CDP 2012 Investor CDP 2012 Information Request

AECI Ltd Ord

Module: Introduction

Page: Introduction

0.1

Introduction

Please give a general description and introduction to your organization

AECI is an explosives and specialty chemicals company domiciled in South Africa and listed on the Johannesburg Stock Exchange (JSE). Group businesses service the mining and manufacturing sectors both locally and internationally. The focus for growth is on Africa, South America and South East Asia. AECI's businesses are characterised by application know-how and service delivery. They often operate in niche markets and are supported by leading technology which is developed in-house or is sourced from international partners.

In the last five years the Group has invested R2 billion in a strategic capital investment programme to enhance its future growth in the mining and manufacturing areas, with particular emphasis on mining chemicals and initiating systems.

AEL Mining Services ("AEL") is a developer, producer and supplier of commercial explosives, initiating systems and blasting services for the mining, quarrying and construction sectors in Africa and further afield, particularly Indonesia. The business has a presence in 23 countries. It is well established across the African continent, and in line with its international strategy, has moved successfully into South East Asia. AEL's technology and product positions in initiating systems and bulk explosives have enabled it to enter into mutually beneficial channel partnerships with leading regional explosives players in Europe and Latin America. AEL's largest site is at Modderfontein, Johannesburg, Gauteng.

In the specialty chemicals cluster, 16 business units supply specialty chemical raw materials and related services for industrial use across a broad spectrum of customers in the manufacturing and mining sectors, mainly in South Africa and in Southern Africa. Sales, distribution, production and laboratory facilities are extensive. The cluster has major sites in Johannesburg and Durban, with a number of smaller operations country-wide. AECI's mining chemicals thrust is anchored in Senmin, which operates in Sasolburg in the Free State.

In addition to its core businesses the Group has a valuable land asset, the release of which is managed carefully. These property activities are overseen by Heartland. This company seeks to optimise the value of the property holdings surplus to AECI's operational requirements by selling land, and by selectively investing in revenue-producing buildings in order to grow an existing portfolio of rental properties.

The land holdings are significant and are located in prime locations near Johannesburg and Cape Town. More than 3 000 hectares of land are available for redevelopment over the longer term for residential, commercial and industrial end uses and for leasing purposes.

SANS Technical Fibers in the USA is the Group's fourth business. It manufactures and markets a range of high performance, specialty nylon industrial yarns for niche market applications in the USA, Asia and Europe.

AECI has a total employee complement of about 7141, many of whom are engaged in the Group's extensive sales, technical service and distribution networks.

0.2

Reporting Year

Please state the start and end date of the year for which you are reporting data.
The current reporting year is the latest/most recent 12-month period for which data is reported. Enter the dates of this year first.
We request data for more than one reporting period for some emission accounting questions. Please provide data for the three years prior to the current reporting year if you have not provided this information before, or if this is the first time you have answered a CDP information request. (This does not apply if you have been offered and selected the option of answering the shorter questionnaire). If you are going to provide additional years of data, please give the dates of those reporting periods here. Work backwards from the most recent reporting year.
Please enter dates in following format: day(DD)/month(MM)/year(YYYY) (i.e. 31/01/2001).

Enter Periods that will be disclosed
Sat 01 Jan 2011 - Sat 31 Dec 2011

0.3

Country list configuration

Please select the countries for which you will be supplying data. This selection will be carried forward to assist you in completing your response

Select country
South Africa
United States of America
Brazil

0.4

Currency selection

Please select the currency in which you would like to submit your response. All financial information contained in the response should be in this currency.

ZAR (R)

0.5

Please select if you wish to complete a shorter information request

0.6

Modules

As part of the Investor CDP information request, electric utilities, companies with electric utility activities or assets, companies in the automobile or auto component manufacture sectors and companies in the oil and gas industry should complete supplementary questions in addition to the main questionnaire.
If you are in these sectors (according to the Global Industry Classification Standard (GICS)), the corresponding sector modules will be marked as default options to your information request. If you want to query your classification, please email respond@cdproject.net.
If you have not been presented with a sector module that you consider would be appropriate for your company to answer, please select the module below. If you wish to view the questions first, please see https://www.cdproject.net/en-US/Programmes/Pages/More-questionnaires.aspx.

Module: Management [Investor]

Page: 1. Governance

1.1

Where is the highest level of direct responsibility for climate change within your company?

Individual/Sub-set of the Board or other committee appointed by the Board

1.1a

Please identify the position of the individual or name of the committee with this responsibility

The Risk Committee's mandate includes reviewing and assessing risk and compliance management processes, including safety, health and environmental management. For the period under review, the Committee focused on monitoring the entrenchment of the risk management process in the Group and also initiated an integrated process of compliance management across Group companies.

The Risk Committee comprises three Independent Non-Executive Directors, two Executive Directors and five Executive Committee members. Current members of the Committee are:

RAJ Morgan (Chairman)
JAA Diepenbroek*
RMW Dunne #
MA Dytor*
GN Edwards*†
S Engelbrecht #
KM Kathan*†
TJ Louw*
EE Ludick*
LL Mda
R Ramashia
SM Venter*

* Member of the Executive Committee.
† Executive Director.
# Resigned on 21 November 2011.

The Group Technical and Safety Health and Environment Manager, Gary Cundill, has day-to-day responsibility for climate change. He is responsible for the overall management of and co-ordination of Health, Safety and Environmental aspects for AECI.

He is supported by the Group Environmental Specialist, Kavita Pema, who provides environmental support and advice to the business units within the AECI Group. She is also responsible for environmental reporting, environmental targets and development of a Climate Change Strategy for AECI.

1.2

Do you provide incentives for the management of climate change issues, including the attainment of targets?

Yes

1.2a

Please complete the table

Who is entitled to benefit from these incentives?	The type of incentives	Incentivised performance indicator
Business unit managers	Monetary reward	Individual strategic targets concerning environmental activities
Environment/sustainability managers	Monetary reward	Individual strategic targets concerning environmental activities

Further Information

As part of the Green Gauge process which was rolled out during the third quarter of 2011, a Green Gauge Award will be presented to the Group business which has demonstrated the highest level of commitment towards the achievement of the targets of Green Gauge. The qualification criteria for the award are in the process of being determined.

Page: 2. Strategy

2.1

Please select the option that best describes your risk management procedures with regard to climate change risks and opportunities

Integrated into multi-disciplinary company wide risk management processes

2.1a

Please provide further details (see guidance)

(i) The types of risks that AECI have considered are safety, health and environment (SHE). These are risks which remain inherent in AECI's businesses. The wellbeing of the employees and contractors, customers and the community at large is of paramount importance. It is also essential that the AECI protects the environment in which it operates so as to continue being an acceptable corporate citizen in the territories in which it has a presence. The Board also takes into account material changes and trends in the risk profile and considers whether the control systems adequately support the board in achieving the risk management objectives.

(ii) AECI's risk management process comprises both bottom-up and top-down elements and follows a holistic approach in identifying, analysing, evaluating, treating, monitoring and reviewing risks. With this process, together with enhanced application software currently being installed, AECI ensures that management of risks is an integral part of its Corporate Governance system and that risk management is integrated into its day-to-day business activities.

(iii) The bottom-up identification and prioritization process is supported by workshops with the management teams of the Group's businesses. The top-down element involves management at AECI Limited level. This ensures that potential risks are discussed at the top management level and are included in the subsequent reporting process, if found to be relevant.

(iv) In the year under review, the Group focused on entrenching its risk management process and refining it further. The Board is responsible for the risk management process and is assisted in its responsibilities by the Risk Committee. The day-to-day responsibilities for risk management, and the design and implementation of appropriate processes to manage risk, reside with management.

(v) The Risk Committee approves the risk strategy and the policies that are formulated and implemented by the Executive Committee and Senior Management. This system assists the Board in discharging its responsibility for ensuring that the wide range of risks associated with all of the Group's operations are managed effectively in support of the creation and preservation of stakeholder wealth and well-being. Full reviews of the risk control and disclosure processes are undertaken regularly.

(vi) The Group Risk Officer, reporting to the Company Secretary, is primarily responsible for establishing, updating and maintaining the risk framework, providing guidance, supporting and coordinating the identification and documentation of risk areas Group-wide and implementing the risk management system. Risks are ranked using an internationally recognised methodology.

(vii) The Internal Audit function plays a pivotal role in providing assurance to the Board on the effectiveness of the risk management process. Where shortcomings are identified, these are addressed as part of the continual improvement of the risk management process and assurance framework.

(viii) Where a risk is assessed as material, it is reported and reviewed by the Executive Committee and Senior Management as part of the risk management escalation process. This enables the prioritisation of risk management activities within the AECI Group.

The risk management system meets regulatory requirements. In conducting its annual review of the effectiveness of risk management, the Board considers key findings from its monitoring and reporting process, management assertions and independent assurance reports. The Board receives assurance, from regular auditing reports and, from other reports on risk and internal control throughout the Group.

In terms of a strategic move towards sustainability, during 2011 AECI embarked on a focused environmental targeting process called "Green Gauge". Environmental objectives and targets, that will be applicable across Group Operations, have been formulated to facilitate sustainable environmental management. The targets will feed in to an over-arching climate change strategy. This climate change strategy will also identify the key risks that AECI faces from climate change and the opportunities that may also arise in the coming years.

2.2
Is climate change integrated into your business strategy?

Yes

2.2a
Please describe the process and outcomes (see guidance)

The AECI Group took a significant step forward in initiating the integration of climate change aspects into business process with the launch of our Green Gauge, which sets out measurable targets for environmental improvement.

"Going Green" is not only part of our "Good Chemistry" brand descriptor and one of our Company values; it is also a business opportunity. As environmental considerations become more entrenched in society we have the opportunity to supply products that sustain this trend. A good example of this is the water treatment products and processes that assist customers in maximising their use of this scarce resource in Africa. Another of our businesses supplies products for insulating materials that assist in reducing energy consumption.

The first phase of Green Gauge concentrates on resource efficiency assessments with water and energy consumption and waste generation at the forefront. Water, waste and energy efficiency assessments were conducted at prioritised Group operating sites. The objective is to achieve reductions in waste disposal as well as water and energy consumption so as to reduce the environmental impact of operations while making a positive contribution to the Group's cost base.

The assessments which have been conducted will enable AECI to clearly quantify current impacts, based on which specific achievement targets are being set for each business within the Group. These targets will be rolled up into the overall Group targets for reductions and efficiency improvements.

Based on the assessments which have been conducted at various businesses within the Group, it is clear that implementation of prioritised activities for enhancing resource efficiency will also have a positive influence on the profit margins of the businesses. It is anticipated that a more clear indication of costs, savings and payback periods will be gained over the next year as identified projects are implemented.

Green Gauge lays out environmental objectives for the Group and targets have been set for the medium term to 2015 and long term to 2020 with six key focus areas which are in line with our overall company objectives.

2.3
Do you engage with policy makers to encourage further action on mitigation and/or adaptation?

Yes

2.3a
Please explain (i) the engagement process and (ii) actions you are advocating

AECI is represented by the Chemical and Allied Industries' Association (CAIA) on all issues related to climate change mitigation and adaptation. CAIA regularly interacts with government and distributes findings and best-practise guidelines through various workshops. In the past these workshops have focused on issues pertaining to GHG emissions in the chemical industry and the resultant carbon footprint studies that would need to be carried out.

The South African government has strongly put forward the principles for the implementation of a Carbon Tax. Developments have also been seen in terms of the publication of draft norms and standards for waste disposal and draft regulations for remediation of contaminated land. Since all these developments have a strong bearing on the businesses in the AECI Group, the company has been actively involved in providing comments and inputs on the contents of the proposals through CAIA.

Page: 3. Targets and Initiatives

3.1
Did you have an emissions reduction target that was active (ongoing or reached completion) in the reporting year?

No

3.1e
Please explain (i) why not; and (ii) forecast how your emissions will change over the next five years

(i) AECI is in the process of formulating environmental targets that will be applicable across Group Operations. These targets will feed into an over-arching climate change strategy that is intended to be completed by mid-2012. It is foreseen that to obtain this goal, the climate change strategy will need to identify those operations that are highest in emissions and through a series of energy audits, will look to increase efficiency where possible. These audits will also provide AECI with an idea on exactly what year-on-year reductions will need to be obtained in order to reach our target.

(ii) AECI has proposed a target of 15% reduction of total emissions below 2005 levels by 2015. This target will, however, have to be ratified once all resource efficiency assessments have been conducted and the climate change strategy is in place. The efficiency assessments commenced in November 2011 and are anticipated to conclude in September 2012. Assessments will be carried out at 15 prioritised sites within the Group, of which seven have already been concluded.
It must be emphasised that the proposed target is subject to change pending the conclusion of the resource efficiency assessments which are in the process of being conducted. Once the assessments are concluded and site specific targets set, these targets will feed into the overall Group reduction targets. It is anticipated that Group Targets will be confirmed in the fourth quarter of 2012.

3.2
Does the use of your goods and/or services directly enable GHG emissions to be avoided by a third party?

No

3.3
Did you have emissions reduction initiatives that were active within the reporting year (this can include those in the planning and/or implementation phases)

Yes

3.3a
Please identify the total number of projects at each stage of development, and for those in the implementation stages, estimated CO2e savings

Stage of development	Number of projects	Total estimated annual CO2e savings (only for rows marked *)
Under investigation	50	
To be implemented*		
Implementation commenced*		
Implemented*		
Not to be implemented		

3.3b
For those initiatives implemented in the reporting year, please provide details in the table below

Activity type	Description of activity	Estimated annual CO2e savings	Annual monetary savings (unit currency)	Investment required (unit currency)	Payback period

Activity type	Description of activity	Estimated annual CO2e savings	Annual monetary savings (unit currency)	Investment required (unit currency)	Payback period

3.3c

What methods do you use to drive investment in emissions reduction activities?

Method	Comment
Compliance with regulatory requirements/standards	AECI is committed to ensuring that required environmental authorisations are applied for and obtained from the relevant regulatory authorities. Annual environmental authorisation compliance is conducted in June with a brief update at the end of the year. These reports are submitted to the EXCO.
Employee engagement	As part of the Green Gauge process, Safety Health and Environmental Practitioners within the various businesses in the Group are regularly involved in initiatives aimed at achieving the Green Gauge Targets. Employees at a less technical level will be engaged by means of awareness training sessions.
Financial optimization calculations	The Green Gauge process has been initiated with the roll out of resource efficiency assessments at 15 selected sites within the Group. As part of the assessments possible projects for achieving savings are being identified and the identified projects are characterised by a detailed opportunities database as well as business case, inclusive of Net Present Value (NPV), opportunity cost, payback periods etc.,

Page: 4. Communication

4.1

Have you published information about your company's response to climate change and GHG emissions performance for this reporting year in other places than in your CDP response? If so, please attach the publication(s)

Publication	Page/Section Reference	Identify the attachment
In annual reports (complete)	100-124	AECI Annual Report 2011

Attachments

https://www.cdproject.net/Sites/2012/48/248/Investor CDP 2012/Shared Documents/Attachments/InvestorCDP2012/4.Communication/AECI Annual Report-2011.pdf

Module: Risks and Opportunities [Investor]

Page: 2012-Investor-Risks&Opps-ClimateChangeRisks

5.1

Have you identified any climate change risks (current or future) that have potential to generate a substantive change in your business operations, revenue or expenditure? Tick all that apply

Risks driven by changes in regulation
Risks driven by changes in physical climate parameters
Risks driven by changes in other climate-related developments

5.1a

Please describe your risks driven by changes in regulation

ID	Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact
1	Uncertainty surrounding new regulation	The key short term risk is uncertainty surrounding the timing and nature of fiscal, regulatory and legislative packages which are currently under development. The Government recognises the country's responsibility to undertake action to reduce emissions and has announced emissions reductions by 34% below projected business as usual baseline by 2020 and by 42% by 2025. The Department of Environmental Affairs (DEA) published its Long Term Mitigation Scenarios (LTMS) in July 2008 outlining a number of themes under which South African climate change and energy policy will be developed. The LTMS is the basis for the emission reduction pledge discussed above and is the foundation of the 'National Climate Change Response Policy White Paper' which was approved by Cabinet in 2011. This paper outlines broad policy objectives including reducing business as usual greenhouse gas (GHG) emissions.	Increased operational cost	1-5 years	Direct	More likely than not	Medium-high
2	Fuel/energy taxes and regulations	Eskom grid electricity price hike. The National Energy Regulator of South Africa (Nersa) has approved an Eskom power tariff increase of 25,8% for 2011/12 and 16% for 2012/13. This regulation will have an effect on running costs for all sites.	Increased operational cost	Current	Direct	Virtually certain	Medium-high
3	Fuel/energy taxes and regulations	The finance minister announced a 25.5c per litre increase in the levy on petrol and diesel with effect from April 2012. There will also be an 18c per litre increase in the Road Accident Fund levy on petrol and diesel. there are also constant increases in the price of petrol and diesel. These increases result in increases in operational cost.	Increased operational cost	Current	Direct	Virtually certain	Medium-high
4	Carbon taxes	With respect to Carbon Taxes and Cap and Trade Schemes risks, South Africa has already implemented a 2c/kWh carbon tax on the cost of electricity. Government has indicated that additional carbon tax may be used as a means to reduce emissions. The 2012/2013 budget tabled by the Minister of Finance proposes that a carbon tax will be implemented in 2013/2014 at a rate of R120 per ton of carbon dioxide equivalent (CO2e) on direct emissions. This is in line with in the Climate Change Response White Paper approved by Cabinet in 2011. The proposed carbon tax will have the following design features: 1. Percentage-based rather than absolute emissions thresholds, below which a carbon tax will not be payable; 2. A higher tax-free threshold for process emissions; 3. Additional relief for trade-exposed sectors; 4. The use of offsets by companies to reduce their carbon tax liability; 5. A phased implementation; 6. The tax will increase by 10% per annum until 2020; 7. The revenues received from the tax will not be earmarked for climate change initiatives; and 8. The CO2e emissions will be calculated using agreed methods. For AECI which falls within the Chemical Sector a basic tax-free threshold of 80% will apply during the first period of the tax (2013-2019).	Reduction in capital availability	1-5 years	Direct	More likely than not	High

5.1b

Please describe (i) the potential financial implications of the risk before taking action; (ii) the methods you are using to manage this risk; and (iii) the costs associated with these actions

1.) (i) It is currently unclear what the financial implications of the uncertainty surrounding new regulation will be. However, if government decides to impose emission reduction targets on specific industries then the financial implication will increase significantly for all concerned. AECI believe that the first step in any emission legislation will be the mandatory reporting of greenhouse gas emissions by the major carbon emitting industries. This is currently being undertaken in the annual carbon footprint development process but if this becomes regulatory there will likely be an increase in reporting costs.

(ii) As a risk mitigation measure and in the interest of good disclosure, AECI has calculated its carbon footprint. The intention is that this process will be done annually and will become embedded in the organisation. Once there is certainty around the proposed greenhouse gas regulation, AECI will quantify the risk in detail.

(iii)The costs of this exercise are not significant.

2.)(i)The Eskom grid electricity price hikes will increase the cost of electricity for AECI. However, electricity only accounts for a small percentage of operational cost, and thus an increase in electricity costs will not result in a significant impact on the business.

(ii) Various energy efficiency measures are being implemented to decrease the reliance on grid electricity thereby decreasing the exposure to price increases.

(iii) The cost associated with these actions have yet to be quantified

3.) (i) The increased fuel levy will not result in a significant increase to operating costs to the business either as fuel costs account for approximately 6.5% of operating costs.

(ii) Apart from the carbon footprint study carried out annually, no direct measures are in place to manage this risk.

(iii) The cost of the carbon footprint study are not significant.

4.) (i) The carbon tax discussion paper looked at three options of where the carbon tax could be applied. These include a direct tax on total emissions, an upstream carbon tax on emissions from fuels used to generate electricity (Scope 1) and a downstream carbon tax on emissions from purchased electricity (Scope 2). If one looks at the initial tax of R75/per tonne of CO2e increasing to R200 per tonne of CO2e, the financial exposure from a direct tax will start at R40 million and rise to R106 million. The financial risk from an upstream tax will start at R23 million and rise to R62 million while the risk from a downstream tax will start at R16 million and rise to R43 million at current carbon emission figures. An upstream carbon tax will almost certainly result in an increase in electricity costs as Eskom will pass this additional cost onto their consumers. This cost is estimated to be an increase of R0.06/kWh if a tax of R75/tonne of CO2e is implemented and R0.20/kWh if a tax of R200/tonne of CO2e is implemented.

(ii) AECI believes that the first step in any emission legislation will be the mandatory reporting of greenhouse gas emissions by the major carbon emitting industries. This is currently being undertaken in the annual carbon footprint development process but if this becomes regulatory there will likely be an increase in reporting costs due to verification and assurance for example.
The nature and scope of any greenhouse gas regulation in South Africa is still unknown, but is likely to take the form of a carbon tax. Furthermore, the increase in both the electricity and liquid fuel costs in South Africa will mean in an increase in operating costs to the business.

(iii) The annual costs of the carbon footprint development process is not significant. However, the cost pertaining to the carbon tax levied on emissions is anticipated to be significant and still needs to be quantified.

5.1c

Please describe your risks that are driven by change in physical climate parameters

ID	Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact
1	Change in precipitation extremes and droughts	Changes in precipitation patterns are relevant where water is a critical resource for operations. In locations where AECI currently operates water is seen as a scarce resource. Impacts to changes in precipitation patterns vary regionally but significant effects are anticipated where reduced precipitation coincides with increased temperatures, causing exacerbated water stresses.	Reduction/disruption in production capacity	1-5 years	Direct	About as likely as not	Medium-high
2	Change in precipitation extremes and droughts	The AECI supply chain (as well as labour force) could well be affected by physical climate change risks such as floods, or extreme weather events. Flash floods could have a knock-on effect on food supply and disease on the workforce as well as negative effects on road infrastructure in the area which may affect the supply chain. Disrupted access to site due to flooding or extreme weather events can result in supply chain disruption and non-delivery of resources, a loss of production time and a loss of revenue. Disruption at suppliers' sites due to flooding or extreme weather events can also result in supply chain disruption and non-delivery of resources, the inability to operate due to lack of resources and a loss of revenue. Flooding may also disrupt AECI's ability to supply key chemicals to clients, thereby disrupting clients operations.	Reduction/disruption in production capacity	1-5 years	Indirect (Supply chain)	About as likely as not	Medium-high

5.1d

Please describe (i) the potential financial implications of the risk before taking action; (ii) the methods you are using to manage this risk; and (iii) the costs associated with these actions

1(i) Water availability
South Africa is generally regarded as a water-stressed country. With water resources already under pressure in South Africa, Climate Change could lead to a further decline in the availability of water resources and the chemical processing and services industry could be more vulnerable to fluctuating water availability, precipitation patterns, altered groundwater levels and changing stream flow patterns. This can potentially affect water balances which could result in a shortage of the water supply available from rivers and boreholes. Moreover, this is set to happen at the same time as socio-economic development will increase the demand for water.

The major overall effect of pressure on water availability is on AECI's integrated water balance which guides AECI in determining the quantity of water available for planning and operations. In the northern regions of the country where AECI's operations are located, the already dry winter rainfall region is expected to become drier. AECI does rely quite heavily on water availability and a scarcity in water could have a slowing effect on productivity.

If water availability becomes scarcer, this may lead to an increase in operational costs as more supply will be required from municipal suppliers. AECI's water consumption in 2011 was 4.74 million cubic meters. If water shortages increase, this cost is likely to rise by 20 – 30%.

(ii) AECI is currently looking at ways to decrease dependency on water supplied from other sources. Through a climate change strategy, water has been identified as a potential climate risk that AECI will need to address going forward. Currently water demand assessments are being carried out selected sites within the Group to identify possible savings and reduction opportunities.

(iii) The costs of managing water issues within AECI are not accurately consolidated but are regarded as one of the operational business costs. The assessments being conducted will provide a basis for more accurate quantification of costs.

2. (i) Floods will affect the supply chain and disrupt business continuity. Floods affecting the supply chain could result in a significant loss of income from production inefficiencies. AECI's product sit in various companies supply chains and therefore if critical products cannot be delivered customers operations can not continue to function. There is currently no quantification of the loss of revenue if these products were not available, however it would be significant, especially when one looks at the importance of AECI products to various processes in numerous supply chains.

(ii) AECI has taken action, and plans to take further action in relation to physical risks from climate change. AECI has embarked on the process of calculating annual carbon footprints (and hence managing data related to carbon emissions and climate change) of operations and associated with this is a greater understanding of the risks and opportunities the company faces from climate change. AECI is currently developing a separate climate change strategy and regards this as part of the optimisation of the business. The climate change strategy will help to identify risks associated with climate change and the strategies that could be implemented to address these risks.

(iii) The costs of managing flooding issues within AECI are not yet accurately consolidated.

5.1e

Please describe your risks that are driven by changes in other climate-related developments

ID	Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact
1	Reputation	A negative reputational risk could pose a threat to the chemical, textile and explosives production and services sector as a whole due to increased public awareness of climate change and the increased focus on what the sector is doing in response to climate change.	Reduced demand for goods/services	1-5 years	Direct	About as likely as not	Medium-high
2	Other drivers	By not taking into account carbon liability when looking at long-term planning, companies are at risk of choosing projects that do not provide the best return on investment. Those that may seem attractive initially in terms of NPV and ROI may diminish when the liability is considered and are therefore not optimal choices. If this is the case, there is a significant financial implication with regards to delay in project build and subsequent loss of revenue.	Increased capital cost	6-10 years	Direct	Very likely	High

5.1f

Please describe (i) the potential financial implications of the risk before taking action; (ii) the methods you are using to manage this risk; (iii) the costs associated with these actions

(1)(i) A negative reputation could pose a threat to the chemicals, textiles and explosives sector as a whole due to increased public awareness of climate change and the increased focus on what the sector is doing in response to climate change. This sector of industry has the potential to have a large negative impact on the environment thus making AECI's response to climate change essential for improving its reputation.

(ii) Due to the fact that AECI has procedures in place to calculate an annual carbon footprint and identify risks and opportunities of climate change through the climate change strategy the company is in a good position to enhance its reputation with regards to climate change. Reputational risks can also be avoided by initiatives such as AECI's Green Gauge process focusing on resource efficiency and responsible environmental management based on realistic and achievable targets. If AECI continues on its current path of incorporating the management of climate change and associated risks and opportunities into quarterly and annual management procedures, these risks will most likely be anticipated and be dealt with accordingly.

(iii) The costs of these actions have not yet been quantified.

2. (i) By not taking carbon liability into consideration when carrying out long-term planning, there is the potential risk that the financial viability of projects will not be as attractive as previously thought. This will also affect the sustainability of those projects. The same can be said if weather projections are also not considered for particular areas. Adverse weather conditions could hamper new project builds, commissioning and operations. This could subsequently affect the financial viability of a project and whether it should be implemented or not. The financial affects of a lack of long term planning have not been quantified.

(ii) The climate change strategy is the first step in identifying the risks and opportunities associated with climate change. In doing so, AECI is in a position to better understand the financial effects of climate change thereby enabling them to incorporate carbon liability into future planning.

(iii) The costs of these actions have not yet been quantified.

Page: 2012-Investor-Risks&Opps-ClimateChangeOpp

6.1

Have you identified any climate change opportunities (current or future) that have the potential to generate a substantive change in your business operations, revenue or expenditure? Tick all that apply

Opportunities driven by changes in regulation
Opportunities driven by changes in physical climate parameters
Opportunities driven by changes in other climate-related developments

6.1a

Please describe your opportunities that are driven by changes in regulation

ID	Opportunity driver	Description	Potential impact	Timeframe	Direct/Indirect	Likelihood	Magnitude of impact
1	General environmental regulations, including planning	Based on the growing need to provide environmentally friendly products which will enable customers to reduce their carbon footprints and minimise environmental impacts is a driver for AECI's push towards "Green Chemistry". This has led to the following initiatives: Ecologika™ focuses on specialty products and services for sustainable agriculture. Development of environmentally blowing agents which have zero ozone depleting potential, zero volatile organic content and zero global warming potential Development of environmentally friendly fertilizer coatings Development and sale of ECO Series of emulsions	New products/business services	1-5 years	Direct	Very likely	Medium

6.1b

Please describe (i) the potential financial implications of the opportunity; (ii) the methods you are using to manage this opportunity; (iii) the costs associated with these actions

(i) Increased confidence of customers in "green products" will result in increased sales

(ii) Research and development on an ongoing basis to find new and improved products posing minimal harm to the environment.

(iii) Development costs are reviewed on an ongoing basis and are capitalised if they can be measured reliably, the product or process is technically and commercially feasible, it is probable that the asset will generate future economic benefits and the Group intends to and has sufficient resources to complete development.

6.1c

Please describe the opportunities that are driven by changes in physical climate parameters

ID	Opportunity driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact
1	Change in mean (average) precipitation	The rising cost and tighter regulation of water, coupled with concerns about adequate long-term availability in many regions, is prompting many chemical companies to treat water conservation as an imperative in their sustainability efforts. AECI believe that this opportunity is immediate in terms of a time frame looking into the future. The major areas that AECI	Increased production capacity	1-5 years	Direct	More likely than not	Medium-high

ID	Opportunity driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact
		have identified for this opportunity would be the nitric plants where processing and manufacturing of AECI's products takes place. Other geographical areas include the office headquarters in Woodlands and operations in USA.					

6.1d

Please describe (i) the potential financial implications of the opportunity; (ii) the methods you are using to manage this opportunity; (iii) the costs associated with these actions

6.1e

Please describe the opportunities that are driven by changes in other climate-related developments

ID	Opportunity driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact
1	Other drivers	AECI have identified land remediation as a physical opportunity as these activities assist in protecting human health and the environment. An added opportunity linked to remediation of land is that of re-introduction of indigenous vegetation and biodiversity to previously impacted areas.	Wider social benefits	Current	Direct	Virtually certain	Medium-high

6.1f

Please describe (i) the potential financial implications of the opportunity; (ii) the methods you are using to manage this opportunity; (iii) the costs associated with these actions

(i) The guiding principles underlying AECI's remediation activities are to protect human health and the environment; to use good science, proven concepts and the best available technologies without entailing excessive cost; and to work with regulatory authorities as well as sharing information with IAPS.

(ii) Human health and environmental risk assessments are undertaken at appropriate stages of individual projects. These assessments influence subsequent activities.

(iii) Spending on remediation and related environmental management activities in 2011 amounted to
R14 million, compared to R9 million in 2010. At 31 December 2011 the environmental liability for the Group was estimated at R171 million for remediation and was fully provided for.

Module: GHG Emissions Accounting, Energy and Fuel Use, and Trading [Investor]

Page: 7. Emissions Methodology

7.1

Please provide your base year and base year emissions (Scopes 1 and 2)

Base year	Scope 1 Base year emissions (metric tonnes CO2e)	Scope 2 Base year emissions (metric tonnes CO2e)
Fri 01 Jan 2010 - Fri 31 Dec 2010	310892	216305

7.2

Please give the name of the standard, protocol or methodology you have used to collect activity data and calculate Scope 1 and Scope 2 emissions

Please select the published methodologies that you use
The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition)
ISO 14064-1

7.2a

If you have selected "Other", please provide details below

7.3

Please give the source for the global warming potentials you have used

Gas	Reference
CO2	IPCC Second Assessment Report (SAR - 100 year)
CH4	IPCC Second Assessment Report (SAR - 100 year)
Other: N20	IPCC Second Assessment Report (SAR - 100 year)
HFCs	Other: GHG Protocol

7.4

Please give the emissions factors you have applied and their origin; alternatively, please attach an Excel spreadsheet with this data

Fuel/Material/Energy	Emission Factor	Unit	Reference
Motor gasoline	0.03	Other: GJ/L	GHG Protocol/2006 IPCC Guidelines
Motor gasoline	0.03	metric tonnes CO2 per GJ	GHG Protocol/2006 IPCC Guidelines
Motor gasoline	0.00	Other: Tonnes CH4/GJ	GHG Protocol/2006 IPCC Guidelines
Motor gasoline	0.00	Other: Tonnes N2O/GJ	GHG Protocol/2006 IPCC Guidelines
Diesel/Gas oil	0.04	Other: GJ/L	GHG Protocol/2006 IPCC Guidelines
Diesel/Gas oil	0.07	metric tonnes CO2 per GJ	GHG Protocol/2006 IPCC Guidelines
Diesel/Gas oil	0.00	Other: Tonnes CH4/GJ	GHG Protocol/2006 IPCC Guidelines
Diesel/Gas oil	0.00	Other: Tonnes NO2/GJ	GHG Protocol/2006 IPCC Guidelines
Diesel/Gas oil	43.00	Other: MJ/kg	GHG Protocol/2006 IPCC Guidelines
Liquefied petroleum gas (LPG)	47.30	Other: MJ/kg	GHG Protocol/2006 IPCC Guidelines
Liquefied petroleum gas (LPG)	17.20	Other: C/GJ	GHG Protocol/2006 IPCC Guidelines
Liquefied petroleum gas (LPG)	0.00	Other: CH4/GJ	GHG Protocol/2006 IPCC Guidelines
Liquefied petroleum gas (LPG)	0.00	Other: N2O/GJ	GHG Protocol/2006 IPCC Guidelines
Bituminous coal	25.80	Other: kg C/GJ	GHG Protocol/2006 IPCC Guidelines
Natural gas	15.3	Other: kg C/GJ	GHG Protocol/2006 IPCC Guidelines
Electricity	0.99	Other: kg CO2/kWh	Eskom annual report 2010
Electricity	0.65	Other: kg CO2/kWh	Duke Energy Energy Environmental Report 2010

Page: 8. Emissions Data - (1 Jan 2011 - 31 Dec 2011)

8.1
Please select the boundary you are using for your Scope 1 and 2 greenhouse gas inventory

Financial control

8.2a
Please provide your gross global Scope 1 emissions figure in metric tonnes CO2e

329909

8.3a
Please provide your gross global Scope 2 emissions figure in metric tonnes CO2e

247569

8.4
Are there are any sources (e.g. facilities, specific GHGs, activities, geographies, etc.) of Scope 1 and Scope 2 emissions which are not included in your disclosure?

No

8.5
Please estimate the level of uncertainty of the total gross global Scope 1 and Scope 2 figures that you have supplied and specify the sources of uncertainty in your data gathering, handling, and calculations

Scope 1 emissions: Uncertainty range	Scope 1 emissions: Main sources of uncertainty	Scope 1 emissions: Please expand on the uncertainty in your data	Scope 2 emissions: Uncertainty range	Scope 2 emissions: Main sources of uncertainty	Scope 2 emissions: Please expand on the uncertainty in your data
More than 2% but less than or equal to 5%	Data Gaps Assumptions	Uncertainty analysis was not performed. The estimated uncertainty of the data must include uncertainty associated with assumptions in the data. That is, the assumption that all those included in the data collection process have gone about their job in the correct manner. The estimated uncertainty of the data must include uncertainty associated with published emissions factors. These include IPCC Guidelines/GHG Protocol emissions factors and uncertainty thereof. Certain assumptions were made where data was not obtainable. However these assumptions were not significant. Full data sets were not available for some of the smaller business units.	More than 2% but less than or equal to 5%	Data Gaps Assumptions	Uncertainty analysis was not performed. The estimated uncertainty of the data must include uncertainty associated with assumptions in the data. That is, the assumption that all those included in the data collection process have gone about their job in the correct manner. The estimated uncertainty of the data must include uncertainty associated with published emissions factors. These include IPCC Guidelines/GHG Protocol emissions factors and uncertainty thereof. Certain assumptions were made where data was not obtainable. However these assumptions were not significant. Full data sets were not available for some of the smaller business units.

8.6
Please indicate the verification/assurance status that applies to your Scope 1 emissions

Verification or assurance complete

8.6a
Please indicate the proportion of your Scope 1 emissions that are verified/assured

More than 90% but less than or equal to 100%

8.6b
Please provide further details of the verification/assurance undertaken, and attach the relevant statements

Level of verification or assurance	Relevant verification standard	Relevant statement attached
Limited assurance	ISAE 3000	KPMG Statement attached below

8.7
Please indicate the verification/assurance status that applies to your Scope 2 emissions

Verification or assurance complete

8.7a
Please indicate the proportion of your Scope 2 emissions that are verified/assured

More than 90% but less than or equal to 100%

8.7b
Please provide further details of the verification/assurance undertaken, and attach the relevant statements

Level of verification or assurance	Relevant verification standard	Relevant statement attached
Limited assurance	ISAE 3000	KPMG Statement attached below

8.8
Are carbon dioxide emissions from the combustion of biologically sequestered carbon (i.e. carbon dioxide emissions from burning biomass/biofuels) relevant to your company?

No

Attachments

https://www.cdproject.net/Sites/2012/48/248/Investor CDP 2012/Shared Documents/Attachments/InvestorCDP2012/8.EmissionsData(1Jan2011-31Dec2011)/AECI sustainability assurance opinion.PDF

Page: 9. Scope 1 Emissions Breakdown - (1 Jan 2011 - 31 Dec 2011)

9.1
Do you have Scope 1 emissions sources in more than one country or region (if covered by emissions regulation at a regional level)?

Yes

9.1a
Please complete the table below

Country	Scope 1 metric tonnes CO2e
South Africa	296582
United States of America	534
Brazil	32793

9.2
Please indicate which other Scope 1 emissions breakdowns you are able to provide (tick all that apply)

By business division

9.2a
Please break down your total gross global Scope 1 emissions by business division

Business Division	Scope 1 metric tonnes CO2e
Explosives	201499
Specialty Chemicals	59801
Property	68075
Specialty Fibres	534

Page: 10. Scope 2 Emissions Breakdown - (1 Jan 2011 - 31 Dec 2011)

10.1
Do you have Scope 2 emissions sources in more than one country or region (if covered by emissions regulation at a regional level)?

Yes

10.1a
Please complete the table below

Country	Scope 2 metric tonnes CO2e
South Africa	197313
United States of America	27335
Brazil	22921

10.2
Please indicate which other Scope 2 emissions breakdowns you are able to provide (tick all that apply)

By business division

10.2a
Please break down your total gross global Scope 2 emissions by business division

Business division	Scope 2 metric tonnes CO2e
Explosives	76622
Specialty Chemicals	135297
Property	8315
Specialty Fibres	27335

Page: 11. Emissions Scope 2 Contractual

11.1
Do you consider that the grid average factors used to report Scope 2 emissions in Question 8.3 reflect the contractual arrangements you have with electricity suppliers?

Yes

11.2
Has your organization retired any certificates, e.g. Renewable Energy Certificates, associated with zero or low carbon electricity within the reporting year or has this been done on your behalf?

No

Page: 12. Energy

12.1
What percentage of your total operational spend in the reporting year was on energy?

More than 5% but less than or equal to 10%

12.2
Please state how much fuel, electricity, heat, steam, and cooling in MWh your organization has consumed during the reporting year

Energy type	MWh
Fuel	54849.09
Electricity	210981.16
Heat	
Steam	203695.45
Cooling	

12.3
Please complete the table by breaking down the total "Fuel" figure entered above by fuel type

Fuels	MWh
Diesel/Gas oil	50165.32
Motor gasoline	4423.48
Liquefied petroleum gas (LPG)	260.29

Page: 13. Emissions Performance

13.1
How do your absolute emissions (Scope 1 and 2 combined) for the reporting year compare to the previous year?

Increased

13.1a
Please complete the table

Reason	Emissions value (percentage)	Direction of change	Comment
Change in boundary	9	Increase	In general, there is greater awareness related to reporting and the standard of reports received from the various business units has shown a marked improvement in the data being reported. The increase in direct (Scope 1) CO2 emissions results from process emissions at Resitec's manufacturing facilities in Brazil. A small increase in indirect (Scope 2) emissions occurred at STF as a result of higher electricity consumption due to increased production. A larger increase occurred in the specialty chemicals cluster. This related to increased steam consumption as the new manufacturing plants at Senmin's site ramped up their production.

13.2
Please describe your gross combined Scope 1 and 2 emissions for the reporting year in metric tonnes CO2e per unit currency total revenue

Intensity figure	Metric numerator	Metric denominator	% change from previous year	Direction of change from previous year	Reason for Change
0.00004311	metric tonnes CO2e	unit total revenue	5.7	Decrease	While there was an approximate 16% increase in revenue, the increase in emissions was not proportional to revenue growth resulting in a decreased intensity figure for this metric.

13.3
Please describe your gross combined Scope 1 and 2 emissions for the reporting year in metric tonnes CO2e per full time equivalent (FTE) employee

Intensity figure	Metric numerator	Metric denominator	% change from previous year	Direction of change from previous year	Reason for Change
81	metric tonnes CO2e	FTE Employee	3.7	Increase	Full time employees in the Group increased by 4.6% compared to the previous reporting year. This increase together with the total emissions increase has resulted in the rise of this metric.

13.4
Please provide an additional intensity (normalized) metric that is appropriate to your business operations

Intensity figure	Metric numerator	Metric denominator	% change from previous year	Direction of change from previous year	Reason for Change
2.74	metric tonnes CO2e	megawatt hour (MWh)		N/A	This metric was not reported in the previous year. Future reporting will track this metric.

Page: 14. Emissions Trading

14.1
Do you participate in any emission trading schemes?

No, and we do not currently anticipate doing so in the next two years

14.2
Has your company originated any project-based carbon credits or purchased any within the reporting period?

No

Page: 2012-Investor-Scope 3 Emissions

15.1
Please provide data on sources of Scope 3 emissions that are relevant to your organization

Sources of Scope 3 emissions	metric tonnes CO2e	Methodology	If you cannot provide a figure for emissions, please describe them
			Scope 3 emissions include air travel and business mileage from rented vehicles only. Currently data collection for Scope 3 has not been well established within the Group companies and as a result the estimation or calculation of Scope 3 emissions is not reliable at this stage.

15.2
Please indicate the verification/assurance status that applies to your Scope 3 emissions

Not verified or assured

15.3
Are you able to compare your Scope 3 emissions for the reporting year with those for the previous year for any sources?

No, we don't have any emissions data

Module: Sign Off

Page: Sign Off

Please enter the name of the individual that has signed off (approved) the response and their job title

Kavita Pema
Group Environmental Specialist

CDP