

**STATEMENT OF FINANCIAL PERFORMANCE**

For the Year Ended 31 December 2013	Note	31-Dec-13	31-Dec-12
Sundry Income	1	290,861	335,850
Investment Income	2	32,827	36,285
<b>TOTAL INCOME</b>		<b>323,688</b>	<b>372,135</b>
<b>EXPENDITURE</b>			
Scholarships	3	111,750	98,333
Personnel		120,148	168,155
Power Engineering Education Support		1,606	6,147
Field Trips		13,150	7,291
Consulting		16,318	31,475
Sundry		—	2,500
<b>TOTAL EXPENDITURE</b>		<b>262,972</b>	<b>313,901</b>
<b>NET SURPLUS</b>		<b>60,716</b>	<b>58,234</b>

**STATEMENT OF MOVEMENTS IN EQUITY**

For the Year Ended 31 DECEMBER 2013			
Balance as at 1 January		715,551	626,100
Net Surplus for period		60,716	58,234
Other Distributions	4	41,620	31,217
Total Recognised Income & Expenditure		102,336	89,451
Balance as at 31 December		817,887	715,551

**STATEMENT OF FINANCIAL POSITION**

As at 31 DECEMBER 2013			
<b>CURRENT ASSETS</b>			
Sundry Debtors		—	—
<b>Total Current Assets</b>		<b>—</b>	<b>—</b>
<b>CURRENT LIABILITIES</b>			
Accounts Payable		—	169,251
<b>Total Current Liabilities</b>		<b>—</b>	<b>169,251</b>
<b>NON-CURRENT ASSETS</b>			
Investments	5	817,887	884,802
<b>Total Non-Current Assets</b>		<b>817,887</b>	<b>884,802</b>
<b>TOTAL NET ASSETS</b>		<b>817,887</b>	<b>715,551</b>
<b>REPRESENTED BY:</b>			
Trust Funds	6	817,887	715,551
<b>TOTAL TRUST FUNDS</b>		<b>817,887</b>	<b>715,551</b>
POWER ENGINEERING EXCELLENCE TRUST			

**NOTES TO THE FINANCIAL STATEMENTS**

31 DECEMBER 2013	31-Dec-13	31-Dec-12
<b>1. Sundry Income</b>		
Industry Funding	245,249	191,200
Consulting Income	45,613	144,650
	<b>290,861</b>	<b>335,850</b>
<b>2. Investment Income</b>		
Investment Income Gain	32,827	36,285
	<b>32,827</b>	<b>36,285</b>
The investment gain for 2013 and 2012 was calculated at 4.5% on the average equity balance as per the Statement of Investment Policy Objectives, which is approved by University Council.		
<b>3. Scholarships</b>		
Postgraduate	46,000	53,333
Undergraduate	55,000	45,000
Prior year scholarships	10,750	—
	<b>111,750</b>	<b>98,333</b>
<b>4. Other Distributions</b>		
CPI Adjustment to Base Capital	11,672	7,257
Revenue Reserve	29,948	23,960
	<b>41,620</b>	<b>31,217</b>

The Base Capital adjustment is to maintain the purchasing power of the fund, spending this effectively reduces the capital of the fund. The Revenue Reserve is to be used as and when necessary, during years of low or negative investment returns, to support the flow of distributions without recourse to reducing the capital of the fund.

**5. Investments**  
As at 31 December 2013 the amount of \$817,887 (2012: \$884,802) is invested through the University Trust Fund. Investment of these funds is overseen by investment advisers, Eriksen & Associates. This is in a manner that is in accordance with the Statement of Investment Policy and Objectives.

6. Trust Funds	31-Dec-13	31-Dec-12
Balance at beginning of period	715,551	626,100
Net Operating Surplus for period	60,716	58,234
Other Distributions	41,620	31,217
Balance at end of period	817,887	715,551

**7. Commitments**  
In 2012, the PEET Board agreed to meet additional Scholarship costs of \$10,750 in 2013 (incurred by the University of Canterbury in December 2012). These are reflected in the 2013 scholarship expenditure shown above in note 3.

**Members**

**Premium Members**

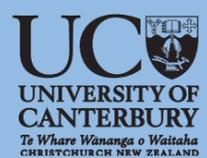


**Members**



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“Promoting and supporting the education of power engineers and the study of power engineering as a field of excellence in New Zealand”



POWER ENGINEERING EXCELLENCE TRUST

**Annual Report 2013**



# Chairman's Statement

The Power Engineering Excellence Trust (PEET) and the Electric Power Engineering Centre (EPECentre) were established in 2002 by industry leaders to address the declining number of power engineering graduates since the 1990s. In 2013, we saw the highest number of graduates completing their power engineering studies in the history of PEET/EPECentre and we welcomed three new members, Hamer, Pringle Beleski and Associates (PBA) and EA Networks.

Since 2002, with members support, we have provided well over 120 undergraduate and 30 postgraduate scholarships. We have provided annual North Island and South Island power systems field trip opportunities and inspired talented young engineers to make informed career choices in the industry. Many of the students we supported in the past are making an impact and are on their way to becoming future leaders of our industry. The success of our valued members' support is demonstrated by the highest enrolment numbers observed in 3rd Pro since the formation of PEET and the EPECentre.

- 1st Pro: Principles of Electrical Systems (54)
- 2nd Pro: Power Systems 1 (39)
- 2nd Pro: Electrical Machines 1 (34)
- 3rd Pro: Power Systems 2 (42)
- 3rd Pro: Electrical Machines 2 (45)

Postgraduate studies develop engineers with unique research capability valuable to our industry. In 2013 the following postgraduate theses were completed with scholarship support from PEET members:

- Michael Hwang (PhD) "Harmonic State-Space Modelling of an HVdc Converter with Closed-Loop Control".
- James Ormrod (Masters) "Harmonic state space modelling of voltage source converters".

PEET and the EPECentre are undertaking internationally recognised electric power research of national industry significance. This attracts students and provides benefits to our members. The EPECentre has been working with a research grant from the Ministry of Business Innovation and Employment (MBIE) for a six year project on "Renewable Energy and the Smart Grid – Future Proofing New Zealand's Electricity Supply" (also known as the GREEN Grid). The project is co-funded by Transpower and the Electricity Engineers' Association (EEA) and has engaged the industry throughout the year. GREEN Grid has created an opportunity to understand and investigate concerning issues surrounding the future of our power system. It has grown and strengthened the EPECentre team and brought world class researchers to work together with our industry. It has raised the profile of electrical engineering and provided postgraduate and summer research scholarship opportunities to students. Research findings from the work in 2012 and 2013 were presented at the EEA conference in June 2013 and at the GREEN Grid conference in November 2013 yielding a

positive industry response.

Similarly, the EPECentre is leading a research project into alternative log sterilization through Joule heating. The research aims to replace the existing practice of using the ozone depleting chemical methyl bromide (MeBr) for wharf-based fumigation, or phosphine for in-hold treatment. The research is in support of the New Zealand Environmental Protection Agency and is funded as a four year component of a six year Stakeholders in Methyl Bromide Reduction (STIMBR) and MBIE co-funded programme, led by Scion. This project has also enabled interesting summer and postgraduate research opportunities for students, with findings to date having been well received by stakeholders including the electricity and logging industries.

Our challenge going forward is the need to ensure a sustainable number of students from secondary schools entering the Electrical and Electronic Engineering (EEE) degree programme. To achieve this, we wish to offer more scholarships to secondary school leavers in pursuit of EEE studies and inspire secondary school students to consider electrical engineering as their choice of study at university. This year, the EPECentre developed a three year outreach programme to provide learning resources and teacher refresher training to secondary school Physics teachers. The EPECentre is looking forward to working with the secondary education sector in support of our industry.

I would like to thank our industry members for their support and funding of the Trust. The record number of graduates completing their power engineering studies and the success of the EPECentre research programmes highlight the commitment and dedication of Dr Allan Miller, the EPECentre Director and his team. I would also like to thank my fellow trustees and Professor Jan Evans-Freeman, Pro Vice-Chancellor, College of Engineering for their support, commitment and wise counsel.

I encourage and welcome the industry to join us and invest in PEET/EPECentre. This is a unique and highly successful partnership delivering professional engineering capability for our electricity industry.

#### Peter Berry

Chair, Power Engineering Excellence Trust/Electric Power Engineering Centre

**The trustees for 2013 were:** Peter Berry (Chair & professional engineering representative), John Foote (generation), Professor Pat Bodger (academia), Gavan Jackson (contracting), Richard Aitken (consulting), Bob Simpson (transmission), Tas Scott (distribution), Sean McCready (executive assistant to the Trust), Valerie Lang (secretary to the trust). The PEET Trust met four times during the year and did not receive any remuneration in our capacity as Trustees.

# 2013 Highlights

## Facilitating Quality Education in Power Engineering

### Scholarships

The following scholarships were awarded to students who showed strong interest and excellence in Power Engineering:

- 11 Undergraduate scholarships
- Two PhD scholarships (continued from previous years)
- Seven Summer research scholarships (funded by the University of Canterbury, GREEN Grid and Joule Log Heating projects)

### Power Engineering Field Trip – North Island

An extremely popular event, 33 undergraduate EEE students travelled for four days visiting electricity infrastructure sites in the North Island. A key highlight included an overnight stay at the Whakamarama Marae, hosted by Mighty River Power to discuss and understand cultural values and influence on electricity engineering projects.

## Highlighting Future Opportunities

### Practical Work & Graduate Placements

EPECentre Careers Convention event allowed undergraduate electrical engineering students to interact with the industry for the purpose of graduate and work placements. The event was also attended by high school students and teachers with interests in physics and engineering.

### Encouraging the next generation

Teachers and students from several high schools around the country with interests in physics and sciences were invited to attend special tours, workshops and demonstrations. EPECentre led outreach events give students an insight into electrical engineering degrees and career paths to follow.

The EPECentre commenced working with secondary teachers to prepare teacher refresher training and learning resources in support of NCEA electricity related topics.

### EPECentre Sponsored Events

- Tv2Kidsfest (Sparcs and Arcs workshop)
- NZ International Young Physicists (NZIYPT) Tournament

## Research and Development

The EPECentre is carrying out the following ongoing research:

- GREEN Grid programme
- Joule log heating project

### Publications

A total of nine papers from EPECentre staff, students and affiliates were presented at the 2013 EEA conference. This resulted in a number of awards being presented to EPECentre staff and scholars including best non-member paper, best student paper and merit award.

## Former Scholars

We asked our recent scholar Kelsey Keenan about her career choices and what she thought of our industry.



**Kelsey Keenan**  
*Graduate Electrical Engineer, Meridian Energy*

**"The EPEC power field trip was a big help in making the decision**

**to do power engineering, and now that I am, I can't imagine doing anything else."**

**"I enjoy the scale of the work involved, the people, and the unique challenges that the New Zealand system poses."**

Kelsey completed her Bachelor of Engineering with Honours in 2013. Kelsey commenced her career with Meridian Energy as a summer student and joined the company's three year graduate programme in 2014. She has been involved in decommissioning projects at the Benmore Hydro Dam and Local Service reviews for the Waitaki Valley stations.

We asked our former scholar Matthew Gnad about how our industry influenced his career and what opportunities young engineers can expect.



**Matthew Gnad**  
*HVDC Maintenance Manager, Transpower*

**"It's not every day you get to work with some great people on a \$672M project to upgrade the**

**NZ Inter Island HVDC Link. If you are looking for something interesting to get involved with, then the power industry definitely has something for everyone!"**

Matthew completed a Bachelor of Engineering with Honours in 2005 and commenced his graduate career at Transpower. He has spent the last five years working on the New Zealand HVDC Inter-Island Link upgrade (HVDC Pole 3 Project). Matthew is now the Maintenance Manager for the HVDC link.

# Financial Statements

## For the year ended 31 December, 2013

## Statement of accounting policies

### Reporting entity

The Power Engineering Excellence Trust is a charitable trust established in 2002. The Objects of the trust are to:

- encourage a greater number of students to study power engineering, thus increasing the quantity and quality of power engineers in New Zealand.
  - maintain, enhance and sustain research into, and the study of, power engineering.
  - create closer, stronger and synergistic relationships between students of power engineering and the power industry.
  - provide for and foster power engineering innovation as a product of education.
- provide better awareness of the existence and benefits of the Department's power engineering courses to the power industry.

### General accounting policies

These Financial Statements have been prepared in accordance with the Financial Reporting Standards and Statements of Standard Accounting Practice issued by the New Zealand Institute of Chartered Accountants. In September 2007, the Accounting Standards Review Board decided that mandatory adoption of International Financial Reporting Standards (NZ IFRS) should be delayed for some small organisations.

The Power Engineering Excellence Trust falls into the category of organisations that can delay the adoption of NZ IFRS and so are permitted to continue applying New Zealand Financial Reporting Standards and Statements of Standard Accounting Practice. The Power Engineering Excellence Trust are deemed a qualifying entity within the Framework for Differential Reporting, on the basis that they are not publicly accountable and are not large. As such, the Power Engineering Excellence Trust has taken advantage of all differential reporting concessions available to them except for FRS19 Accounting for Goods and Services Tax and FRS 10 on Cash.

### Measurement base

The general accounting policies adopted in the preparation of these financial statements for the measurement and reporting of financial performance and position are on an historical cost basis adjusted by the revaluation of certain assets.

### Accounting policies

The following are the particular accounting policies which have a material effect on the measurement of financial performance and the financial position.

### Investments

All investments are stated at market value. Foreign investments have been translated to New Zealand currency at the ruling rates of exchange at balance date.

Investment income is calculated as per the Statement of Investment Objectives, which is approved by University Council. This provides for a 4.5% operating return and two further distributions to equity, which maintain the purchasing power and also allow for future market fluctuations.

### Accounts receivable

Accounts receivable are recorded at expected realisable value; where a debt is considered unrecoverable it is written off.

### Financial instruments

Income and expenditure relating to all financial instruments are recognised in the Statement of Financial Performance. All financial instruments are recognised in the Statement of Financial Position.

### Foreign currencies

Foreign currency transactions throughout the year have been translated to New Zealand currency at the ruling rates of exchange at date of payment. Realised and unrealised exchange gains or losses are accounted for in the Statement of Financial Performance.

### Goods and services tax

All amounts are stated inclusive of Goods and Services Tax. As the University of Canterbury Trust Funds are not registered for GST, all GST is non-recoverable.

### Income

#### Investment Income

Dividend income is recognised in the period the dividend is declared. Interest income is accounted for as it is earned.

#### Expenditure

Trust expenditure on scholarships, prizes and related travel is expensed/ accrued in the year that it is incurred.

#### Taxation

The University of Canterbury Trust Funds are exempt from the payment of income tax as it is a not-for-profit organisation registered under the Charities Act 2003. Accordingly, there is no provision for income tax.

### Changes in accounting policies

There have been no changes in accounting policies. All accounting policies have been applied on a consistent basis with the previous year.