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1.0 CHAIRMAN’S REPORT

1.1 OVERVIEW

Tonga Power continues to improve its performance, recognised as one of the better utilities in the Pacific. This was demonstrated in the benchmarking report published by the Pacific Power Association in December 2011.

Tonga Power’s performance however will continue to be hampered by the on-going volatility in international oil prices until we reduce our heavy reliance on diesel for generation. Our tariffs, while sitting at around the median for the Pacific are still well above the levels where they are competitive with our larger neighbours. This has driven our strategy, which is to help achieve Government’s objective to reduce reliance on imported fuels. Key projects initiated were all aimed reducing our fuel costs, in addition to improving the efficiency of our business.

Nevertheless Tonga Power continued to punch above its weight in the Pacific region, the Pacific Power Benchmarking Report released in January shows Tonga power performing at or near the top in terms of generation efficiencies, efficiency of staffing and utilisation of plant. In distribution, despite our small and sparse grids, our losses and operating costs are at or better than the average. Our tariffs, while high by international standards, are exceeded by six other Pacific Island nations.

Key initiatives during the year included the commencement of the first phase of the Tonga Village Upgrade Project in January and the start of construction of the 1.3 MW Maama Mai solar facility at Anana. Both projects are fully funded by the New Zealand Aid programme. Meter replacement continued, with all except for the Vava’u meters having been replaced by year end.

1.2 FINANCIAL REVIEW

Our profit after tax at T$2.48m, from revenue of T$44.0m, for the year ended 30 June 2012 was down on the previous year. The key variances from the previous year included a move to expense the generator overhauls. Previously the overhauls were capitalised and the change in approach better reflects the requirements of the international accounting regulations we operate under. The impact of this change was to increase our costs by around T$2 million. Other key variances include an increase of some 20% in depreciation due to higher levels of capital works carried out, and a reversal of our fuel hedge loss. The fuel hedge trial was deemed a success, except for the impact of the parallel foreign exchange rate cover, something the company will review in future.
The Board has declared a T$0.8m dividend to be paid to the shareholder. This is in line with our policy. Last year Tonga Power paid a special one-off dividend to our shareholder, even though we have been operating under a three year dividend “holiday”. This has now concluded and we expect to provide a regular dividend to our shareholder going forward.

Further development and replacement of our diesel generation assets were deferred as a result of several factors. Firstly the forecast growth in demand failed to materialise due to a flat economy, the company participated in a cabinet supported fuel working group to identify more cost effective approaches to fuel purchases for Tonga, which could have led to conversion to heavy fuel oil for Tongatapu. Lastly the Board’s review of the strategic plan led to the implementation of projects that aim to replace diesel generation with renewables.

The total capital investment was T$4.2m, in addition to commitments to expenditure on two significant and fully donor funded projects, the rural village network upgrade and the Maama Mai solar facility. In the last quarter of the financial year we refinanced our loans, achieving an improvement in interest rate and repayment terms. In addition our term loan total was reduced to T$7.2m, a reduction of T$2.4m through the year.

The company’s Return of Equity (ROE) decreased to 4.74% from 8.78% from the previous year with total equity increasing to T$48.9m from T$42.3m last year.

1.3 OPERATIONAL HIGHLIGHTS

Our performance over the year showed ongoing improvement in service to our customers. However the dispersed nature of our networks and the vagaries of the weather have a material impact on our ability to provide a fully secure supply. This was demonstrated in February 2012 when first cyclone Cyril struck Vava’u, then cyclone Jasmine struck Tongatapu. In both cases generation was shut down for safety reasons, the high winds breaking poles, causing trees to fall over lines, and with many service lines torn away from the network and premises. We will always be at the mercy of these tropical storms, but have been able to improve our responses to these, and also improve the resilience of our systems to limit damage and outage duration. It was however heartening to see the supply restored by our field service staff within a day.
The company continued to invest in the distribution network to improve reliability and drive down losses. From 1 January 2012 the Concession Contract regulated losses used in our fuel calculations reduced to 13%, however the actual total system losses as at 30 June 2012 were still adverse at 14.5% (based on a twelve month rolling average). Programmes underway to improve these losses include the completion of meter replacement, upgrading of undersized conductor, and replacing twisted service line connections and joints with removable links.

The Village Network Upgrade Project aims to replace ageing and poorly insulated low voltage networks with robust and low loss conductors, phase one commenced in February this year. The T$8.5 million NZ Aid Programme funded project will see 17 Tongatapu villages addressed by mid-2013, covering over 2,000 premises. The project will make a significant contribution to losses reduction, but more importantly it will provide a safer and more reliable supply to customers. Subject to future donor funding approvals the village project aims to eventually upgrade the low voltage reticulation of some 100 Tonga villages over time.

One key feature of the project is that we will be sourcing replacement power poles for our sister public enterprise, Tonga Forest Products Limited, sourcing our poles locally instead of importing these. The trees for these poles are situated in the ‘Eua forests, planted by NZ Aid some 30 years ago. It is therefore fitting that the first use of these locally produced poles should be for this aid programme. Delivery is expected from mid July 2012.

The meter replacement programme has seen all 15,000 Tongatapu meters replaced, and all but a handful of meters on ‘Eua and Ha’apai replaced. This leaves just the 1, 300 Vava’u meters to be replaced, work on this phase of the project commenced in May 2012.

Construction of the 1.3 MW Maama Mai solar plant commenced in November 2011, with the ground breaking ceremony attended by Government officials and the project Alliance partners. The solar project has been commissioned in July 2012. The T$12 million project is fully funded by the NZ Aid Programme, and constructed by Meridian Energy Limited of New Zealand. The solar facility has been named Maama Mai, loosely translated “let there be light”, by His Majesty King Tupou VI. It will produce an average of 1,880 MWh of energy per annum. This equates to around 4% of total power generated by Tonga Power, and will save the country around 450,000 litres of diesel import each year.

The project is an exciting first step towards transforming Tonga Power into a renewable generation company.
Our fuel hedging trial finished in June 2012. The results of this trial were mixed. The aim was to reduce the volatility in diesel costs and provide predictability of delivered prices. The fuel hedging was a success, however the financial impact from hedging on foreign exposure offset the benefits achieved. Any decision to continue with fuel hedging will ensure we curtail foreign exchange hedging.

Tonga Power joined forces with the Ports Authority to develop a fuel procurement model that is a mirror of the successful model implemented in other parts of the Pacific. The model foresees ownership of the fuel receipting and storage Assets being Tonga owned, and a competitive tender approach to source fuel directly from Singapore by means of a medium range oil tanker. The model has the potential to provide Tonga Power with a lower cost heavy fuel oil, and thus reduce the net landed cost of fuel (after investment in storage tanks and conversion of diesels) by over 4 seniti/kWh.

Unfortunately, as at the end of the financial year progress towards implementation of this fuel model was hampered by political uncertainty and a lack of desire by the oil companies to support the proposal.

1.4 OUR PEOPLE

There were two lost time injuries over the fiscal year, one in November and one in May. While not serious, they did give rise to further reviews of our work practices. Staff have been encouraged to report near misses, and ongoing on the job training has a strong focus on safe working practices.

A number of staff attended technical training courses run under the auspices of aid agencies and also the Pacific Power Association. Much of this focused on renewable energy, such as solar technology.

The Village Network Upgrade Project included funding for a programme for training of our linemen, which commenced in May this year and will see field service staff trained to New Zealand Qualification Authority standard. All staff will be trained and then assessed by the N Z Electricity Supply Industry Training Organisation (ESITO) to Level Four standard. This will bring our line staff up to the same standard of qualification as their peers in Australasia.

The year saw major changes to the make-up of the Board, Sitiveni Finau, Sione Folau Lokotui, Peter McGill and William Edwards joined the Board during the year. John van Brink also joined the company as Chief Executive replacing Peter McGill.
It is commendable that staff took these changes in their stride without loss of efficiency of operation, a sure sign of the maturity and solid structure of our business.

1.5 OUR STRATEGY AND WAY FORWARD

Our core business is the provision of safe, reliable, and affordable electricity to our customers. We remain committed to international standards of service and performance.

Our strategy was reviewed in May this year, in doing so we redefined our Core Purpose, which is to:

“Reduce Tonga's vulnerability to oil price shocks, and achieve an increase in quality access to modern energy services in an environmentally sustainable manner via its strategies and Business Plan and to be financially sustainable.”

Our strategy is to deliver on the Government objective of having 50% of electricity generation from renewable sources. In addition we aim to drive down electricity prices through reduced reliance on diesel, and through improved operational efficiencies.

Tonga Power has a view of how we will transform ourselves, through a fast track implementation of network and generation projects. This also involves replacement of our ageing Caterpillar diesel generator sets with more efficient low speed machines, with the anticipated purchase of a second MAK generator before the end of 2014.

In addition we are looking at several renewable generation projects, some being offered through grant funding. Projects on the horizon will add some 2.3 MW of solar capacity to our networks. A feasibility study into the construction of biomass generation using gasifiers on ‘Eua and Tongatapu looks promising. If commercially viable the two generators could be in operation around the end of 2013 and will reduce our diesel consumption by 10%.

1.6 REGULATIONS AND ELECTRICITY INDUSTRY POLICIES

The year was marked by a shift in Government focus to the Electricity and Fuel Sectors, which gave rise to a level of uncertainty about the regulatory regime we operate under. The change of composition of the Electricity Commission, with appointment of the four Commissioners, meant that our relationship became more formal. Tonga Power pro-actively instituted a fuller compliance reporting process supported by the appointment of a Risk and Compliance Manager (a new position).

Nevertheless we were disappointed when the Commission saw fit to issue a Notice of Penalty for failure to submit annual reports in October 2011. We strongly reject this Notice and will be taking the matter through the disputes process set out in the Concession Contract. We are also surprised that the Commission should wait for over eight months after the event, not communicate any issues, and then decide to issue a Notice without warning.

Industry reviews initiated by Government through the TERM Committee has frustrated us, it seems the emphasis of this is on finding ways to introduce a means of separation of Tonga Power, even establishing a separate entity to own donor funded renewable generation. This approach will severely impact on Tonga Power’s ability to operate in a sustainable manner; it would duplicate the country’s overheads, and in our view will be detrimental to the price of power to our customers. We keenly await the outcome of the various reviews underway and look forward to engaging with Government and the multi-lateral aid agencies that are driving these reviews.
1.7 CONCLUSIONS

The business continues from strength to strength. Our balance sheet is strong, and our journey towards a leading renewable energy based company has begun. We are definitely on track to deliver on the Government’s Tonga Energy Road Map.

Tonga Power is at the driving end of economic growth in Tonga, we aim to further improve the reliability of electricity supply to our customers, and to keep downward pressure on our electricity prices.

Tonga Power is well positioned to grab opportunities available, I want to thank my fellow directors, management, and staff for their hard work, their dedication, and their vision for the company and Company Secretary William Edwards for his valuable contributions. In addition, I want to specifically thank Peter McGill, for his service at Tonga Power as Chief Executive till February this year and I look forward to his continued involvement as a director of the board. It has been an encouragement to have John van Brink join the company in February, he has quickly taken control of the business and worked with the Board to develop our strategic direction and initiate a number of exciting energy projects. We look forward to a productive and satisfying year ahead.

I would also like to acknowledge the “hard yards” put in by my predecessor David Wright, who led the company through the transition into new ownership and resigned during the year.

To our customers and stakeholders, thank you for your support, I hope you will join us in the coming year in what will be an exciting journey, and one that I am sure will reward you with superior service and lower tariffs.

Carl Sanft
Chairman
2. NATURE AND SCOPE OF ACTIVITIES

Tonga Power’s core business is generating and distributing electric power across a four grid system within Tonga. The company reticulates to approximately 20,500 customers across the four major islands of Tongatapu, Vava’u, Eua and Ha’apai and at the highest level is summarised as:

2.1. Tongatapu
- High voltage network is 11kV and the low voltage network operates at a three/single phase standard of 415/240v; 638km of overhead lines, 11km of underground cables and 1 kilometre of submarine cable.
- 450kms of overhead lines are low voltage lines (single and three phase)
- Customers numbers some 15,400

2.2. Vava’u
- High voltage network is 6.6 kV and the low voltage network operates at a three/single phase standard of 415/240v
- 167km of overhead lines, 2km of underground cables and 95km of overhead lines are low voltage lines (single and three phase)
- Customers numbers some 3,150

2.3 Ha’apai
- High voltage network is 6.6 kV and the low voltage network operates at a three/single phase standard of 415/240v
- 47km of overhead lines and 32 km of overhead lines are low voltage lines (single and three phase)
- Customers numbers some 900

2.4 ‘Eua
- High voltage network is 6.6 kV and the low voltage network operates at a three/single phase standard of 415/240v
- 56km of overhead lines and 42km of overhead lines are low voltage lines (single and three phase)
- Customers numbers some 1,030

Tonga Power’s capitalisation is provided below, the regulated distribution assets have been re-valued as at 30 June.

<table>
<thead>
<tr>
<th>Assets</th>
<th>1-Jul-11</th>
<th>30-June-12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Generation Equipment</td>
<td>$16,315,838</td>
<td>$14,600,873</td>
</tr>
<tr>
<td>Distribution Network Equipment</td>
<td>$31,245,596.79</td>
<td>$36,519,458</td>
</tr>
<tr>
<td>Office Computers &amp; Equipment</td>
<td>$278,579</td>
<td>$300,380</td>
</tr>
<tr>
<td>Furnitures &amp; Fixtures</td>
<td>$57,848</td>
<td>$61,668</td>
</tr>
<tr>
<td>Tools &amp; Equipment</td>
<td>$362,865</td>
<td>$328,754</td>
</tr>
<tr>
<td>Vehicles</td>
<td>$1,012,071</td>
<td>$871,547</td>
</tr>
<tr>
<td>Land &amp; Building</td>
<td>$4,904,300</td>
<td>$4,817,042</td>
</tr>
<tr>
<td>Work in progress</td>
<td>$111,494</td>
<td>$550,465</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$54,288,592</strong></td>
<td><strong>$58,050,187</strong></td>
</tr>
</tbody>
</table>
The change in distribution value is summarised in the table below. The valuation has been conducted through external audit and complies with international regulatory process and is based on depreciated replacement cost. The increase in asset value reflects investments over the past year, including wholesale replacement of meters and replacement of a number of high voltage poles.

<table>
<thead>
<tr>
<th></th>
<th>1-Jul-11</th>
<th>30-Jun-12</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Tongatapu</strong></td>
<td>23,342,300.18</td>
<td>26,586,142.00</td>
</tr>
<tr>
<td><strong>Vavau</strong></td>
<td>4,839,320.95</td>
<td>5,673,503.00</td>
</tr>
<tr>
<td><strong>Ha'apai</strong></td>
<td>1,355,483.86</td>
<td>2,111,955.00</td>
</tr>
<tr>
<td><strong>Eua</strong></td>
<td>1,708,491.80</td>
<td>2,147,858.00</td>
</tr>
<tr>
<td><strong>Total Distribution Network</strong></td>
<td><strong>31,245,596.79</strong></td>
<td><strong>36,519,458.00</strong></td>
</tr>
</tbody>
</table>
3.0 MAAMA MAI SOLAR FACILITY

The Maama Mai Solar Facility was commissioned on the 20th of August 2012 after the official dedication of the site on the 24th of July 2012.

When operating at full capacity, the 5,760 photovoltaic solar panels can produce up to 25% of Tongatapu’s daytime demand and will generate up to 1,880 megawatt hours of electricity per annum. It will reduce Tonga’s reliance on imported diesel by 470,000 liters while generating approximately 4% Tonga Power’s total electricity consumed.

Construction of the Maama Mai Solar Facility began in November 2011 and is an alliance between the Government of Tonga, Tonga Power, Meridian Energy and the New Zealand Aid Programme. Tonga Power is responsible for operating and maintaining the facility. Northpower were contracted by Meridian to connect the facility to Tonga Power’s network.

Additionally, with the solar farm now fully operational, its position in Tongatapu is helping to reduce Tonga’s reliance on imported diesel.

The opening ceremony for the Maama Mai solar farm was attended by the guest of honour, King Tupou VI, Queen Nanasi Pau’u Tuku’aho, New Zealand Foreign Minister, Hon Murray McCully, Meridian CEO Mark Binns and guests.

Fig 1: Maama Mai Solar Farm Facility
3.1. SMART METERING TRIAL

Tonga Power is looking into development of Advanced (Smart) Metering Systems. The process for trialling and selecting the appropriate metering technology to use is currently underway. Through these trials we hope to figure out what smart metering solution is most suitable for Tonga. The project will be focussing initially on a prepayment solution and on detailed evaluation of suitable options for smart metering for the long term.

Advanced metering has many implications not just for our customers but for TPL itself. Smart meters these days have the ability to acquire valuable information about network events and can provide information that allows for faster response to serious network problems. Although advanced meters may not be cost effective in Tonga for some time, it is very important that TPL is prepared and knows what it wants from smart metering technology.

Through this project it is hoped that a number of options for smart metering will be assessed. Building on experience in the Pacific and further abroad it is hoped that the project will narrow down the kinds of metering system that would work for TPL into the future. Smart metering is a very new technology that many overseas countries have only begun to implement, it is clear that detailed evaluation is necessary in order to make the correct choice of metering system.

Smart Meters empower both customers to make properly informed decisions about how, when and where they consume energy, the real time data is accurately recorded and transmitted at frequent intervals to their energy suppliers for accurate billing purposes, and consumers can access their real-time usage and make informed decision about how to manage it better.

Fig 2: Example of an Advanced Meter
3.2. TONGA VILLAGE NETWORK UPGRADE PROJECT

Tonga Power has been assisting in the Tonga Village Network Upgrade Project which commenced in June 2011 with the goal of upgrading the distribution network for 17 villages on Tongatapu. The project, valued at $8.5m NZD, is of national significance and is a major contributor to security of supply for the villages, generating safer and more reliable electricity supply for people’s homes.

The work programme includes:

- Replacing 1,949 single phase metered connections and service lines
- Replacing 37 three phase metered connections and service supply lines
- Installation of 50km LV single phase supply line
- Installation of 10km LV single phase supply line
- Replacement of 3,000 utility poles

The first phase of the project started in June 2011 with the design, training and certification to New Zealand standards of the linesmen. A number of training sessions have been undertaken to support and strengthen the role of linesmen within Tonga Power.

In May 2012, TPL staff installed 4,000 metres of low voltage ABC bundle cable for the TVNU project in Puke over a 2 week period, replaced a number of 11m poles and completed HV works along Hihifo Road by the end May.

The work is currently progressing well with increased assistance from an additional 12 Tonga Power staff. The project is expected to be completed in June, 2013.

*Fig 3: Men at Work, TVNUP*
3.3. UPSKILL TRAINING FOR THE TVNUP TEAM

As proposed in the Grant Funding Agreement (GFA) with NZ Aid for the Tonga Village Upgrade Project a comprehensive training pathway has been developed to ensure the employee’s progression from Trainee to Line Mechanic. This was seen as the most effective way to build on Tonga Power’s existing capacity and up skill staff to an international standard.

The first phase of the training that started on October 1 covered drilling and pole erection, conductor and cable installation, service line and meter installation, combined with a large theoretical component.

A total of 20 staff from the Tonga Village Upgrade Project and Tonga Power staff participated in a training course which covered climbing and working safely on Electricity network structures, carry out rescue from an electrical structure and operate light lifting and rigging equipment in the electricity supply environment. Other relevant training sessions have already been completed to support and strengthen the role of linesmen within Tonga Power on health and safety and first aid with the Tongan branch of the Red Cross in November 2011.

The training will qualify those trainees who have already signed a two-year employment agreement through Tonga Power Ltd, under the project, from the New Zealand Electricity Standards Industry Training Organisation (ESITO) and the New Zealand Qualifications Authority (NZQA). The trainees in the project will be fully certified to New Zealand standards, which mean they’ll be able to work to standard similar to those found in New Zealand and Australia.

**Fig 4: Trainee Line Mechanics for the Tonga Village Upgrade project.**
### 3.4. TPL RESPONSE TO TROPICAL CYCLONE JASMINE

In February this year, Tonga experienced significant network damages as a result of tropical cyclone Jasmine. Tonga Power’s response to the damage was remarkable, the team worked around the clock to connect people’s electricity and clear the line from trees that had been blown over by the cyclone.

The cyclone brought with it very strong winds and heavy rainfall that resulted in severe flooding, damage to crops and houses, and widespread disruption to the electricity distribution system.

Tonga Power made the decision to switch off the power supply temporarily for safety reasons and gave frequent and regular announcements over the radio to inform and warn the public to stay away from lines blown down and especially those covered with water.

The damage to the network was spread throughout the island and two transformers with a combined value of around $40,000 were also destroyed in the storm. Within one week from when the storm hit Tongatapu, a total of 1,760 faults were recorded by Tonga Power.

The distribution Division, following the division’s disaster management plan repaired the lines and restore power supply to the community within a short period of time. Crews were allocated to the feeders in case any problem occurred with the communication when the power was off. Safety points were allocated to the feeders and crews working around the area had to check everything in the event of an outage and report to the supervisor.

Tonga Power had plenty of conductors and a good stock of poles, stocked by Transnet, Tonga Power’s main supplier. Two transformers were replaced, the crew changed 70 poles for in one week of which 15 were high voltage poles and the rest were low voltage poles throughout the villages.

![Fig 5: Broken Poles as a result of cyclone Jasmine](image-url)