

Chartered Institute of  
Management Accountants

**CIMA**

**August 2016 Strategic case study examination**

**Pre-seen materials**



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## **AEN**

You are a senior manager who works in the finance function for Alternative Energy Consulting (AEN). You report directly to the Board and advise on special projects and strategic matters.

### **Company Background**

AEN is a consultancy company that advises on the construction and operation of wind farms. Its office and development site is in Breesland where the currency is the B\$. During the last two years AEN has been involved in projects that use other alternative energy sources. It has three main services: Engineering, Public Relations and Legal. The three services operate as separate divisions of AEN. However, the company offers a “one stop shop” for overcoming the physical, public relations and legal challenges associated with installing wind farms and other alternative energy sources.

AEN acts on behalf of landowners who require advice on the construction of wind farms on their properties. AEN offers a range of services as many assignments require advice on more than one aspect of a project. The site in question must be suitable, in terms of both wind speed and access to the electricity grid, so that the electricity that is generated can be sold to the power industry. The law in Breesland requires government approval for any major building work and the approval process requires consultation with local residents. Turbines are generally highly visible and local residents will often object to applications on the grounds that their view will be affected. AEN can assist clients all the way through the process, from surveying the proposed site, through the application and the management of the installation.

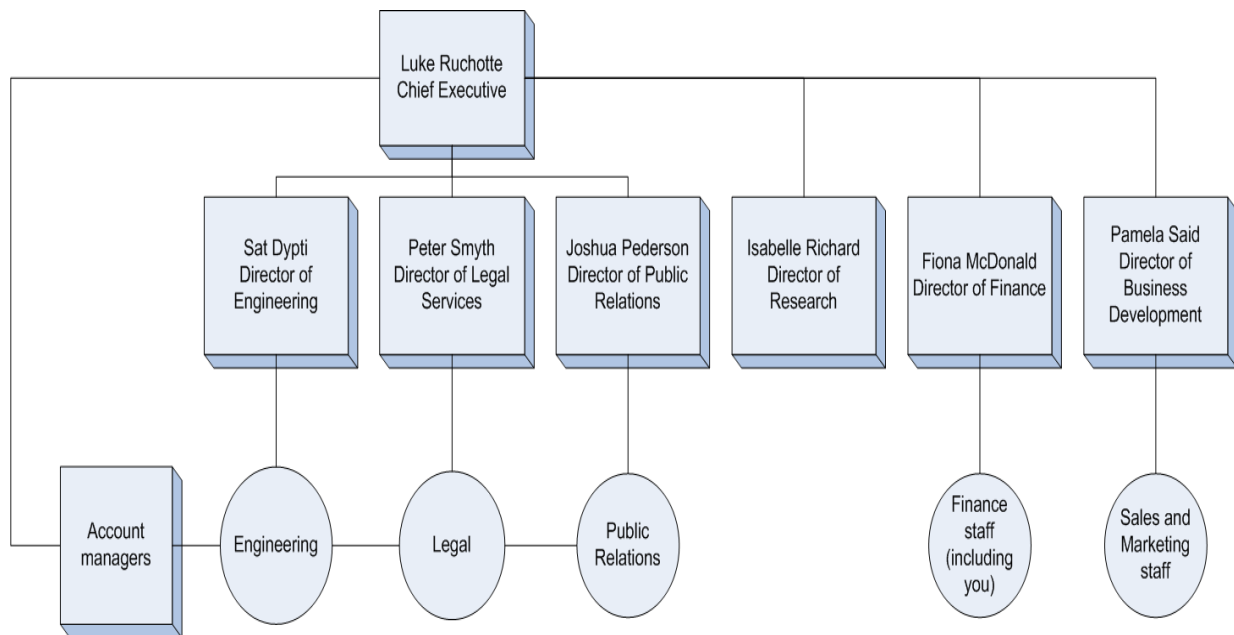
AEN was founded in 2000 by three engineering lecturers, Luke Ruchotte, Joshua Pederson and Isabelle Richard and a law lecturer, Peter Smyth. The four founders are still with the company and sit on the Board of Directors. They each contributed 25% of the equity when AEN was first created. Each still owns a significant proportion of the company's issued shares.

AEN's annual revenue has increased each year since 2000. The company is still based in the same city where the founders were based when they met. The company has expanded organically and is known for its passion and innovative approach to all forms of alternative energy.

AEN has only one centre. The centre now has 90 professional staff and 34 support staff split between the three divisions.

AEN is organised on a matrix basis with respect to the provision of client services. Every client is allocated to an account manager, who acts as a primary point of contact with the company and is responsible for managing the business relationship. The professional staff working in Engineering, Legal and Public Relations are also answerable to their respective directors.

## Organisation chart



## AEN's Founders

AEN's founders are former academics who started their careers as university lecturers. Their jobs required them to teach, administer classes and conduct academic research.

The founders met when they taught together on a Master of Engineering Degree in Engineering Management. They had enjoyed considerable success as academics, but all were interested in contributing to the actual implementation of alternative energy sources, particularly wind power. They started on a small scale by providing consultancy services in their spare time to local farmers who were interested in building one or two wind turbines on their properties.

The founders had a number of successes, to the point where, in 1999, they acquired office space in order to expand their consultancy work. They installed a small wind turbine on the office roof to generate electricity, which led to complaints from nearby residents who believed that the turbine was unsightly and noisy. The founders maintained an active blog documenting the battle to retain the turbine. The blog attracted a large number of followers, some of whom subsequently became clients. The battle to retain the wind turbine confirmed the founders' belief that this technology would only succeed if the legal and public relations issues associated with implementing wind power were tackled with the same vigour as the engineering challenges.

The founders formally incorporated AEN in 2000. Many of the contracts awarded to AEN since then have come from recommendations from satisfied clients and also from publicity arising from research studies that AEN's Board members have published on the effectiveness of completed projects. AEN has developed several innovative techniques for harnessing wind power. The founders continue to conduct academic research from time to time, working in collaboration with various universities. Their research findings often attract considerable media interest, which helps to promote wind power generally and AEN's technical expertise in that area.

## **Alternative energy**

Increasingly, society has become dependent upon nuclear power and the burning of fossil fuels e.g. coal, oil and natural gas to provide power for heat and the generation of electricity.

Unfortunately, the use of fossil fuels is not sustainable. Firstly, there are finite reserves of coal, oil and natural gas. These resources cannot be regenerated and they will eventually run out. Secondly, if the combustion process is incomplete then waste products such as soot and smoke are emitted into the atmosphere. These waste products can be harmful to humans and wildlife. They can also damage land and property. Finally, the combustion of fossil fuels involves a chemical reaction that combines carbon atoms from the fuel with oxygen from the atmosphere to create gases such as carbon dioxide which have been blamed for changes to the Earth's weather patterns. These gases are sometimes called "greenhouse" gases because they have been linked to increasing the atmosphere's absorption of radiant heat from the sun.

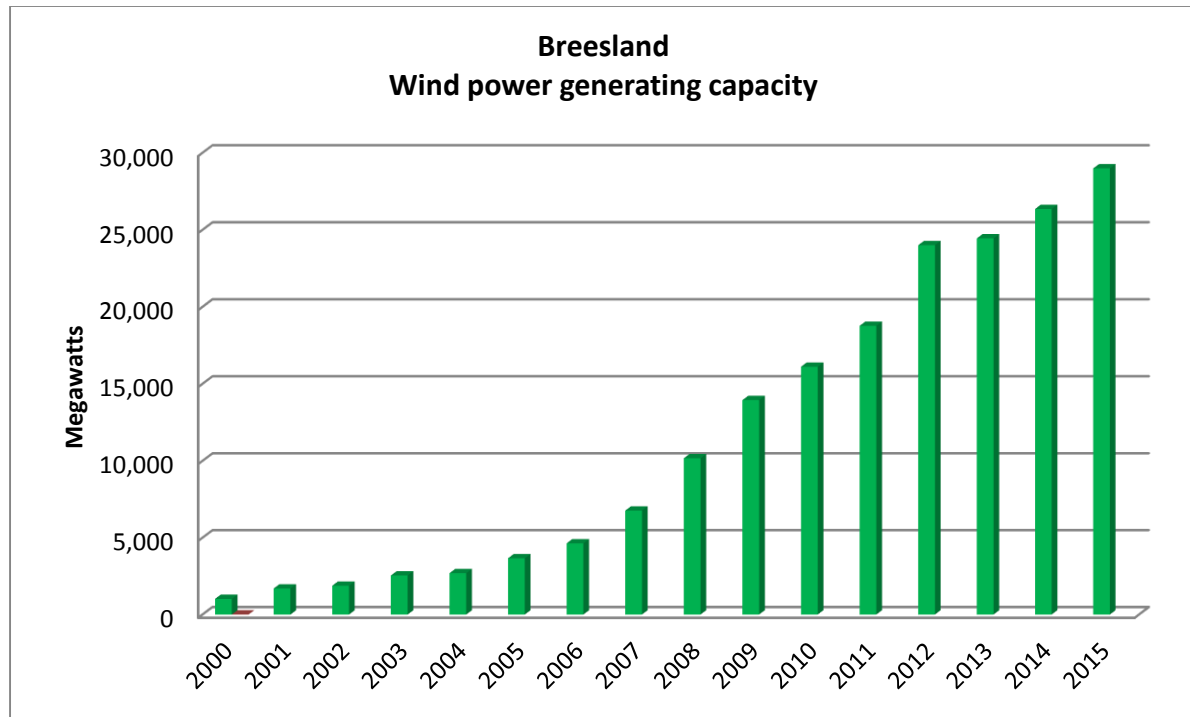
Various international treaties have led to most countries agreeing to reduce their use of fossil fuels as a matter of some urgency.

Nuclear power is a potential alternative to fossil fuels. Nuclear reactors generate electricity from radioactive materials using steam turbines. Nuclear fission does not emit any greenhouse gases. Unfortunately, it does create radioactive waste that is difficult and expensive to dispose of safely. The reactors themselves are regarded as potentially dangerous. There have been very few serious accidents, but disasters such as Chernobyl and Fukushima have led to concerns that nuclear power might not be the most suitable replacement for fossil fuels.

"Alternative" energy sources are essentially sources other than fossil fuel and nuclear energy. Alternative energy sources e.g. wind, wave, solar, tide and biofuels tend to be renewable, either because they capture energy from natural phenomena such as the wind or sunlight, or because they rely on organic material that can be replaced through regrowth once consumed. These energy sources are also considered to be less dangerous in terms of waste and emissions.

## Industry data

When AEN was first established, the alternative energy industry in Breesland was in a state of relative infancy. Usage has grown dramatically since and the rate of growth shows no sign of declining as interest in this field has increased significantly year-on-year.



In Breesland wind power is already producing 7% of energy production.

Users are often motivated by the financial aspects of sustainable energy as much as they are by the environmental issues. Renewable energy tends not to be affected by commodity prices, in the same way as fossil fuels. There are government subsidies and tax incentives available in Breesland to encourage the use of renewables.

## Competing technologies

There are a number of competing renewable technologies. AEN keenly monitors these, partly because AEN might choose to offer them alongside wind power and partly because they may compete with wind power if users start to view them as viable alternatives.

## Wind power



Wind power is AEN's key market. It involves the conversion of wind energy into a useful alternative. The wind turbine drives a generator and the resulting electricity is either used locally to provide power at an isolated location or it is transmitted by cables to the electrical power transmission network. The landowner is then paid for the electricity supplied to the power company, with the supplies monitored by meters.

Wind power can also be used to drive mechanical devices, such as pumps or mills.

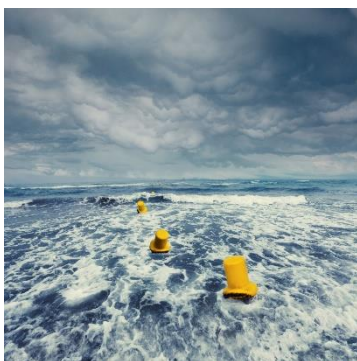
Installations can vary from a single turbine to a large wind farm consisting of hundreds of turbines.

Turbines can be erected on land or anchored to the sea bed. Offshore wind is more reliable and stronger than on land. Offshore farms can have less visual impact if they are sited over the horizon from the shore, but construction and maintenance costs are considerably higher.

Wind power is plentiful, clean and popular in many countries. Wind turbines can be situated in unused areas and need not require a great deal of land. They produce no greenhouse gas emissions during operation. Some countries generate more than a quarter of their electricity from wind and almost 100 countries around the world are using wind power on a commercial basis.

Unfortunately, wind power does attract adverse publicity. Wind farms can be seen from many miles away and many people regard them as ugly and damaging to the landscape or seascape. This could have an economic impact if it deters tourism. There are also concerns that the turbines can injure birds.

## Wave power



Sea water is in constant movement because of waves and tides. Energy can be gathered from the waves by tethering a device so that it floats on the sea's surface. The device converts the random movements caused by the sea into mechanical power to drive a generator. Other devices can capture energy from the rise and fall of sea levels due to tidal movements or the flow of water due to ocean currents.

The resulting electricity can be brought ashore by cables attached to the device.

Wave power is technically feasible, but the harsh operating environment makes it an expensive and relatively unreliable technology at present, although it is still under investigation.

## Heat Pumps



Heat pumps use the same principles as a domestic fridge or freezer to take heat energy from the ground or the air so that it can be released where it might be useful.

For example, pipes might be laid several metres below the surface close to a house or office. Refrigerant is then pumped through the pipes to absorb heat energy, which is captured by a heat exchanger inside the building and used to provide hot water or to heat

the building. It is possible to achieve acceptable heating levels without the ground actually being “hot”. The system can concentrate the heat energy extracted from the ground.

The system relies on electric pumps to operate. Heat pumps are designed to give out two or three times the heat per unit of electricity that they consume.

Heat pumps tend not to achieve the same temperature as is obtained from a conventional boiler, so the technology is best suited to well-insulated buildings.

## Photovoltaic Solar Panels



Solar cells convert light energy into electricity. These devices are commonplace and are essentially the same technology as that used to power many models of pocket calculator, but scaled up to generate usable quantities of electrical power.

Installations can vary in size and capacity, from domestic systems that can reduce a household's electricity bills, up to solar power stations that can generate hundreds of megawatts of power.

Sunlight reaching the Earth's surface is plentiful, suggesting that solar energy could become the world's primary energy source.

Solar power is emission free once the solar cells have been manufactured and installed.

Photovoltaic installations can operate for many years with little maintenance or intervention after their initial set-up, so their running costs are low.



## Biodigesters

Bacteria can be used to convert food and other organic waste into a burnable, high calorific substance which resembles dry soil.



This product is called “digestate”. It can be burnt in a compatible biomass boiler system to heat premises or create hot water.

The organic waste that is converted into digestate is clearly a renewable source. It releases carbon dioxide when it burns, but this is not necessarily a cost to the environment because the organic waste would otherwise decompose and release greenhouse gases in any event.

Large organisations that produce a tonne or more of waste food or other suitable waste every week can save a significant amount of money by installing a digester. Apart from the reduction in electricity bills, the waste itself would otherwise have to be disposed of responsibly.

Anaerobic digesters can extract methane gas from animal waste. The methane can power an electricity generator.

## Biomass

Biomass is essentially wood and other organic waste that can be burned in a suitable incinerator. The resulting heat makes steam, which drives an electricity generator.

Biomass is a renewable resource that is often created in the forestry industry. Burning the biomass causes carbon dioxide emissions. Arguably, the biomass is a by-product of the forestry industry and it would decompose over time if it were not incinerated to generate electricity. It can be argued that this process is less harmful to the environment than, say, burning fossil fuels.



## **Academic research**

AEN strongly believes in the value of academic research.

Academic research is a key measure of the performance of university departments. Academics write about their research projects and submit the resulting papers to academic journals. The journals have the papers reviewed by experts in the relevant fields who must be satisfied before the papers can be accepted for publication. Any given paper may be resubmitted several times in order to correct and improve it in the light of the reviewers' comments. A single paper can take months, or even years, to research and write and the ensuing review process can then add many months more.

Academic research is often intended to develop knowledge and it may not always have an immediate practical application. A research project could be motivated by the fact that the editors of a particular journal have an interest in that type of paper and so the results are more likely to be accepted for publication.

Academic papers are intended to inform the academic community and to stimulate debate. The papers themselves are generally very detailed with respect to the methods followed in the research and the findings are discussed fully. It is common practice to make any data that was used as the basis for the paper available to other academics who wish to conduct their own studies on it. Academics are generally expected to share information freely once the paper has been published so that future research can be improved.

Some academic research is funded by companies or by industry groups. The sponsors of such research may wish to make a contribution to the development of theoretical knowledge, or to develop links to the university department in receipt of the funding, or to encourage some applied research, drawing upon the skills of talented researchers.



### **AEN's Mission Statement**

AEN's official mission statement is:

"Sustainable energy for the world."

AEN's underlying intention is to make renewable energy available to its clients. The company also intends to continue to research and explore ways to make alternative energy sources a viable alternative to fossil fuels for everyone.

### **AEN's strategy**

AEN has two major strategic objectives:

1. Create shareholder wealth
2. Encourage the use of alternatives to fossil fuels

AEN's main strategic priority is to create wealth for its shareholders. The founders have always taken the view that alternative energy sources are commercially viable and that AEN should be rewarded for facilitating their implementation.

Associated with this main priority is a genuine desire to encourage the use of alternatives to scarce and damaging fossil fuels. AEN believes that this is consistent with earning profits.

AEN believes that it can achieve both profit and the promotion of alternative energy by winning contracts to advise and support clients.

AEN views each of its service lines as contributing directly to the growth of alternative energy systems:

Engineering	<p>Many of AEN's clients own a single piece of land and wish to set some of that aside for a wind farm. For example, a farmer may believe that an area of the farm might be a suitable site for some turbines.</p> <p>These clients have no prior experience of designing wind farms and they require advice on the technical issues such as suitability of local wind profile and proximity to the electricity grid.</p> <p>Once the basic questions have been answered, it is necessary to develop a detailed plan. For example, selecting the most suitable wind turbine for the site. AEN's engineers have considerable expertise in the design of wind farms.</p> <p>AEN does not supply wind turbines or construct wind farms, but its engineers are commissioned to act as project managers, liaising with suppliers and builders and supervising the installation process.</p>
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Legal	<p>Breesland's law requires permission from the local government before any major buildings or other structures can be erected. Submitting a successful application often requires an understanding of the law concerning the siting of wind farms.</p> <p>AEN's lawyers can advise on whether a proposed development would be permissible. If not, then the client can avoid the wasted time and cost of developing detailed plans. The lawyers can also draft the formal applications for consideration by the authorities which demonstrate compliance with the law.</p> <p>Many applications are approved on the basis of the written application. Some are rejected, in which case there is often a right of appeal, which tends to require further legal advice. Others are subject to objections by interested parties who believe that they will be adversely affected by the development. Again, this usually requires legal advice and normally involves a lawyer attending a public hearing to represent the client in arguing a case.</p>
Public relations	<p>The proposal to build a wind farm is often controversial. Local residents feel that they are unsightly and some claim that they are affected by the low frequency noises generated by the turbine.</p> <p>Other activists believe that wind farms should be resisted when they are close to natural habitats because the building works can scare animals away and birds flying through wind farms risk being injured or killed by the rotating turbines.</p> <p>Public relations can play a part in dealing with objections. AEN's experts can help to identify the most likely objections so that they can be countered effectively. For example, if the owner of a nearby property is likely to complain about the impact on the landscape, it may be possible to persuade the press to portray this as a selfish act by a wealthy individual. Local politicians could be persuaded to overrule objections on the grounds that the wind farm will attract jobs and local taxes into the area.</p>
One stop shop	<p>AEN also provides any combination of the three lines of service, engineering, legal and public relations. For example, the provision of legal support is not conditional on having the plans drafted by AEN's engineers.</p> <p>AEN does, however, pride itself on offering an integrated service and many clients take advantage of all three lines. This is coordinated by a dedicated key account manager, who acts as the primary point of contact for the duration of their contract with AEN.</p>

AEN is the largest consultancy of its type in Breesland. The company's size tends to create a halo effect, with AEN's size and prominence attracting new clients, thereby reinforcing AEN's reputation.

The directors are keen to maintain a reputation for technical innovation. Several of AEN's engineers are working part-time towards PhDs, conducting academic research in collaboration with senior engineering professors at major universities. AEN also has a reputation for being an early adopter of new technologies whenever it is designing wind farms which might benefit from these.

All of AEN's projects to date have involved wind power. The company's Board is, however, aware of the potential of the main alternatives to wind power and has not ruled out developing the necessary expertise to diversify.

AEN faces significant competition from other consultancies because renewable energy has become both mainstream and popular. AEN takes care to maintain its reputation for innovation in order to bid successfully for contracts.

AEN prides itself on being an excellent employer, offering excellent working conditions for all staff. Employees are well paid, partly because AEN needs to reduce the risk of losing staff to rival alternative energy companies. Staff participate in a share purchase scheme.

AEN offers practical support to staff who wish to develop new skills or explore new ideas. The company will subsidise the cost of studying for further qualifications, even if they are not directly relevant to the employee's role with AEN. For example, AEN is paying the course fees for two of its public relations consultants who are taking an open learning course in risk management. Staff can also apply for time to develop ideas, even if they do not have any immediate or obvious scope for commercial exploitation. For example, an engineer has been given the necessary time and funding to conduct an experiment testing an idea that he believes could reduce the cost of lubricating the bearings in a wind turbine.

## SWOT analysis

AEN's directors have prepared the following outline SWOT analysis:

Strengths	Weaknesses
<ul style="list-style-type: none"><li>• Strong technical capability.</li><li>• Ability to offer an integrated service covering engineering, legal and public relations needs.</li><li>• Excellent well qualified imaginative staff.</li></ul>	<ul style="list-style-type: none"><li>• No manufacturing capability – all turbines and ancillary equipment must be sourced externally.</li><li>• Strong focus on wind power, with little proven competence in the other alternative energies.</li></ul>
Opportunities	Threats
<ul style="list-style-type: none"><li>• Growing market arising from interest in sustainability.</li><li>• Potential synergies that might be developed from wind power to other energy sources.</li></ul>	<ul style="list-style-type: none"><li>• Government subsidies for alternative energy sources may be curtailed.</li><li>• Growing resentment of the visual impact of wind farms on Breesland's landscape.</li><li>• Relatively low barriers to entry for potential competitors.</li></ul>

## **AEN's Board of Directors**

### *Luke Ruchotte, Co-founder and Chief Executive*

Luke co-founded AEN in 2000. Today he serves as Chief Executive.

Luke was previously responsible for AEN's Engineering Services, in addition to serving as Chief Executive. In 2014, it was agreed that he would concentrate on the role of Chief Executive and that a new Director of Engineering would take over the responsibility for engineering services.

Luke has a Bachelor of Engineering degree in Environmental Engineering and a PhD in Alternative Energy Technology. He holds honorary doctorates from three leading universities.

### *Joshua Pederson, Co-founder and Director of Public Relations*

Joshua co-founded AEN in 2000. Today he serves as Director of Public Relations.

Joshua has a Bachelor of Engineering degree in Electrical Engineering. He has a Master of Engineering Management degree and a PhD in Utilities Marketing.

### *Isabelle Richard, Co-founder and Director of Research*

Isabelle co-founded AEN in 2000. Today she serves as Director of Research.

Isabelle has a Bachelor of Engineering degree in Electrical Engineering and a PhD in Power Distribution Networks. She is a visiting professor of Engineering at the University of Central Breesland. She has published many academic papers in the engineering literature.

Isabelle has successfully patented many ideas that have been brought to the market by AEN.

### *Peter Smyth, Co-founder and Director of Legal Services*

Peter co-founded AEN in 2000. Today he serves as Director of Legal Services.

Peter has a Bachelor of Laws degree and a PhD in Legal Ethics. He is the co-author of a leading textbook on systems of justice. He has acted as an expert witness on a number of major civil cases involving rights associated with property ownership.

### *Fiona McDonald, Director of Finance*

Fiona has been AEN's Director of Finance since 2008. She is an accountancy graduate and is a professionally qualified accountant. She has previously held senior positions in accounting and finance at two scientific research companies.

### *Pamela Said, Director of Business Development*

Pamela joined AEN in 2013 in order to promote sales and marketing within the company. She was previously a senior sales manager with a heavy engineering company.

### *Sat Dypti, Director of Engineering*

Sat has been a senior engineer with AEN since 2002. He has held a number of roles in that capacity, latterly being in charge of all technical design work.

Sat replaced Luke Ruchotte as AEN's Director of Engineering when Luke stood down from that role in 2014.



The following information has been extracted from AEN's financial statements for the year ended 31 March 2016

**AEN**

**Statement of Profit or Loss**

**For the year ended 31 March**

	<b>2016</b>	<b>2015</b>
	B\$	B\$
	million	million
Revenues	281.2	258.7
Cost of sales	(104.0)	(108.7)
Selling and administration	(25.3)	(20.7)
Profit from operations	151.9	129.3
Finance charges	(0.8)	(0.8)
Profit before tax	151.1	128.5
Tax	(34.8)	(30.8)
Profit for year	116.3	97.7

**AEN**

**Statement of Changes in Equity**

**For the year ended 31 March 2016**

	Share capital	Retained earnings	Total
	B\$	B\$	B\$
	million	million	million
Opening balance	40.0	34.0	74.0
Profit for year		116.3	116.3
Dividend		(103.6)	(103.6)
Closing balance	40.0	46.7	86.7

# **AEN**

## **Statement of Financial Position**

**As at 31 March**

	<b>2016</b>	<b>2015</b>
	B\$	B\$
	million	million
<b>ASSETS</b>		
Non-current assets		
Property and equipment	84.7	78.3
Software	18.9	16.2
	<u>103.6</u>	<u>94.5</u>
Current assets		
Trade receivables	30.5	23.7
Bank	4.2	3.7
	<u>34.7</u>	<u>27.4</u>
<b>Total assets</b>	<u><u>138.3</u></u>	<u><u>121.9</u></u>
<b>EQUITY</b>		
Share capital and premium	40.0	40.0
Retained earnings	46.7	34.0
	<u>86.7</u>	<u>74.0</u>
<b>LIABILITIES</b>		
Non-current liabilities		
Loans	9.2	9.2
Deferred tax	3.1	2.9
	<u>12.3</u>	<u>12.1</u>
Current liabilities		
Trade payables	4.8	5.4
Tax	34.5	30.4
	<u>39.3</u>	<u>35.8</u>
<b>TOTAL EQUITY + LIABILITIES</b>	<u><u>138.3</u></u>	<u><u>121.9</u></u>



**Management accounts for the quarter ended 30 June 2016**

	April B\$ million	May B\$ million	June B\$ million	Total B\$ million
<b>Billings</b>				
Engineering	8.9	16.9	10.6	36.4
Public relations	6.1	6.3	6.1	18.5
Legal	7.6	3.3	2.8	13.7
	<u>22.6</u>	<u>26.5</u>	<u>19.5</u>	<u>68.6</u>
<b>Operating expenses</b>				
Salaries				
Engineering	(3.3)	(2.2)	(1.5)	(7.0)
Public relations	(1.4)	(1.4)	(1.5)	(4.3)
Legal	(0.6)	(0.7)	(0.8)	(2.1)
	<u>(5.3)</u>	<u>(4.3)</u>	<u>(3.8)</u>	<u>(13.4)</u>
Software amortisation	(5.0)	(4.9)	(5.0)	(14.9)
Travel and accommodation	(0.6)	(0.4)	(0.3)	(1.3)
Other operating expenses	(1.4)	(1.3)	(1.7)	(4.4)
<b>Total operating expenses</b>	<u>(12.3)</u>	<u>(10.9)</u>	<u>(10.8)</u>	<u>(34.0)</u>
<b>Profit</b>	<u>10.3</u>	<u>15.6</u>	<u>8.7</u>	<u>34.6</u>



## Extract from risk report in AENs Annual Report

### Risk factors

Competition	<p>We have several lines of business, each of which faces significant competition for market share.</p> <p>Our businesses operate in markets that are constantly evolving and our competitors are often capable of finding new and unforeseen ways to advance in the market. We must respond by developing our own strategies in order to maintain revenues.</p>
Investment in new innovations	<p>AEN is always keen to develop new and existing lines of business. This process often yields significant benefits, but it can also prove disruptive to ongoing business activities.</p>
New technologies	<p>AEN's core business activities centre on exploring the use of alternative energy. This is an area of rapid development and the technologies that affect our business are constantly changing.</p>
Government funding	<p>Government funding for alternative energy facilities has decreased over the last fifteen years. Grants and tax incentives have been reduced dramatically in Breesland. This reduces the incentive for businesses and individuals to invest in new energy.</p>
Protestors	<p>There have been numerous public protests about unsightly wind farms as turbines are often sited in areas of natural beauty. Protests can be disruptive and create adverse publicity which could affect our business.</p>
Legal liability	<p>We are exposed to an increasing volume of claims associated with the services that we provide.</p>
Security and quality of service	<p>Third parties may attempt to disrupt and damage our projects. Malicious damage can be motivated by criminal intent or simply a desire for notoriety.</p>
Key personnel	<p>AEN was founded by four individuals who continue to provide a significant input into developing and expanding the business' vision. We also depend heavily upon the skills of engineers to maintain and enhance the high quality service with which we are associated.</p>



## **AEN's Corporate Social Responsibility Report for the year ended 31 March 2016**

AEN's management team is keen to reduce the company's own carbon footprint and has a motto "reduce carbon emissions". This runs through every aspect of the company's operations, especially minimising the company's environmental impact.

### ***AEN's carbon footprint***

Since the company's foundation, we have acknowledged responsibility for our impact on the environment.

The fact that a typical internet search generates a little less than half the CO<sub>2</sub> emissions of boiling a kettle is frequently repeated. AEN accepts that operating any data-based activity consumes electricity and so generates externalities. We have responded in several ways:

- AEN's research facility is managed with care to reduce energy consumption. Our equipment is the most energy-efficient that we can source.
- We conduct regular energy audits and our offices use approximately 50% less energy than comparable commercial premises.
- AEN has been carbon neutral in its operations since 2002. We invest heavily in alternative energy in our office.
- AEN funds research into the development of renewable energy sources. In 2014 we funded projects to the tune of B\$1million. We work directly with leading universities to identify research projects that might not otherwise attract funding but that do stand a realistic prospect of success in the long term.

# Alternative Energy Monthly

No. 220

B\$5.20

## **NIMBY's last gasp?**

### **Editorial**

Alternative energy is crucial to the future of the planet.

No-one disagrees that there are finite reserves of fossil fuels and that consumption leads to pollution and possible climate change.

Everyone agrees that more needs to be done to encourage the use of alternative energy sources, especially those that generate little or nothing in the way of emissions.

We all agree, right up to the point where a proposal is submitted to build something. Then the NIMBY Brigade (Not In My Back Yard) make their presence felt and objections are quickly lodged.

The Freedland Estate has just obtained permission to build the largest wind farm in Breesland, despite the objections of the local residents who claim that their view will be affected.

The permission to proceed involved a long and tiring court battle. The Freedland Estate is a charity and it was relying on the wind farm development to generate much needed revenue to restore the Estate to its former glory. Paradoxically, it is the residents who live on the Estate whose views will be most affected by the wind farm.

The Estate was supported throughout this campaign by AEN, who have agreed to work for no fee. Luke Ruchotte, AEN's Chief Executive, commented "We respect stakeholders' rights, but everyone on the planet is a stakeholder when it comes to alternative energy. Most wind farm proposals attract some opposition, so it would be impossible to build any if we bowed to every objection."

We all owe AEN and the Trustees of The Freedland Estate a debt of gratitude. Hopefully, this case will send a warning to the NIMBY protestors, which will mean that fewer land owners will have to spend vast amount on legal fees in order to obtain permission to proceed with wind farm developments.

# Breesland Daily News

## **Protestors occupy site**

Protestors from all over Europe have arrived in Breesland this week.

They are protesting about the huge wind farm being proposed for Bree Lake and Forest Park. The park has been bought by a consortium of businessmen who have applied for permission to cut down the trees and erect 250 wind turbines. They are going to build a golf course and hotel complex nearby.

The park is an area of natural beauty that is a popular destination for holiday makers who enjoy the nature trails through the forest and the lake is a popular venue for kayaking and sailing.

The park is also an important habitat for many varieties of wildlife, attracting many species of birds that migrate through Breesland twice a year.

The park had previously belonged to Breesland's Park Service, but it was becoming increasingly expensive to maintain the park's facilities and to staff it with wardens.

Thousands of protestors have set up camp in the area and say they will not move until the plans are rejected.

# Breesland Daily News

## **Cheese heating?**

Over 1,000 homes could be heated by cheese power this winter.

Century Cheese, one of Breesland's largest cheese makers has installed a new recovery system that can extract methane gas from the whey that is discarded as part of the cheese making process.

The whey is mixed with waste water that has been used to clean the machinery and the resulting mixture is processed to extract the methane gas that is a normal by-product of the decomposition of organic matter.

The factory is expected to generate sufficient methane from this process to enable Century Cheese to stop buying gas for its boilers, with a large surplus that it will sell to Breesland Gas.

Breesland Gas has assured customers that the methane, which will power an estimated 1,000 homes in the vicinity of the factory, is identical to the methane obtained from traditional sources. Replacing natural gas with methane derived from waste products will reduce the consumption of fossil fuels.

# Breesland Daily News

## **Wind turbines no great threat to birds**

Research conducted by the University of Central Breesland reveals that wind farms pose less of a threat to migrating birds than had been feared.

The study involved the observation and statistical analysis of the numbers of birds travelling through popular nesting sites frequented by migratory birds. Overall, deaths due to impact with turbines increases bird mortality by less than 1%.

Professor Ken Babumba, the lead researcher on this project, commented, “There have been some notorious cases where wind farms have been located close to terrain features that make the turbines difficult to avoid. We have learned from that experience and greater care is taken in locating turbines.”

The study was the result of a joint project between the Environmental Science Department at the University of Central Breesland and AEN, the major wind farm consultancy.





## AEN Research Grant Programme

AEN's "Thought Promotion Programme" was established in 2005.

The Programme's main objective is to fund the highest quality academic research relating to renewable energy, its generation and management.

As a secondary objective, we fund an annual conference to provide a meeting place for academic researchers in the areas supported by AEN's Research Programme to share ideas and to develop working relationships between universities.

We believe that corporate sponsorship of academic research has a role to play in stimulating engagement between academia and business. The resulting research outputs are often of value in leading and informing the public debate. Contact with senior academics also provides opportunities to shape and develop undergraduate and postgraduate teaching.

AEN announced three major research sponsorships during the year ended 31 March 2016:

B\$200,000	University of Central Breesland, Faculty of Engineering	Corrosion in metal columns
B\$150,000	University of Central Breesland, Business School	Stakeholder lobbying of local government planning departments
B\$250,000	University of Capital City, Faculty of Science	Flight characteristics of migratory sea birds

During the year, the results of a further four major studies that had been sponsored by AEN were announced. Each attracted a significant press interest:

- A study conducted by the University of Capital City's Politics Department suggested that members of Breesland's Parliament were reluctant to award additional grants in support of wind power because they were afraid of being seen to give government funding to wealthy land owners.
- Research conducted by the University of Central Breesland's Chemistry Department established that the lubricants recommended by most turbine manufacturers were prone to break down in Breesland's climate. Changing the formulation of lubricants could extend the life expectancy of a turbine's bearings.
- A paper by the Sociology Department at the University of Central Breesland established that the visual impact of wind farms was generally less disturbing than local residents had feared when they voiced their objections during the planning process.
- A study by North Breesland University's biology department determined that small, burrowing animals were sensitive to the vibration conducted through the soil surrounding land-based wind turbines and that this had a wider consequence for other creatures, such as predators who feed on such creatures.

AEN has sponsored an annual academic conference on sustainable energy every year since 2009. The 2016 conference attracted 268 academic delegates, with 60 papers presented for discussion by delegates over the two days. The conference was attended by senior members of AEN's management team and by representatives of a number of companies that offer sustainable energy products.