tonga consisting 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:

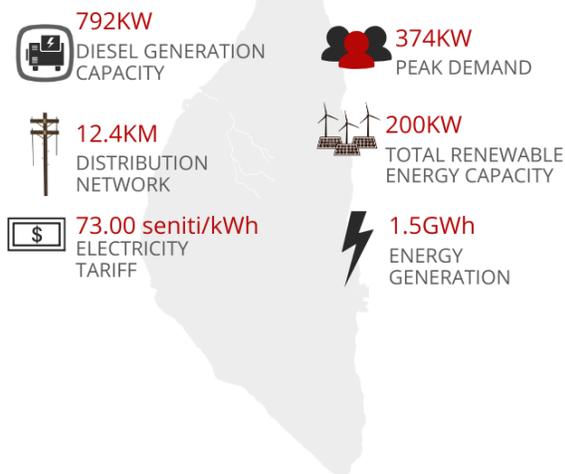
Tongatapu



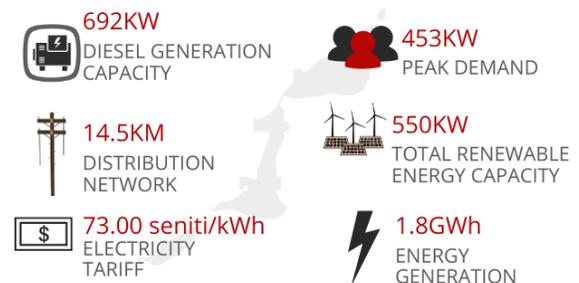
Vava'u



'Eua



Ha'apai



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

2.1 Ownership Guidelines

The Ministry of Public Enterprise Letter of Expectation, dated 4th of March 2020, 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 expectation 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.

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

- 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.
- 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 practices.
- 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.
- 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.

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:

| | | | |
|-------------------------------------------------------------------------------------|-----------------------------------------|------------------------------------------------------------------------------------|---------------------------------------------|
|  | Maximise shareholder value |  | Deep expertise in the business |
|  | Excellent Customer Service |  | Visibility of management thinking |
|  | No Surprises or Spin |  | Full access to information |
|  | Bad News Must reach the Board | | |

2.4 Mandate - Energy Policy, Law and Legislation

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

- **Company Act 2016 Revised Edition**
- **Electricity Act 2016 Revised Edition**
- **Concession Contract**
- **Ministry of Public Enterprises Act**
- **Tonga Strategic Development Framework II**
- **2016 Revised Edition 2010**
- **The Renewable Energy Act 2016 Revised Edition**
- **NIIP**
- **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 | - Income Tax Act 2016 Revised Edition |
| - Ombudsman Act 2016 Revised Edition | - Foreign Exchange Control Act 2018 |
| - Public Audit Act 2016 Revised Edition | - Land Act 2016 Revised Edition |
| | - Public Health Act 2016 Revised Edition |

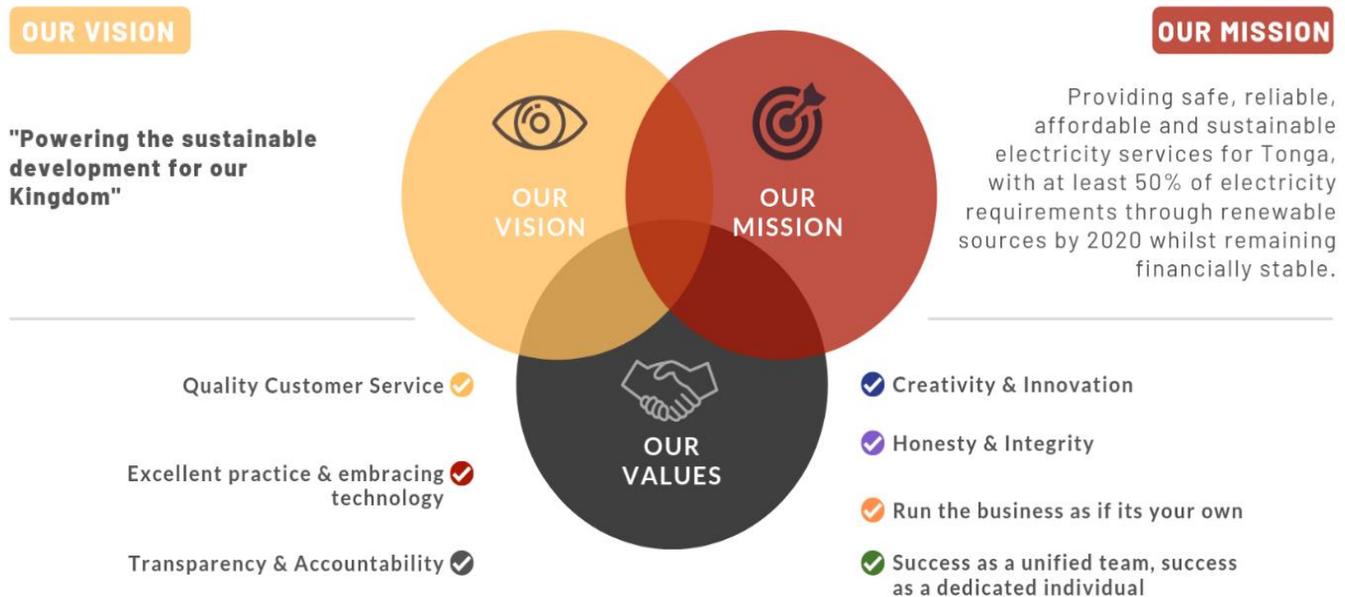
- National Retirement Benefit Act 2016 Revised Edition
- Price and Wage Control Act 2016
- Consumption Tax Act 2016 Revised Edition

- Revised Edition
- Public Finance Management Act 2016 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:

Policy Issues:

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 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).

The donor funded projects that TPL is involved with that are as a result of TERM are summarized here and more details can be found in Annex 2.

| Project | Grant Funding (USD Millions) | Loan (USD Millions) | GoKT Contribution (USD Millions) | TPL Contribution (USD Millions) |
|-----------------|---------------------------------|------------------------|-------------------------------------------|------------------------------------------|
| TREP | 44.6 | | 5.6 | 3 |
| NNUP | 13.93 | | 3 | 2.31 |
| China Wind Farm | 12.31 | | TBC | TBC |
| OIREP | 22.03 | 2.5 | TBC | 1.57 |
| TOTAL | 92.87 | 2.5 | 8.6 | 6.88 ¹ |

In response:

- i. TPL has directed all effort and resources available towards pursuing the target and continues to look for innovative ways to overcome implementation challenges such as COVID 19, tropical cyclones, in-kind commitments and general organizational readiness.
- 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.

¹ Exchange Rates as per 23 June 2020, using Morningstar for Currency
https://www.google.com/search?q=currency+converter&rlz=1C1GCEU_enT0820T0821&oq=Curren&aqs=chrome.0.0j69i57j46j0l4j69i60.2679j1j4&sourceid=chrome&ie=UTF-8

- iv. In-kind contributions have been budgeted and the financial impact has been factored accordingly in electricity tariffs moving forward.

Regulations concerning Independent Power Producers (IPP's)

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.

Legal and Political Issues:

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

Government in response to the high cost and volatile nature of diesel has agreed after consultation with TPL 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 will continue until end of June 2020.

With the uncertainty in diesel costs in the future, this initiative will likely put pressure on TPL's bottom line and will result in the introduction of several cost cutting measures and reprioritization of the company CAPEX and OPEX.

TPL has established adequate management capacity and a tariff regime sufficient for full cost recovery, which allows for adequate operation and maintenance. However, this may not be appropriate if the lifeline subsidy currently offered to the public is to continue and not be funded by the government.

Technological Issues:

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. TPL in response to this problem has introduced the Gross Metering Policy which became effective in December 2016. For further analysis on the risks of third party generation please refer to Annex 2.

Social Issues:

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.

Environmental Issues

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.

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.

Market Issues:

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

1) **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 be low in the short term and 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 is 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.

3) **Flat Overseas Remittances:**

At the national level, remittances are the major source of foreign exchange and accounted in 2018 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.

External Business Risks: The following top six 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 to TPL due to the aggressive 50% government policy target to be achieved by 2020.
- Significant financial and reputational risk if the company cannot achieve the 50% target given the limitations in the local regulatory regimes governing IPP's.

- Significant financial and reputation losses to TPL due to government incentive of holding tariff therefore putting pressure on the company bottom-line.
- 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.
- 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.

3.2 Internal Elements

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

Talent challenges:

As TPL work towards achieving 50% renewable energy by 2020 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. 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 organizational chart. Recruitments are not expected in the next financial year due to COVID-19 and the support available through the donor funded projects.

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:

Deteriorated network assets:

Nuku'alofa CBD and Vava'u network still require further improvement. The poor state of equipment on these networks include 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.

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.

TPL Organisational Structure May 2020
Total 261

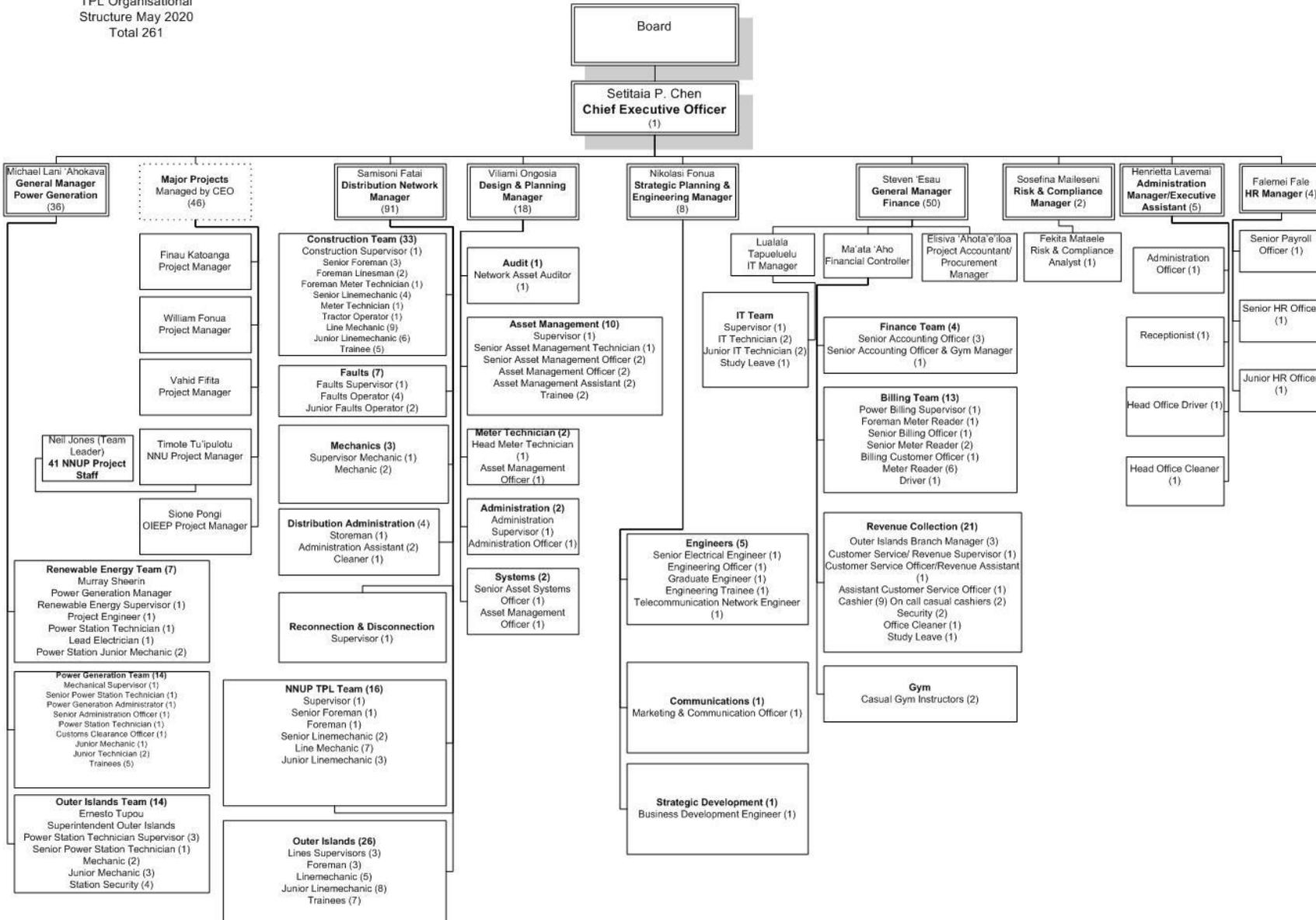


Figure 1 TPL Organizational Chart

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.

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 are being investigated.

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.

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 planned for all relevant divisions, especially data input and configuration, maintenance scheduling, integration and reporting.

The central control center represent 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.
- 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 as a result of loss of key staff trained on international standard qualification.
- 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.
- 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.

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.

| Strengths | Weaknesses |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> • Good leadership structure • Healthy balance sheet • Competent/dedicated team • Team culture • Well established unique business processes • Matured/Experienced team • Availability of data/information • Relationship with donors • Communicating project success • Safety • Goal oriented | <ul style="list-style-type: none"> • Lack of budget transparency • Billing errors & supporting services • Meter management • Manage customers' expectations • Overtime management & labor intensity • Asset management program • Training and succession planning • Care for tools, plant and equipment • HR capacity & skills for RE integration • Gender equality • Financial control |
| Opportunities | Threats |
| <ul style="list-style-type: none"> • Building customer trust • Diversify of power generation investments • International contracting • Off-grid islands maintenance & operation • Electricity contractors association • ERP leaders • Multiple/Alternative tariffs • Gender equality leadership • Third party contracting • Multi-utility policy standardization • Other renewable energy • Other PI country network projects • Multi-utility job sharing | <ul style="list-style-type: none"> • COVID-19 pandemic • Technology/Communication failure/Cyber-security • Political intervention/high dividend/holding of power price • Tight cash flows & high leverage • Over committing to fully funded & partial funded capital projects • Unclear multi utility goals • Demarcation with Electricity Commission/Contractors • Climate Change/Natural Disasters • Skilled line mechanics emigrate • Cyber-security • Big project pipeline |

4. 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.

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 reporting requirements, directors' requirements, Board meeting requirements, and auditing requirements are met.

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 2019.

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 GoTGPO: Tariff – TPL is currently offering a 65 senti/kWh power tariff for all customers who uses less than 100kWhrs per month under GoKTGPO.

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. In 2019 the dividend declared was 75% of NPAT or TOP\$1.9m.

The estimated dividend stream for the next financial year will be discussed in more detail during the annual general meeting with the shareholder.

5. PLANNING PERIOD STRATEGIC OBJECTIVES & TRADEOFFS

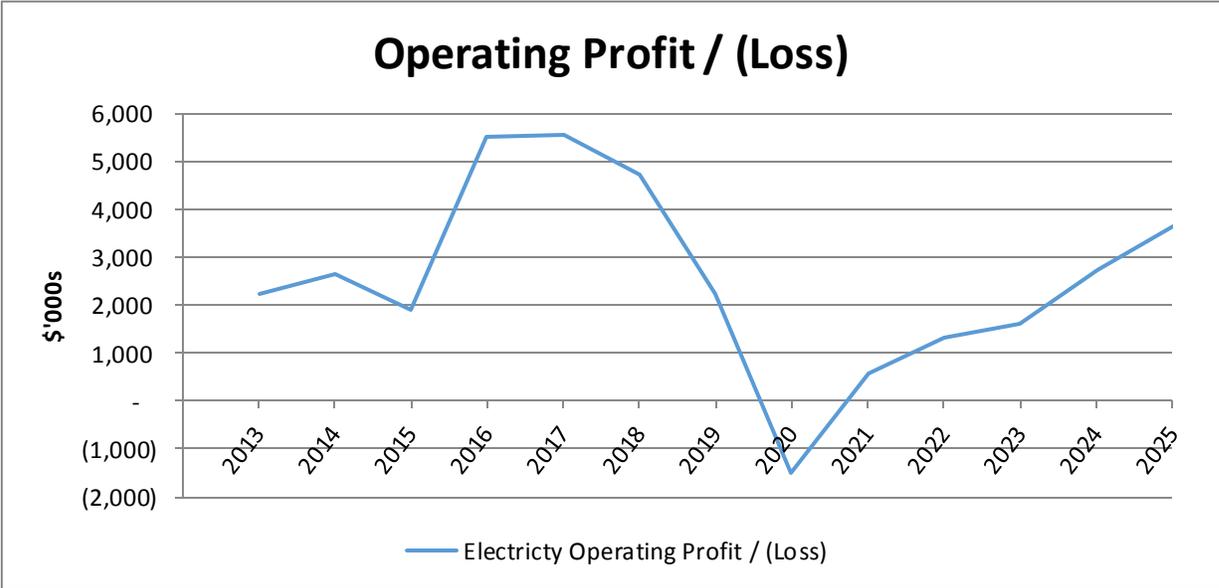
TPL has established six key objectives that drive the company to achieving its mission to provide safe, reliable affordable and sustainable electricity services for Tonga by harnessing 50% of electricity requirements through renewable sources all the while remaining financially stable.

| Strategic Objective | Tradeoffs and risks faced |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Achieving 50% electricity generation from Renewable Energy generation by 2020 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. • Satisfying development partner reporting needs. • Cost competitiveness of RE and Diesel. • Attracting private investment is fraught with challenges. |
| 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. |
| 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. |
| 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. |
| 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. • Frozen electricity tariff. |

6. PROFORMA FINANCIALS STATEMENT

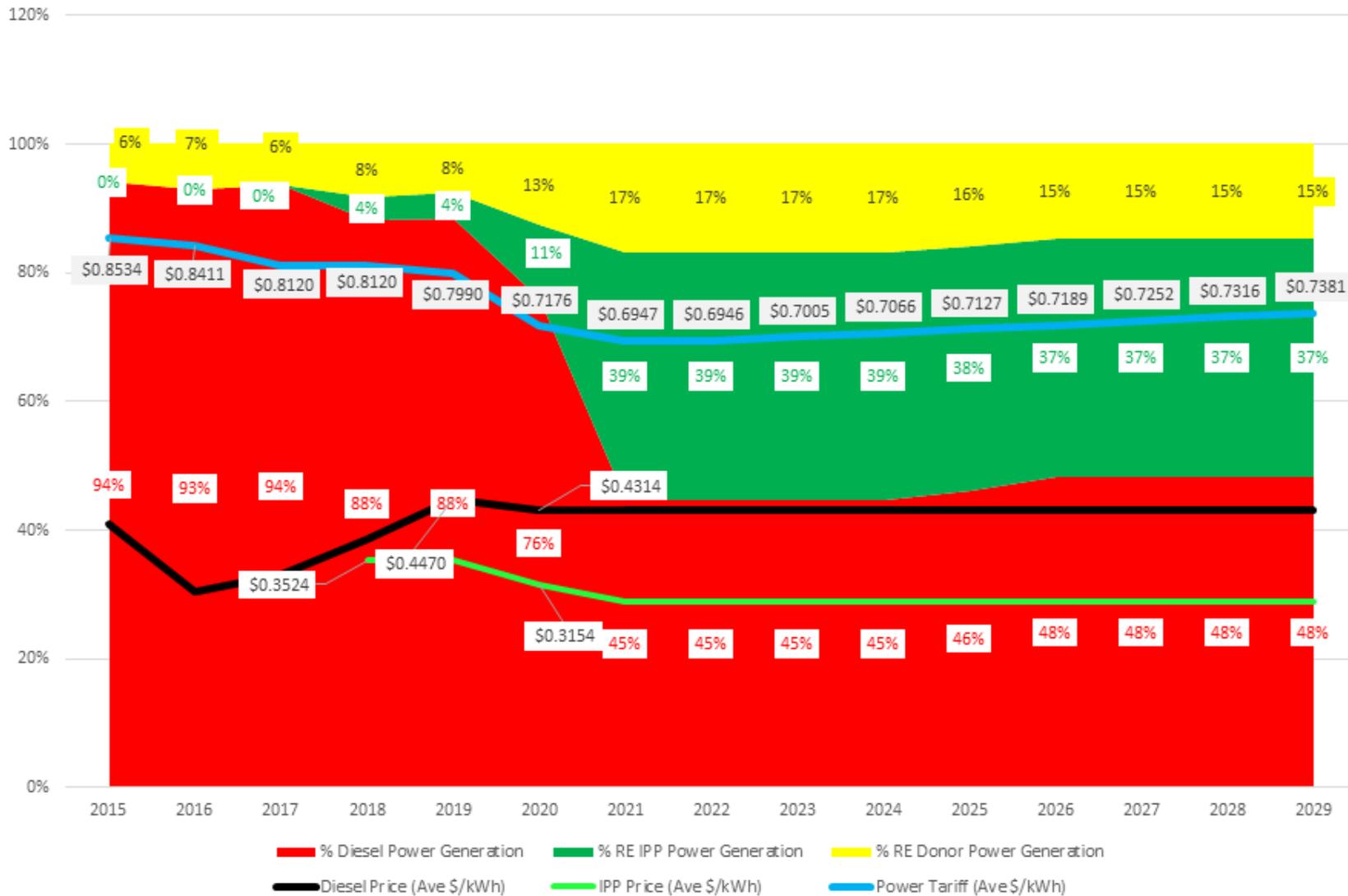
TPL’s NPAT trend is reflective of the major changes TPL is undertaking especially with the Renewable Energy & Network Upgrade Projects for all of the islands. The upfront costs together with Government requesting TPL to hold its Power Tariff for more than 2 years have really hit TPL’s bottom line.

It is forecasted that once TPL reaches’ the 50% target, and complete the upgrade of its Networks in Tongatapu and outer islands, TPL will be able to return to normal operation, with a reduced tariff and improved profitability. For the detailed financial statements please refer to Annex 5.



The graph below shows the relationships between the 2 main Renewable Energy Power Source – Solar Farm & Wind Farm to Diesel Power Generation. It also shows the likely impact of RE on Tariff Price.

Forecast Impact of Donor RE, IPP RE & Diesel Power Generation on Electricity Prices 2015 - 2029



7. 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.

| ID | Strategic Objective | Strategic Measure | Business Unit | Target | |
|----|---------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|---------------------------------------------------------------|-----------------------------------|---------------------------------------|
| | | | | FY2020 | FY2021 |
| 1 | Achieving 50% electricity generation from Renewable Energy generation by 2020 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. Establish Baseline ii. >70% | 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\$50m | ii. >TOP\$51m |

8. 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 2020".

Strategic Objective 1

Under objective number 1, the following projects will be implemented before the end of FY2020 to achieve the objective of "achieving 50% electricity generation from RE sources by 2020".

| Year 1 | Year 2 | Year 3 |
|--------------------------|------------------------|--------|
| 6MW Sunergise Solar IPP | Biomass | Tidal |
| China Wind 2.2MW | Distributed Generation | Wave |
| Wind IPP 3.8MW | | |
| TREP 300 KW Vava'u | | |
| TREP 350 KW 'Eua | | |
| 6MW GET Solar IPP | | |
| 6MW Solar Farm Extension | | |

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 | Reporting, Data Analytics & Business Intelligence (In House) | EV |
| TREP BESS #2 | More reclosers and sectionalizers | BESS #3 |
| TREP BESS VAVA'U | SCADA upgrade Outer islands | Data Warehousing(Reporting Server) |
| TREP BESS 'EUA | Niutoua to Haveluliku HV LINK | |
| Combined Control Center | | |
| Tele-communications Platform | | |

| | | |
|--------------------------------------|--|--|
| Tongatapu ring feeder/ fourth feeder | | |
|--------------------------------------|--|--|

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> | NNUP Area 3 and 4 | Refurb CAT 2,3,5,6 |
| OIEEP (Vava'u remaining 35%) | Tongatapu MAK 7,8 overhaul | NNUP Area 5 |
| NNUP (Area 1&2 funded) | Off-grid islands O&M | |
| HV Upgrades for outside Nuku'alofa(Underground) | PC Replacement | |
| Vehicle Fleet improvement | | |
| Complete Asset Management ERP Module | | |

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 |
|-----------------------------------------|---------------------------------|
| Staff wellbeing initiative | Safety regulation/safety manual |
| 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 |

| | | |
|----------------------------|---------------------------------|-----------------------|
| Website Upgrade | Weekly Generation Dispatch | BI System Integration |
| Training Register | Automated process streamlining | TPL Smartphone App |
| Policy Review and Training | Reinforce ICT Disaster Recovery | |
| Competency Framework | Social Media Platform | |
| Formal Succession Plan | Induction & Onboarding Program | |
| Departmental Planning | | |
| Salary structure | | |
| Energy Bill Implementation | | |

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 |
| Full Tariff Review | IPP/PPP Policy | Integrate off-grid power |
| ERP Integrated Budgets | Social responsibility vs Profitability | |
| Funding for NNUP & OIEEP Projects | | |
| Tariff subsidies | | |
| Merchant payment | | |

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

The Ministry of Public Enterprise Letter of Expectation, dated 4th of March 2020, 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 MPE Act and the Letter of Expectation 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 PE's 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 practices.
- 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 2016 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

- 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

- The second concession contract came into force on 1st September 2015.
- 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.

Ministry of Public Enterprises Act 2016 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

- 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.

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

- **Business Licenses Act 2016 Revised Edition**
- **Ombudsman Act 2016 Revised Edition**
- **Public Audit Act 2016 Revised Edition**
- **Income Tax Act 2016 Revised Edition**
- **Foreign Exchange Control Act 2018**
- **Land Act 2016 Revised Edition**
- **Public Health Act 2016 Revised Edition**
- **National Retirement Benefit Act 2016 Revised Edition**

- **Price and Wage Control Act 2016 Revised Edition**
- **Public Finance Management Act 2016 Revised Edition**
- **Consumption Tax Act 2016 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 manadate.
- 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 2020. 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.
- 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 will also likely be 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 is now shorter time frames available to meet the 2020 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.
- 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 2020, IPP's will play a major role in taking Tonga towards its renewable energy goal. Rapidly transforming the sector requires substantial investments in a short period of time. 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) GOT is working toward reviewing existing legislature and developing a coherent and robust Energy Bill that considers the need for private sector investment in renewable energy.
- ii) Providing constant and consistent input to the Department of Energy and the Energy Bill drafting process to ensure IPP challenges are addressed by the new legislation and its associated regulations.

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

Government in response to the high cost and volatile nature of diesel has agreed after consultation with TPL 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 will continue until end of June 2020.

With the uncertainty in diesel costs in the future, this initiative will likely put pressure on TPL's

bottom line and will result in the introduction of several cost cutting measures and reprioritization of the company CAPEX and OPEX.

TPL has established adequate management capacity and a tariff regime sufficient for full cost recovery, which allows for adequate operation and maintenance. However, this may not be appropriate if the lifeline subsidy currently offered to the public is to continue and not be funded by the government.

TPL response to the challenges:

- i) Cost cutting measures to be ongoing and prolonged.
- ii) Dividend retention requests to the shareholder to cover the under recovered costs of tariff hold.
- iii) Aggressive debt collection (12 – 13 days debtors turnover).

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.

Social Issues:

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 falls 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 build 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.

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 is 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 2020. 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 is 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. CCII also gives TPL the power to disconnect 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 2020 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 has 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 include 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 2020. 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, AcSELerator – 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 represent 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 is 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

SWOT analysis

| Strengths | Weaknesses |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Generation, Distribution and Retail</u></p> <ul style="list-style-type: none"> • Good Leadership structure • Balance of experience and youth • Well established business processes • Maintaining of resources • Implementing Health & Safety procedures <p><u>Finance</u></p> <ul style="list-style-type: none"> • Healthy Balance Sheet • Compatible profitable business • Competent/dedicated Team • Internal Control System • Centralize ERP System • Very high debt collection & highly committed to collection targets • High investment on Informal System <p><u>Human Resources</u></p> <ul style="list-style-type: none"> • Great Teamwork • Payroll - fortnightly • Leave Management • Employee Services - CIA, forms, letters • Matured/Experienced Team - long serving staff • Confidentiality of Information • Filing of Personal Files - physical files and work in progress for e-filing • Reports Submission - Tax, Annual Report and Board Report • Staff Communications - staff issues, policies, procedures, induction • Annual Staff Performance Review - annually • Availability of Data/Information • Annual Audit • Recruitment Process • Punctual with staff related issues • High level of loyalty to TPL <p><u>Information Technology</u></p> <ul style="list-style-type: none"> • Relationship with Agility • Ability to work remotely | <p><u>Generation, Distribution and Retail</u></p> <ul style="list-style-type: none"> • Overtime management & staff idle times • Planning and asset management program • Meter Management • Care for tools, plant and equipment • Relationships with outer island networks <p><u>Finance</u></p> <ul style="list-style-type: none"> • Billing Errors & supporting services • Erratic line of site to budget and financial statements for divisions • Transparency • Reporting <p><u>Human Resources</u></p> <ul style="list-style-type: none"> • Aligning of staff career paths with company's goals • Training of existing staff & staff retentions after sponsored training • Leadership Succession Plan • Gap between outer island & Tongatapu leadership • Limited practical engineering experience & knowledge • HR Capacity & Skills for RE integration • HR Policies and Procedures a. Exit Checklist b. 6-months review/KPI for everyone - quarterly review for managers c. Resignation contractual clause • Limited Capacity - Training Officer for Staff Training and Development • Staff Training - on the job training lowers the importance of this item • HR Audit - Staff Survey • and follow up on improvements • Internal Procedures - Staff Medical Assistance, Delegation of Authority (letters to sign, approval of study leave) • Policy Role Model - Lateness to work • Succession Plan • No rewards and recognition policy • Inexperienced Team |

| | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><u>Major Project and Strategic Development</u></p> <ul style="list-style-type: none"> • Relationship with Donors • Meeting Targets • Dealing with multiple resources • Communicating project success <p><u>Risk and Compliance</u></p> <ul style="list-style-type: none"> • Well documented policies and procedures • Compliance with regulatory requirements • Recruitment of R&C analyst • Government interferences <p>Accountability</p> | <ul style="list-style-type: none"> • Staff Turnover • Disciplinary Procedures - consistency <p><u>Information Technology</u></p> <ul style="list-style-type: none"> • Slow ICT actions • Communications <p><u>Major Projects and Strategic Development</u></p> <ul style="list-style-type: none"> • Customer awareness • Manage customers' expectations • Project Ownership • No formal project management training • No formal project management processes and procedures • No formal hand-over with operations <p><u>Risk and Compliance</u></p> <ul style="list-style-type: none"> • Data Integrity - work in progress on accuracy of data both on system and excel databases • Lack of awareness & appreciation of internal policies • Actioning audit recommendations • Lack of understanding R&C roles • Non-conformance to the annual review of policies • Managers feedback on compliance reports, risk reviews, etc. • Time management |
| <p>Opportunities</p> | <p>Threats</p> |
| <p><u>Generation, Distribution and Retail</u></p> <ul style="list-style-type: none"> • Building customer trust • E-Bill awareness • TPL Customer E-Notifications • Diversify of power generation investments • Process Automation • Outer Islands Maintenance & Operation • CAD Line Design • Online Payment Platform <p><u>Finance</u></p> <ul style="list-style-type: none"> • Hire Purchase Arrangement with Tonga Gas to sell much needed households appliances to boost electricity & cash sales. • Tech One Asset Management | <p><u>Generation, Distribution and Retail</u></p> <ul style="list-style-type: none"> • Changing Solar IPP environment • Thefts of company's assets – cash or non-cash • Multiple strong cyclone hit at one or all sites. • Natural Disasters • Limited Storage <p><u>Finance</u></p> <ul style="list-style-type: none"> • Divisional Budget over-run • Political intervention/high dividend/holding of power price • Over committing to fully funded & partial funded capital projects • Tight Cash Flows & high leverage • High Fuel Price Volatility <p><u>Human Resources</u></p> |

- Split tariffs

Human Resources

- Gender Equality
- Team Growth

Information Technology

- Ability to work remotely
- Business Intelligence reporting & Analytics

Major Project and Strategic Development

- International Contracting
- Electricity Contractors Association
- Third Party Contracting

Risk and Compliance

- Documented policies and procedures
- Compliance with regulatory requirements
- Energy Bill

- Skilled Line Mechanics leaving
- HR Shortage in the field of SCADA
- Culture changes
- Budget Constraints - Training
- Gender equal workforce target - National Target
- Rogue Recruitment Process / Disciplinary Actions
- Emotional Intelligence (EQ) - islanded department
- Government Intervention/ Political Change - Employment Bill
- Transfer of retirement funds to Government Retirement Fund Bodies
- Over-staff after projects
- High turnover Rate due to better paid jobs elsewhere e.g.: NZ qualified mechanics Staff jobs once network projects are completed

Information Technology

- Technology/Communication failure
- Cyber-security

Major Projects and Strategic Development

- Unclear Multi Utilities Goals
- Multi-Utility pipeline of Projects
- Project Ownership Big Project Pipeline
- Inappropriate projects pursued Multi-Utility

Risk and Compliance

- Demarcation with Electricity Commission/Contractors

Annex 3: Strategic Objectives Analysis

| Strategic Objective | Tradeoffs and risks faced |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>1. Achieving 50% electricity generation from Renewable Energy generation by 2020 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 | |
|----|---------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | | | | FY2020 | FY2021 |
| 1 | Achieving 50% electricity generation from Renewable Energy generation by 2020 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. 1.5 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. 60% xiv. 10% or <5% | <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% |
| 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 | <ul style="list-style-type: none"> i. Generation ii. Generation iii. Generation iv. Generation | <ul style="list-style-type: none"> i. 95% ii. >55% iii. 100% iv. 17,276 kW | <ul style="list-style-type: none"> i. 98% ii. >58% iii. 100% iv. 17,676 kW |

| | | | | | |
|---|---------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | | <ul style="list-style-type: none"> v. Updated Asset Management Plan vi. Parasitic Losses vii. Customers per Distribution Employee viii. Average age of vehicle fleet ix. Distribution Transformer Utilization | <ul style="list-style-type: none"> v. Generation & Distribution vi. Generation vii. Distribution viii. Distribution ix. Distribution Transformer Utilization | <ul style="list-style-type: none"> v. 1 vi. 3 to 5% vii. > 200 viii. > 5 ix. >30% | <ul style="list-style-type: none"> v. 1 vi. 3 to 5% vii. > 210 viii. > 6 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. 80% ii. 80% iii. 80% iv. 80% v. 80% vi. 80% vii. 80% viii. 80% ix. 80% x. 80% xi. 80% xii. 80% | <ul style="list-style-type: none"> i. 90% ii. 90% iii. 90% iv. 90% v. 90% vi. 90% vii. 90% viii. 90% ix. 90% x. 90% xi. 90% xii. 90% |
| 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 | <ul style="list-style-type: none"> i. Distribution ii. Retail iii. Retail iv. Retail v. Retail | <ul style="list-style-type: none"> i. < 5 days ii. Establish baseline iii. >95% iv. Complete | <ul style="list-style-type: none"> i. < 4 days ii. Improve by 5% iii. >98% iv. Board Approval v. Ha'apai, 'Eua & |

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|--|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | | <ul style="list-style-type: none"> iv. Business Case for Outer Island Smart Meters v. Alternative Tariff (To reflect the source of power generation) 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"> vi. Retail vii. Retail viii. Retail 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"> v. d TBU end of 2020 vi. TPL Staff vii. Develop business case to house smart meter server in Tonga viii. 4 ix. Establish Baseline Customer Category Policy x. Develop incentive for online payment xii. >70% xiii. 25% xiv. At least 2 xv. <5% xvi. <5% xvii. 0 xviii. >90% xix. 80% xx. >80% xxi. At least a satisfactory rating xxii. 20% | <ul style="list-style-type: none"> vi. Vava'u vii. Tonga Post 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. 30% |
|--|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

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|---|-----------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | | | | | |
| 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. 5% ii. < \$5,000 iii. >80% iv. >\$24.5m v. Establish business case vi. <50% vii. <20 days | <ul style="list-style-type: none"> i. 8% ii. < \$4,000 iii. >80% iv. >\$25m v. Implement mobile collection vi. <40% vii. <15 days |

KEY PERFORMANCE INDICATORS

| Year ending 30 June | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 |
|------------------------------------------------------------------------|------|------|------|------|------|------|------|------|------|------|
| Returns to shareholders (%) | | | | | | | | | | |
| Return on Assets (EBITDA/Total Assets) | 9% | 11% | 11% | 12% | 12% | 12% | 13% | 13% | 13% | 14% |
| Return on Assets (NPAT/Total Assets) | 2% | 3% | 3% | 4% | 4% | 4% | 4% | 4% | 4% | 4% |
| Return on Equity (NPAT/Equity) | 1% | 2% | 2% | 3% | 3% | 3% | 3% | 3% | 3% | 3% |
| Return on Shareholder's Funds (Net Profit/Share Capital) | 11% | 14% | 15% | 16% | 17% | 17% | 18% | 18% | 18% | 18% |
| Profitability (%) | | | | | | | | | | |
| Rate of Return (NPAT/Sales) | 2% | 3% | 4% | 4% | 5% | 5% | 6% | 5% | 5% | 5% |
| Capital structure (%) | | | | | | | | | | |
| Loan Finance Only [Loan/Total Liabilities] | 38% | 36% | 32% | 28% | 23% | 20% | 14% | 14% | 10% | 8% |
| Loan Finance as a % of Sources of Funds [Loan/ (Liabilities + Equity)] | 17% | 16% | 13% | 11% | 9% | 7% | 5% | 5% | 3% | 3% |
| Debt Ratio [Debt/ (Debt+Equity)] | 46% | 44% | 42% | 40% | 38% | 37% | 35% | 34% | 33% | 32% |

| Year ending 30 June (TOP \$m) | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 |
|----------------------------------------------------|------|------|------|------|------|------|------|------|------|------|
| Forecast dividend (T\$m) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Dividend as % of NPAT (%) | 78% | 64% | 58% | 56% | 51% | 51% | 49% | 48% | 49% | 49% |
| Six weeks of normal operating & debt service exper | 0.3 | 0.2 | 0.2 | 0.2 | 0.1 | 0.6 | 0.5 | 0.4 | 0.3 | 0.2 |

| Year ending 30 June (TOP \$m) | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 |
|----------------------------------|------|------|------|------|------|------|------|------|------|------|
| Capital structure (%) | | | | | | | | | | |
| Debt Ratio [Debt/ (Debt+Equity)] | 46% | 44% | 42% | 40% | 38% | 37% | 35% | 34% | 33% | 32% |
| Interest cover (X) | | | | | | | | | | |
| EBIT/interest | 5.3 | 6.9 | 8.5 | 10.2 | 13.5 | 16.7 | 20.6 | 25.3 | 32.2 | 42.3 |

| Year ending 30 June | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 |
|--------------------------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Customer service levels | | | | | | | | | | |
| Meets 2015 Concession Contract requirements | TO MEET |
| Available capacity | | | | | | | | | | |
| - INSTALLED CAPACITY (FIRM CAPACITY ONLY) | 15550 | 15310 | 15484 | 15670 | 15316 | 15316 | 15316 | 15316 | 15316 | 15316 |
| - INSTALLED CAPACITY (INCL AS AVAILABLE SOURCES) | 20716 | 22576 | 22750 | 23122 | 23982 | 22982 | 22982 | 22982 | 22982 | 22982 |
| Generating capacity utilisation | | | | | | | | | | |
| Load factor (%) | 56% - 61% | 35% - 62% | 36% - 60% | 37% - 61% | 38% - 62% | 40% - 64% | 40% - 64% | 40% - 64% | 40% - 64% | 40% - 64% |
| Distribution efficiency ^{1,2} | | | | | | | | | | |
| Line loss (%) | 11% | 11% | 10% | 10% | 9% | 9% | 109% | 209% | 309% | 409% |
| Efficiency of generation ^{1,3} | | | | | | | | | | |
| KwH Generated per Litre of Fuel (L) | 4.15 | 4.13 | 3.95 | 3.95 | 3.95 | 4.13 | 5.13 | 6.13 | 7.13 | 8.13 |

ANNEX 5: PROFORMA FINANCIALS STATEMENT

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

| Year Ended 30 June | Audited | | | | | | | Projected | | | | | |
|-----------------------------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|----------------|------------|--------------|--------------|--------------|--------------|
| | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 |
| ELECTRICITY OPERATIONS | | | | | | | | | | | | | |
| Regulated Revenue | 40,513 | 44,173 | 41,767 | 40,922 | 45,610 | 45,363 | 51,030 | 52,259 | 38,063 | 40,255 | 42,574 | 45,029 | 47,627 |
| Non-regulated Revenue | 1,270 | 1,805 | 1,543 | 2,452 | 2,847 | 1,088 | 2,004 | 1,630 | 1,187 | 1,256 | 1,328 | 1,404 | 1,486 |
| Electricity Cost of Sales | | | | | | | | | | | | | |
| Fuel Cost | 22,133 | 23,583 | 19,768 | 15,347 | 19,197 | 21,463 | 26,906 | 26,570 | 14,782 | 15,346 | 16,304 | 17,322 | 18,402 |
| Power Purchase Cost | | | | | | | 1,130 | 1,015 | 944 | 944 | 944 | 945 | 945 |
| Salaries | 2,933 | 2,829 | 2,746 | 3,122 | 3,446 | 4,603 | 4,881 | 5,716 | 5,173 | 5,404 | 5,681 | 5,966 | 6,277 |
| Maintenance | 1,505 | 2,441 | 2,092 | 2,820 | 1,350 | 3,157 | 2,376 | 6,089 | 2,454 | 1,695 | 2,191 | 1,948 | 2,066 |
| Depreciation - Generation | 1,725 | 1,264 | 987 | 1,181 | 1,246 | 1,254 | 1,217 | 1,250 | 1,419 | 1,477 | 1,522 | 1,619 | 1,622 |
| Third Party Costs | 681 | 777 | 1,740 | 2,232 | 2,151 | 809 | 1,867 | 288 | 540 | 546 | 555 | 564 | 573 |
| Other | 1,506 | 1,491 | 1,476 | 1,541 | 1,565 | 2,020 | 2,019 | 2,530 | 3,762 | 3,788 | 3,916 | 3,964 | 3,957 |
| | 30,483 | 32,384 | 28,810 | 26,243 | 28,955 | 33,305 | 40,396 | 43,459 | 29,073 | 29,200 | 31,114 | 32,328 | 33,842 |
| Gross Profit from electricity operations | 11,300 | 13,594 | 14,500 | 17,130 | 19,501 | 13,146 | 12,638 | 10,430 | 10,178 | 12,310 | 12,788 | 14,105 | 15,271 |
| Other Income | 75 | 2,219 | 2,718 | 2,425 | 2,860 | 10,426 | 7,509 | 6,747 | 7,103 | 7,483 | 7,898 | 8,319 | 8,748 |
| Selling & Distribution Expenses | | | | | | | | | | | | | |
| Depreciation - distribution network | 2,377 | 2,853 | 4,156 | 4,840 | 5,000 | 5,211 | 6,043 | 5,959 | 6,429 | 6,722 | 6,955 | 7,112 | 7,292 |
| Repairs & Maintenance | - | 1,552 | 801 | - | - | - | - | - | - | - | - | - | - |
| Other | 62 | 1,553 | 69 | 56 | 301 | 1,065 | 70 | 75 | 50 | 50 | 51 | 52 | 52 |
| | 2,439 | 5,958 | 5,025 | 4,896 | 5,301 | 6,277 | 6,113 | 6,034 | 6,479 | 6,772 | 7,006 | 7,164 | 7,344 |
| Administrative & Other Expenses | | | | | | | | | | | | | |
| Salaries | 1,166 | 1,550 | 1,958 | 1,875 | 2,239 | 2,173 | 2,081 | 2,839 | 2,120 | 2,162 | 2,205 | 2,249 | 2,294 |
| Depreciation & Amortization | 841 | 1,092 | 1,058 | 938 | 1,097 | 1,529 | 1,490 | 3,216 | 2,248 | 2,855 | 3,114 | 3,170 | 3,239 |
| Electricity Commission fees | 554 | 518 | 531 | 528 | 493 | 561 | 561 | 561 | 566 | 573 | 582 | 592 | 601 |
| Legal & Professional Fees | 780 | 788 | 412 | 437 | 485 | 1,562 | 690 | 1,197 | 400 | 612 | 625 | 637 | 650 |
| Other | 2,073 | 1,855 | 2,757 | 2,737 | 3,814 | 4,352 | 5,167 | 3,944 | 3,574 | 4,053 | 4,135 | 4,217 | 4,402 |
| | 5,414 | 5,783 | 6,716 | 6,516 | 8,129 | 10,207 | 9,989 | 11,558 | 8,908 | 10,256 | 10,661 | 10,865 | 11,186 |
| Operating Profit from electricity operations | 3,522 | 4,073 | 5,477 | 8,144 | 8,932 | 7,088 | 4,045 | (415) | 1,893 | 2,765 | 3,020 | 4,396 | 5,489 |
| Finance Income | 96 | 308 | 73 | 209 | 114 | 132 | 138 | 24 | 24 | 25 | 25 | 25 | 26 |
| Finance Cost | (679) | (867) | (3,004) | (1,027) | (1,287) | (1,159) | (1,213) | (1,588) | (1,171) | (1,048) | (921) | (788) | (650) |
| Profit before tax from electricity operations | 2,939 | 3,514 | 2,546 | 7,326 | 7,759 | 6,062 | 2,970 | (1,977) | 747 | 1,742 | 2,123 | 3,633 | 4,865 |
| Income Tax | (714) | (878) | (636) | (1,831) | (2,233) | (1,354) | (742) | 494 | (187) | (435) | (531) | (908) | (1,216) |
| PROFIT AFTER TAX - UTILITY OPERATIONS | 2,225 | 2,635 | 1,909 | 5,494 | 5,526 | 4,708 | 2,227 | (1,483) | 560 | 1,306 | 1,593 | 2,725 | 3,648 |

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

| As at 30 June | Audited | | | | | | | Projected | | | | | |
|----------------------------------|---------------|---------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 |
| CURRENT ASSETS | | | | | | | | | | | | | |
| Cash and Cash Equivalents | 1,729 | 3,339 | 2,261 | 3,499 | 3,740 | 3,215 | 711 | | 1,541 | | | 593 | 3,591 |
| Trade & Other Receivables | 6,077 | 5,693 | 5,452 | 6,226 | 6,842 | 8,029 | 8,905 | 6,882 | 7,806 | 7,951 | 7,991 | 8,082 | 8,139 |
| Inventories | 1,092 | 1,368 | 936 | 1,279 | 1,069 | 603 | 1,377 | 1,341 | 1,341 | 1,341 | 1,341 | 1,341 | 1,341 |
| Held to maturity financial asset | | 1,558 | 1,392 | 1,423 | 3,317 | 322 | 1,332 | 334 | 334 | 334 | 334 | 334 | 334 |
| Current Tax Asset | 122 | 175 | | | | | | | | | | | |
| Donor Reserve Funds | | | | | | | | | | | | | |
| | 9,020 | 12,151 | 10,041 | 12,428 | 14,967 | 12,169 | 12,325 | 8,556 | 11,021 | 9,626 | 9,666 | 10,351 | 13,405 |
| NON CURRENT ASSETS | | | | | | | | | | | | | |
| Intangible Assets and Goodwill | 508 | 399 | 290 | 182 | 2,501 | 2,029 | 2,052 | 1,374 | 697 | 19 | - | - | - |
| Property, Plant & Equipment | 59,503 | 79,607 | 111,889 | 114,572 | 117,364 | 124,016 | 154,354 | 145,372 | 175,475 | 182,384 | 183,342 | 184,028 | 182,864 |
| Held to maturity financial asset | 1,030 | 500 | 700 | 1,700 | 1,700 | 1,171 | 167 | - | - | - | - | - | - |
| Investment in Subsidiary | 513 | 513 | 3,670 | 3,670 | 3,670 | 3,950 | 3,595 | 3,595 | 3,595 | 3,595 | 3,595 | 3,595 | 3,595 |
| Deferred Tax Asset | 70 | 70 | 145 | 140 | 215 | 378 | 528 | 528 | 528 | 528 | 528 | 528 | 528 |
| | 61,623 | 81,088 | 116,694 | 120,263 | 125,450 | 131,544 | 160,696 | 150,870 | 180,295 | 188,528 | 187,465 | 188,151 | 186,987 |
| TOTAL ASSETS | 70,642 | 93,240 | 126,735 | 132,691 | 140,418 | 143,713 | 173,021 | 159,426 | 191,316 | 196,151 | 197,131 | 198,502 | 200,392 |
| CURRENT LIABILITIES | | | | | | | | | | | | | |
| Bank Overdraft | - | - | - | - | - | 125 | | 287 | | 1,724 | 942 | | |
| Trade & Other Payables | 4,107 | 4,373 | 5,117 | 5,473 | 7,590 | 11,203 | 10,190 | 6,227 | 11,784 | 11,439 | 10,911 | 11,342 | 11,742 |
| Employee Entitlements | 187 | 211 | 411 | 441 | 750 | 759 | 626 | 300 | 853 | 891 | 936 | 983 | 1,036 |
| Deferred Income / Donated Assets | 11 | 729 | 1,853 | 1,853 | 1,853 | 1,853 | 2,657 | 2,657 | 2,657 | 2,657 | 2,657 | 2,657 | 2,657 |
| Borrowings | 337 | 710 | 1,581 | 1,914 | 2,710 | 2,607 | 2,737 | 2,737 | 2,960 | 3,082 | 3,209 | 3,342 | 3,481 |
| Financial Instruments | 163 | 45 | 160 | | | | | | | | | | |
| Provision for Dividend | 779 | 1,000 | 1,900 | 2,800 | 3,300 | 3,300 | 779 | - | 420 | 980 | 1,194 | 2,043 | 2,736 |
| Tax | - | - | 136 | 866 | 2,525 | 1,929 | 1,198 | 1,092 | 187 | 435 | 531 | 908 | 1,216 |
| | 5,584 | 7,067 | 11,158 | 13,346 | 18,728 | 21,775 | 18,187 | 13,013 | 18,860 | 21,208 | 20,381 | 21,276 | 22,867 |
| NON CURRENT LIABILITIES | | | | | | | | | | | | | |
| Deferred Tax Liability | 5,279 | 6,704 | 7,104 | 8,064 | 7,848 | 7,436 | 7,125 | 7,125 | 7,125 | 7,125 | 7,125 | 7,125 | 7,125 |
| Deferred Income / Donated Assets | 142 | 7,841 | 32,720 | 31,818 | 29,985 | 28,112 | 56,224 | 52,689 | 77,927 | 77,577 | 73,793 | 68,141 | 61,844 |
| Borrowings | 10,348 | 15,983 | 20,099 | 21,215 | 23,671 | 24,977 | 28,635 | 26,966 | 23,716 | 20,533 | 17,218 | 13,764 | 10,167 |
| | 15,769 | 30,528 | 59,923 | 61,097 | 61,664 | 60,525 | 91,984 | 86,779 | 108,768 | 105,235 | 98,136 | 89,030 | 79,138 |
| TOTAL LIABILITIES | 21,352 | 37,595 | 71,081 | 74,443 | 80,412 | 82,300 | 110,171 | 99,792 | 127,628 | 126,444 | 118,517 | 110,307 | 102,003 |
| EQUITY | | | | | | | | | | | | | |
| Share Capital | 33,784 | 33,784 | 33,784 | 33,784 | 33,784 | 33,784 | 33,784 | 33,784 | 33,784 | 33,784 | 33,784 | 33,784 | 33,784 |
| Asset Revaluation Reserve | 7,815 | 12,566 | 12,112 | 11,661 | 11,215 | 10,789 | 10,368 | 9,948 | 9,527 | 9,106 | 8,685 | 8,264 | 7,843 |
| Retained Earnings | 7,691 | 9,295 | 9,758 | 12,803 | 15,007 | 16,841 | 18,699 | 15,902 | 20,378 | 26,819 | 36,146 | 46,148 | 56,763 |
| | 49,290 | 55,644 | 55,653 | 58,248 | 60,005 | 61,413 | 62,850 | 59,633 | 63,688 | 69,708 | 78,614 | 88,195 | 98,389 |
| | 70,642 | 93,240 | 126,735 | 132,691 | 140,418 | 143,713 | 173,021 | 159,426 | 191,316 | 196,151 | 197,131 | 198,502 | 200,392 |

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

| Year Ended 30 June | Audited | | | | | | | Projected | | | | | |
|------------------------------------------------------|--------------|--------------|----------------|--------------|------------|--------------|----------------|--------------|--------------|----------------|------------|--------------|--------------|
| | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 |
| Cashflows from Operating Activities: | | | | | | | | | | | | | |
| Receipt from Customers | 40,088 | 46,857 | 43,960 | 43,069 | 47,993 | 54,898 | 51,806 | 66,551 | 54,636 | 56,750 | 59,456 | 61,827 | 64,073 |
| Payments to Suppliers and Employees | (33,334) | (39,284) | (34,545) | (30,703) | (34,702) | (39,607) | (46,146) | (59,000) | (38,341) | (44,020) | (42,953) | (43,760) | (45,495) |
| Income Tax Paid | (420) | | | (136) | (866) | (2,525) | (1,929) | (1,198) | 932 | (1,492) | (2,147) | (3,109) | (3,334) |
| Interest Received | 30 | 36 | 67 | 66 | 114 | 166 | 58 | 20 | 24 | 25 | 25 | 25 | 26 |
| Interest Paid | (667) | (867) | (1,089) | (915) | (1,287) | (1,242) | (1,463) | (1,713) | (1,171) | (1,048) | (921) | (788) | (650) |
| | 5,696 | 6,743 | 8,392 | 11,381 | 11,253 | 11,690 | 2,326 | 4,660 | 16,081 | 10,215 | 13,460 | 14,196 | 14,619 |
| Cashflow from investment activities | | | | | | | | | | | | | |
| Acquisition of Plant, Property & Equipment | (5,630) | (10,406) | (10,273) | (9,087) | (8,127) | (15,439) | (7,797) | (4,646) | (10,503) | (7,309) | (5,948) | (5,716) | (3,828) |
| Investment held to maturity | (30) | | (34) | (1,000) | (1,893) | 3,523 | | 1,171 | 2,402 | 2,402 | 2,402 | 2,402 | 2,402 |
| Donor Funds Received | | 2,524 | | 951 | | | | | | | | | |
| Proceeds from sale of equipment | 33 | 10 | 6 | 25 | | | 5 | 600 | | | | | |
| Acquisition of Subsidiary | (513) | (1,028) | (3,157) | | | (280) | | | | | | | |
| Funds set aside to replace donor funded assets | | | | | | | | | (2,000) | (4,000) | (4,000) | (4,000) | (4,000) |
| Acquisition of Intangibles | | | | | (2,175) | (192) | (598) | | | | | | |
| Dividends Received | | | | 100 | 100 | 280 | | | | | | | |
| Loan to Waste Authority Limited / Loan to subsidiary | (70) | | | (200) | | | | | | | | | |
| Contribution to TVNUP Project | | | | (446) | | | | | | | | | |
| | (6,209) | (8,900) | (13,458) | (9,658) | (12,095) | (12,108) | (8,390) | (2,875) | (10,101) | (8,908) | (7,546) | (7,314) | (5,426) |
| Cashflow from financing activities | | | | | | | | | | | | | |
| Proceeds from borrowings | 4,278 | 6,406 | 5,798 | 2,081 | 5,350 | 3,696 | 6,614 | 1,271 | | | | | |
| Repayment of borrowings | (763) | (1,279) | (811) | (632) | (1,898) | (2,693) | (2,827) | (4,054) | (4,152) | (4,152) | (4,152) | (4,152) | (4,152) |
| Grants received | | | | | | | | | | | | | |
| Dividends paid | (866) | (1,360) | (1,000) | (2,000) | (2,379) | (1,200) | (100) | | | (420) | (980) | (1,194) | (2,043) |
| | 2,649 | 3,767 | 3,987 | (551) | 1,073 | (197) | 3,687 | (2,783) | (4,152) | (4,572) | (5,132) | (5,346) | (6,196) |
| Net Change in Cash and Cash Equivalents | 2,135 | 1,610 | (1,078) | 1,171 | 231 | (615) | (2,377) | (998) | 1,828 | (3,265) | 782 | 1,535 | 2,997 |
| Effect on Exchange rate movements on cash held | | | | 67 | 9 | (34) | (2) | | | | | | |
| Cash and Cash Equivalents at the beginning of Year | (406) | 1,729 | 3,339 | 2,261 | 3,499 | 3,739 | 3,090 | 711 | (287) | 1,541 | (1,724) | (942) | 593 |
| Cash and Cash Equivalents at the End of Year | 1,729 | 3,339 | 2,261 | 3,499 | 3,739 | 3,090 | 711 | (287) | 1,541 | (1,724) | (942) | 593 | 3,591 |

CAPEX Projections

Table 4 : 5 year forecast - Capital Expenditure Summary by Division

| <u>DIVISIONAL CAPEX SUMMARY</u> | <u>2020/21</u> | <u>2021/22</u> | <u>2022/23</u> | <u>2023/24</u> | <u>2024/25</u> | <u>Total</u> |
|---------------------------------|-------------------|------------------|------------------|------------------|------------------|-------------------|
| Generation Equipment | 1,758,125 | 1,467,837 | 1,102,000 | 2,439,721 | 72,000 | 6,839,683 |
| Distribution Network Equipment | 6,352,129 | 4,884,987 | 3,889,466 | 2,613,388 | 2,997,523 | 20,737,493 |
| Retail | 185,000 | 5,000 | 5,000 | 104,000 | 60,000 | 359,000 |
| Indirect | 110,000 | 210,000 | 110,000 | 110,000 | 250,000 | 790,000 |
| Renewables & other projects | 2,097,423 | 741,600 | 841,129 | 448,761 | 448,761 | 4,577,674 |
| Company Total | 10,502,677 | 7,309,424 | 5,947,595 | 5,715,870 | 3,828,284 | 33,303,850 |

| <u>GENERATION:</u> | <u>2020/21</u> | <u>2021/22</u> | <u>2022/23</u> | <u>2023/24</u> | <u>2024/25</u> | <u>Total</u> |
|----------------------------------------------|------------------|------------------|------------------|------------------|----------------|------------------|
| Tongatapu: | | | | | | |
| Growth - ancillary. SCADA & System Upgrade | 800,000 | | | | | 800,000 |
| Replacement - ancillary MAK/CAT Load sharin | 400,000 | | | | | 400,000 |
| Growth - ancillary. New office space central | 50,000 | | | | | 50,000 |
| Growth - Generator - (High Speed) | - | - | - | 1,500,000 | - | 1,500,000 |
| 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 | 75,000 | - | - | - | 150,000 |
| Replacement - ancillary | 88,125 | | | | | 88,125 |
| Replace - Exhaust Silencers G1-G6 | - | 378,837 | - | - | - | 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 Noise redu | - | 200,000 | - | - | - | 200,000 |
| | 1,413,125 | 1,267,837 | 900,000 | 2,137,721 | - | 5,718,683 |
| Vava'u | | | | | | |
| Growth - High Speed Generator 600kW | 200,000 | | | | | 200,000 |
| Replacement - Engine reset to zero running h | - | 100,000 | - | - | - | 100,000 |
| Replace - Cummins System Controller | - | 100,000 | - | - | - | 100,000 |
| Growth - ancillary SCADA & system upgrade E | 75,000 | | | | | 75,000 |
| Replace - Vehicle Ute (5-yr replacement due) | 70,000 | - | - | - | 70,000 | 140,000 |
| Replace - Air conditioner units | - | - | 2,000 | - | - | 2,000 |
| | 345,000 | 200,000 | 2,000 | - | 70,000 | 617,000 |
| 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 | - | - | - | 150,000 | - | 150,000 |
| Replace - Air conditioner units | - | - | - | - | 2,000 | 2,000 |
| | - | - | 100,000 | 300,000 | 2,000 | 402,000 |
| Ha'apai | | | | | | |
| Growth - 200 kWGenerator - (High Speed) | - | - | 100,000 | - | - | 100,000 |
| Replace - Air conditioner units | - | - | - | 2,000 | - | 2,000 |
| | - | - | 100,000 | 2,000 | - | 102,000 |
| Total Generation | 1,758,125 | 1,467,837 | 1,102,000 | 2,439,721 | 72,000 | 6,839,683 |

DIVISIONAL CAPITAL EXPENDITURE - 5 YEAR FORECAST

| DISTRIBUTION: | <u>2020/21</u> | <u>2021/22</u> | <u>2022/23</u> | <u>2023/24</u> | <u>2024/25</u> | Total |
|----------------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-------------------|
| Tongatapu | | | | | | |
| Growth | 908,459 | 608,319 | 1,323,267 | 679,231 | 888,384 | 4,407,660 |
| Submarine Cable | - | - | - | - | - | - |
| Fourth Feeder | - | - | - | - | - | - |
| Safety | 426,629 | 429,710 | 443,347 | 293,841 | 300,675 | 1,894,202 |
| Improvements | 1,838,747 | 1,212,810 | 722,707 | 506,333 | 518,108 | 4,798,704 |
| Meters/Smart Grid | 60,000 | 60,000 | 60,000 | 60,000 | 60,000 | 300,000 |
| | 3,233,834 | 2,310,839 | 2,549,321 | 1,539,405 | 1,767,167 | 11,400,566 |
| Vava'u | | | | | | |
| Growth | 150,000 | 150,000 | 64,909 | 67,590 | 69,162 | 501,662 |
| Safety | 113,560 | 113,560 | - | - | - | 227,120 |
| Improvements | 172,813 | 183,330 | - | - | - | 356,143 |
| Meters/Smart Grid | 35,000 | 35,000 | 25,000 | 20,000 | 20,000 | 135,000 |
| | 471,373 | 481,891 | 89,909 | 87,590 | 89,162 | 1,219,926 |
| Eua | | | | | | |
| Growth | 50,000 | 15,000 | 15,000 | 15,000 | 15,000 | 110,000 |
| Safety | 20,000 | 6,000 | 6,000 | 6,000 | 6,000 | 44,000 |
| Improvements | 160,000 | - | - | - | - | 160,000 |
| Meters/Smart Grid | 20,000 | 20,000 | 10,000 | 10,000 | 10,000 | 70,000 |
| | 250,000 | 41,000 | 31,000 | 31,000 | 31,000 | 384,000 |
| Ha'apai | | | | | | |
| Growth | - | - | - | - | - | - |
| Safety | 10,000 | 10,000 | 10,000 | 10,000 | 10,000 | 50,000 |
| Improvements | 50,000 | 50,000 | 50,000 | - | - | 150,000 |
| Meters/Smart Grid | 20,000 | 20,000 | 10,000 | 10,000 | 10,000 | 70,000 |
| | 80,000 | 80,000 | 70,000 | 20,000 | 20,000 | 270,000 |
| Total Distribution | 6,352,129 | 4,884,987 | 3,889,466 | 2,613,388 | 2,997,523 | 20,737,493 |
| RETAIL | <u>2020/21</u> | <u>2021/22</u> | <u>2022/23</u> | <u>2023/24</u> | <u>2024/25</u> | Total |
| Office Furniture | 1,000 | 1,000 | 1,000 | 3,000 | - | 6,000 |
| Office and Computer Equipment | 3,000 | 3,000 | 3,000 | 15,000 | - | 24,000 |
| Tools and Equipment | 1,000 | 1,000 | 1,000 | 1,000 | - | 4,000 |
| Vehicles | 60,000 | - | - | 85,000 | 60,000 | 205,000 |
| Buildings | 120,000 | - | - | - | - | 120,000 |
| Total Retail | 185,000 | 5,000 | 5,000 | 104,000 | 60,000 | 359,000 |
| CORPORATE/ INDIRECT | <u>2020/21</u> | <u>2021/22</u> | <u>2022/23</u> | <u>2023/24</u> | <u>2024/25</u> | Total |
| Office Furniture | - | - | - | - | - | - |
| Office and Computer Equipment | 60,000 | 60,000 | 60,000 | 60,000 | 60,000 | 300,000 |
| Tools and Equipment | - | - | - | - | - | - |
| Vehicles | - | 100,000 | - | - | 140,000 | 240,000 |
| Buildings | - | - | - | - | - | - |
| Network security/ reliability | 50,000 | 50,000 | 50,000 | 50,000 | 50,000 | 250,000 |
| Total Corporate/ Indirect | 110,000 | 210,000 | 110,000 | 110,000 | 250,000 | 790,000 |
| Renewables & other projects | | | | | | |
| Detailed | 2,097,423 | 741,600 | 841,129 | 448,761 | 448,761 | 4,577,674 |
| GRAND TOTAL | 10,502,677 | 7,309,424 | 5,947,595 | 5,715,870 | 3,828,284 | 33,303,850 |

Table 5: 2020/2021 - Summary of Capital Expenditure 2020/2021 (By Division)

| Division | Island | Category | Description | Reason | Discretionary / Non Discretionary | Amount |
|----------------------------|-----------|-----------------------------|-------------------------------------------------------------|------------------------|-----------------------------------|------------------|
| Generation | | | | | | |
| Generation | Tongatapu | Growth | SCADA & System Upgrade | Meet Service Standards | Discretionary | 800,000.00 |
| Generation | Tongatapu | Replacement | MAK/CAT Load sharing system upgrade | Meet Service Standards | Discretionary | 400,000.00 |
| Generation | Tongatapu | Growth | New office space central | Meet Service Standards | Discretionary | 50,000.00 |
| Generation | Tongatapu | Replacement | Heat Exchangers G1-G6 | Meet Service Standards | Discretionary | 75,000.00 |
| Generation | Tongatapu | Replacement | Ancillary | Meet Service Standards | Discretionary | 88,125.00 |
| Generation | Vava'u | Growth | High Speed Generator 600kW | Meet Service Standards | Discretionary | 200,000.00 |
| Generation | Vava'u | Growth | SCADA & system upgrade Engine controllers | Meet Service Standards | Discretionary | 75,000.00 |
| Generation | Vava'u | Replacement | Vehicle Ute (5-yr replacement due) | Meet Service Standards | Discretionary | 70,000.00 |
| Subtotal Generation | | | | | | 1,758,125 |
| Distribution | | | | | | |
| Distribution | Tongatapu | Growth | Fourth Feeder | Meet Service Standards | Non Discretionary | 300,000 |
| Distribution | Tongatapu | Growth | City, main centres, LV upgrade light conductor to ABC | Meet Service Standards | Non Discretionary | 430,652 |
| Distribution | Tongatapu | Growth | New transformer structure and box | Meet Service Standards | Non Discretionary | 177,807 |
| Distribution | Tongatapu | Safety | Replace aging, short or missing HV wood poles | Safety | Non Discretionary | 119,129 |
| Distribution | Tongatapu | Safety | Feeders, HV Cable Uprating (undersized Hv Cables) | Safety | Non Discretionary | 307,500 |
| Distribution | Tongatapu | Improvements | New reclosers | Meet Service Standards | Non Discretionary | 120,000 |
| Distribution | Tongatapu | Improvements | Feeders, HV upgrade, Undersized Conductors & Poles | Meet Service Standards | Non Discretionary | 900,000 |
| Distribution | Tongatapu | Improvements | Feeders, HV upgrade, replace light conductor to underground | Meet Service Standards | Non Discretionary | 100,000 |
| Distribution | Tongatapu | Improvements | Replace old transformer box | Meet Service Standards | Non Discretionary | 69,153 |
| Distribution | Tongatapu | Improvements | Replace existing transformer structures | Meet Service Standards | Non Discretionary | 83,000 |
| Distribution | Tongatapu | Improvements | Replace Customer Connection 1 Phase (DONOR) | Meet Service Standards | Non Discretionary | 383,028 |
| Distribution | Tongatapu | Improvements | Replace Customer Connection 3 Phase (DONOR) | Meet Service Standards | Non Discretionary | 91,321 |
| Distribution | Tongatapu | Improvements | Re-pole - LV poles only, No fittings | Meet Service Standards | Non Discretionary | 92,244 |
| Distribution | Tongatapu | Improvements | Meter Replacement - single phase (7,261 TVNUP, 10,686 N | Meet Service Standards | Non Discretionary | 30,000 |
| Distribution | Tongatapu | Improvements | Meter Replacement - three phase - CT Meter (381 TVNUP, | Meet Service Standards | Non Discretionary | 30,000 |
| Distribution | Tongatapu | Improvements | Install new street lighting controls | Meet Service Standards | Non Discretionary | 40,000 |
| Distribution | Tongatapu | Office Furniture | various | Meet Service Standards | Discretionary | 2,378 |
| Distribution | Tongatapu | Office & Computer Equipment | various - (by IT dept only) | Meet Service Standards | Discretionary | 2,624 |
| Distribution | Tongatapu | Tools & Equipment | Various | Meet Service Standards | Discretionary | 19,496 |
| Distribution | Tongatapu | Vehicle | Metering Utility Van | Meet Service Standards | Discretionary | 100,000 |
| Distribution | Tongatapu | Vehicle | Utility, double cab, flat deck | Meet Service Standards | Discretionary | 70,000 |
| Distribution | Tongatapu | Vehicle | Tractor or Transporter - Pole | Meet Service Standards | Discretionary | 30,000 |
| Distribution | Tongatapu | Vehicle | Tipper | Meet Service Standards | Discretionary | 80,000 |
| Distribution | Tongatapu | Vehicle | Excavator/Chain Digger | Meet Service Standards | Discretionary | 120,000 |
| Distribution | Tongatapu | Building | Vehicle Garage | Meet Service Standards | Discretionary | 50,000 |
| Distribution | Tongatapu | Capitalised Labour | Labour | Meet Service Standards | Non Discretionary | 528,146 |
| Distribution | Tongatapu | Capitalised Transport | Transport | Meet Service Standards | Non Discretionary | 487,937 |
| | | | | | | 4,764,416 |
| Distribution | Vava'u | Growth | City, main centres, LV upgrade light conductor to HV ABC | Meet Service Standards | Non Discretionary | 150,000 |
| Distribution | Vava'u | Safety | Replace aging, short or missing HV wood poles | Safety | Non Discretionary | 113,560 |
| Distribution | Vava'u | Improvements | Feeders, HV upgrade, replace light conductor to underground | Meet Service Standards | Non Discretionary | 21,035 |
| Distribution | Vava'u | Improvements | Replace old transformer box | Meet Service Standards | Non Discretionary | 85,764 |
| Distribution | Vava'u | Improvements | Replace existing transformer structures | Meet Service Standards | Non Discretionary | 66,014 |
| Distribution | Vava'u | Improvements | Meter Replacement - single phase | Meet Service Standards | Non Discretionary | 20,000 |
| Distribution | Vava'u | Improvements | Meter Replacement - three phase - CT Meter | Meet Service Standards | Non Discretionary | 15,000 |
| Distribution | Vava'u | Improvements | Install new street lighting controls | Meet Service Standards | Non Discretionary | 10,000 |
| Distribution | Vava'u | Tools & Equipment | Various | Meet Service Standards | Discretionary | 5,535 |
| Distribution | Vava'u | Vehicle | Utility, double cab, flat deck | Meet Service Standards | Discretionary | 80,000 |
| Distribution | Vava'u | Vehicle | Truck - bucket - larger two man lift | Meet Service Standards | Discretionary | 130,000 |
| Distribution | Vava'u | Vehicle | Truck Line - crane and auger | Meet Service Standards | Discretionary | 130,000 |
| Distribution | Vava'u | Building | Vehicle Garage | Meet Service Standards | Discretionary | 40,000 |
| | | | | | | 866,908 |

Table 5: 2020/2021 - Summary of Capital Expenditure 2020/2021 (By Division)

| Division | Island | Category | Description | Reason | Discretionary / | Amount |
|-----------------|--------------------------------------|-----------------------------|-------------------------------------------------------|------------------------|-------------------|---------------------------------|
| Distribution | Ha'apai | Safety | Replace aging, short or missing HV wood poles | Safety | Non Discretionary | 10,000 |
| Distribution | Ha'apai | Improvements | Re-insulation strains, joints | Meet Service Standards | Non Discretionary | 50,000 |
| Distribution | Ha'apai | Improvements | Meter Replacement - single phase | Meet Service Standards | Non Discretionary | 10,000 |
| Distribution | Ha'apai | Improvements | Meter Replacement - three phase - CT Meter | Meet Service Standards | Non Discretionary | 10,000 |
| Distribution | Ha'apai | Improvements | Install new street lighting controls | Meet Service Standards | Non Discretionary | 2,000 |
| Distribution | Ha'apai | Tools & Equipment | Various | Meet Service Standards | Discretionary | 5,945 |
| Distribution | Ha'apai | Vehicle | Utility, double cab, flat deck | End of Economic Life | Discretionary | 80,000 |
| Distribution | Ha'apai | Building | Vehicle Garage | Meet Service Standards | Discretionary | 40,000 |
| | | | | | | <u>207,945</u> |
| Distribution | Eua | Growth | City, main centres, LV upgrade light conductor to ABC | Meet Service Standards | Non Discretionary | 20,000 |
| Distribution | Eua | Growth | City, main centres, LV upgrade light conductor to ABC | Meet Service Standards | Non Discretionary | 30,000 |
| Distribution | Eua | Safety | Replace aging, short or missing HV wood poles | Safety | Non Discretionary | 20,000 |
| Distribution | Eua | Improvements | Feeders, HV upgrade, Undersized Conductors & Poles | Meet Service Standards | Non Discretionary | 100,000 |
| Distribution | Eua | Improvements | Feeder lines, balance feeders | Meet Service Standards | Non Discretionary | 60,000 |
| Distribution | Eua | Improvements | Meter Replacement - single phase | Meet Service Standards | Non Discretionary | 10,000 |
| Distribution | Eua | Improvements | Meter Replacement - three phase - CT Meter | Meet Service Standards | Non Discretionary | 10,000 |
| Distribution | Eua | Improvements | Install new street lighting controls | Meet Service Standards | Non Discretionary | 2,000 |
| Distribution | Eua | Office & Computer Equipment | various - (by IT dept only) | Meet Service Standards | Discretionary | 5,430 |
| Distribution | Eua | Tools & Equipment | Various | Meet Service Standards | Discretionary | 5,430 |
| Distribution | Eua | Vehicle | Metering Utility Van | Meet Service Standards | Discretionary | 80,000 |
| Distribution | Eua | Vehicle | Utility, double cab, flat deck | Meet Service Standards | Discretionary | 130,000 |
| Distribution | Eua | Building | Vehicle Garage | Meet Service Standards | Discretionary | 40,000 |
| | | | | | | <u>512,861</u> |
| Subtotal | Distribution | Capital Expenditure | | | | <u>6,352,129</u> |
| Retail | Tongatapu | Office Furniture | various | Meet Service Standards | Discretionary | 1,000 |
| Retail | Tongatapu | Office & Computer Equipment | various - (by IT dept only) | Meet Service Standards | Discretionary | 3,000 |
| Retail | Tongatapu | Tools & Equipment | Various | Meet Service Standards | Discretionary | 1,000 |
| Retail | Tongatapu | Vehicle | Van - 8 seater | End of Economic Life | Discretionary | 60,000 |
| Retail | Vava'u | Building | Renovation | Meet Service Standards | Discretionary | 60,000 |
| Retail | Eua | Building | Renovation | Meet Service Standards | Discretionary | 60,000 |
| Subtotal | Retail | | | | | <u>185,000</u> |
| Indirect | Tongatapu | Office & Computer Equipment | various | End of Economic Life | Discretionary | 60,000 |
| Indirect | Tongatapu | Information Technology | Network Reliability | Meet Service Standards | Discretionary | 50,000 |
| Indirect | Tongatapu | Renewable & Other Projects | Engineering Standards & Tools | Meet Service Standards | Discretionary | 7,200 |
| Indirect | Tongatapu | Renewable & Other Projects | Marketing Tools | Meet Service Standards | Discretionary | 2,000 |
| Indirect | Tongatapu | Renewable & Other Projects | Generation and Distribution Master Plan | Meet Service Standards | Non Discretionary | 20,000 |
| Indirect | Tongatapu | Renewable & Other Projects | Grid Integration studies | Meet Service Standards | Non Discretionary | 75,000 |
| Indirect | Tongatapu | Renewable & Other Projects | Renewable energy forecasting | Meet Service Standards | Non Discretionary | 20,000 |
| Indirect | Tongatapu | Renewable & Other Projects | Vava'u and 'Eua - TREP Contribution | Meet Service Standards | Non Discretionary | 70,000 |
| Indirect | Tongatapu | Renewable & Other Projects | Vava'u and 'Eua and China Wind and 3.8 MW Wind | Meet Service Standards | Non Discretionary | 240,000 |
| Indirect | Tongatapu | Renewable & Other Projects | More Solar & Wind (Customer Owned) | Meet Service Standards | Non Discretionary | 100,000 |
| Indirect | Tongatapu | Renewable & Other Projects | Marketing and comms | Meet Service Standards | Discretionary | 20,000 |
| Indirect | Tongatapu | Renewable & Other Projects | Energy Efficiency | Meet Service Standards | Non Discretionary | 10,000 |
| Indirect | Tongatapu | Renewable & Other Projects | OIREP&OIEEP | Meet Service Standards | Non Discretionary | 633,223 |
| Indirect | Tongatapu | Renewable & Other Projects | NNUP TPL Contribution outside of distribution Capex | Meet Service Standards | Non Discretionary | 600,000 |
| Indirect | Tongatapu | Renewable & Other Projects | Stabilisation BESS installation | Meet Service Standards | Non Discretionary | 50,000 |
| Indirect | Tongatapu | Renewable & Other Projects | Load shifting BESS installation | Meet Service Standards | Non Discretionary | 50,000 |
| Indirect | Tongatapu | Renewable & Other Projects | China Wind 2.2MW | Meet Service Standards | Non Discretionary | 100,000 |
| Indirect | Tongatapu | Renewable & Other Projects | Wind IPP 3.8MW | Meet Service Standards | Non Discretionary | 100,000 |
| Subtotal | Indirect | | | | | <u>2,207,423</u> |
| TOTAL | CAPITAL EXPENDITURE 2020/2021 | | | | | <u><u>10,502,678</u></u> |