2016 CDP

June 2016

Table of Contents

CC0. Introduction

CC0.1: Introduction

Group Five is a diversified construction, infrastructure concessions and services group with an international client base engaged in resources, energy and infrastructure delivery. The group's operations are largely based in South Africa and the rest of Africa with operational experiences in 26 countries. Group Five comprises of three clusters – Investments and Concessions, Manufacturing, and Engineering and Construction – which provides their clients a multi-disciplinary and multi-focus offering.

Group Five recognises the impact of its business on surrounding natural environments and understands the opportunities that the low carbon and climate resilient future brings for a resources, energy and infrastructure group. The company operates its business cognisant of the climate change agenda and its presence in future low carbon economies. 2016 is the eighth successive year that Group Five is voluntarily reporting its climate change response to the CDP.

CC0.2: Reporting Year

01/07/2014 – 30/06/2015

CC0.3: Country list configuration

South Africa
Namibia
Mozambique
Zimbabwe
Ghana
Democratic Republic of the Congo
Burkina Faso
Tanzania
Hungary
Poland

CC0.4: Currency selection

ZAR

CC0.5: Please select if you wish to complete a shorter information request

No

CC1. Governance

CC1.1: Where is the highest level of direct responsibility for climate change within your organization?

Board or individual/sub-set of the Board or other committee appointed by the Board

CC1.1a: Please identify the position of the individual or name of the committee with this responsibility

Group Five's Executive Director for Risk, Safety, Health, Environment and Quality, Mr Guy Mottram, holds the highest level of direct responsibility for managing climate change and associated risks within the company.

He reports directly to Group Five's board of directors, and oversees the implementation of:

- Risk management;
- Quality management processes;
- The zero harm policy and wellness programmes; and
- The integrated environmental strategy, which incorporates policies to reduce energy, water consumption and greenhouse gas (GHG) emissions.

Mr Guy Mottram also oversees Group Five's response to all risk exposures, including legal, compliance, safety, expansion and climate change.

CC1.2: Do you provide incentives for the management of climate change issues, including the attainment of targets?

Yes

CC1.2a: Please provide further details on the incentives provided for the management of climate change issues

Who is entitled to benefit from these incentives?	The type of incentives	Incentivized performance indicator	Comment
Chief Executive Officer (CEO)	Monetary Reward	Other: Reputational value of the company	Group Five's Chief Executive Officer is rewarded with share options based on the reputational value of the company. Group Five's response to climate change plays a role in this reputational value. Reputational value is largely dependent on the perception of stakeholders, who are placing increasing importance on environmental, social and governance issues when considering investment decisions.

Corporate executive team	Monetary reward	Emission reduction projects	Group's Five's Social and Ethics committee is monetarily reward for the successful achievement of the group's sustainability objectives, of which an adequate response to climate change and the implementation of emission reduction projects form part.
Environment/ Sustainability managers	Monetary reward	Emission reduction projects	Group Five's environmental managers are monetarily rewarded for the implementation of green initiatives and GHG emission reductions. These managers are also recognized for creating awareness of Group Five's environmental and climate change responsibilities amongst employees and contractors.
Business unit managers	Monetary reward	Other: Identifying, developing and constructing green buildings and renewable energy projects	Group Five's business unit managers are monetarily rewarded for identifying, developing and constructing green buildings and renewable energy projects.
Risk managers	Monetary reward	Other: Identifying climate change risks and opportunities	Group Five remunerates its risk managers for identifying climate change risks and opportunities, and communicating these risks and opportunities across the group.

CC2. Strategy

Risk Management Approach

CC2.1: 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

CC2.1a: Please provide further details on your risk management procedures with regard to climate change risks and opportunities

Frequency of monitoring	To whom are results reported?	Geographical areas considered	How far into the future are risks considered?	Comment
Six-monthly or more frequently	Individual/sub-set of the Board or committee appointed by the Board	The geographical areas considered in the climate change risk management are countries where Group Five has an existing operation or is exploring growth opportunities in these countries: South Africa; Namibia; Mozambique; Zimbabwe; Ghana; Democratic Republic of the Congo; Burkina Faso; Tanzania; Hungary; and Poland.	>6 years	The management of climate change related risks is integrated into Group Five's corporate risk management strategy. Risk management is conducted on both a corporate level, as well as on a project by project basis. The scope of this risk management process includes (amongst others) climate change risks relating to physical aspects, regulatory aspects, market behavior, and customer perception. Risks are considered over the life of each site and each project/contract.

CC2.1b: Please describe how your risk and opportunity identification processes are applied at both company and asset level

Company level:

To assist with the process of identifying climate change risks and opportunities at a company level, Group Five (G5) has implemented a Risk Management and Environmental Management System. This system underpins every aspect of G5's operations and reinforces the centrality of sustainability and climate change to the business. In addition to this system, G5's Executive Director for Risk, Safety, Health, Environment and Quality is responsible for risk management at the corporate level. The executive reports risks and opportunities directly to the Board who is ultimately responsible for overall risk mitigation and management.

G5 also has an established Green Committee who are responsible for identifying and reporting climate change risks, opportunities and green initiatives to the Board. The risks and opportunities that are considered with regards to climate change are those driven by regulation, changes in physical climate parameters and changes in other climate-related developments.

Asset level:

G5's climate change risks and opportunities are assessed at an asset level for:

a) all projects and sites (95% of the business), and

b) fixed operations and facilities (5% of the business).

For new projects and sites, risks and opportunities inherent to each potential project are identified by the Risk Committee during the tendering phase of a project. A comprehensive review of commercial, financial, technical, operational, SHEQ and climate issues is performed prior to approving the project. Monthly contract and project review meetings are used to monitor and report progress on potential climate related risks and opportunities for projects and sites. Each site has a Delegated Environmental Site Officer responsible for management of climate change risk and opportunities on-site.

The Group has an established enterprise risk management framework that allows management and the Board to analyse data related to climate change risks and opportunities for individual projects and sites. Risks and opportunities for fixed operations and facilities are assessed by G5's Green Committee, who ultimately reports to the board.

CC2.1c: How do you prioritize the risks and opportunities identified?

Climate change risk and opportunity matrices are created as part of Group Five's integrated risk management process, and are based on the identification of risk and opportunity drivers. Risk drivers are any types of events that have the potential to disrupt business and impact local communities, have financial implications, or influence asset optimisation. Opportunity drivers are those events that have the potential to improve operations, allow for the diversification of business, or increase revenue.

The potential impacts associated with each climate change risk/opportunity driver are identified and rated separately. The risk/opportunity items are assessed with regards to:

- probability,
- severity, and
- consequence.

Each of the abovementioned criteria have a pre-specified classification of potential with a different value attributed. These factors are multiplied together to get a total rating value for each item, known as the inherent risk/opportunity that Group Five faces if it does not take action. The inherent risk/opportunity rating is then recalculated based on actions already taken by Group Five – this is known as the residual risk/opportunity. If the residual risk is still considered unacceptably high, then the risk is prioritised and further action is taken. In contrast if the residual opportunity is still high, then Group Five prioritises the opportunity to exploit in the year based on its financial viability.

Business Strategy

CC2.2: Is climate change integrated into your business strategy?

Yes

CC2.2a: Please describe the process of how climate change is integrated into your business strategy and any outcomes of this process

i. Group Five's business strategy has been influenced by climate change on a number of levels:

- To source new business and projects from opportunities generated by both climate change mitigation (renewable energy, green buildings, etc.) and by climate change adaptation (infrastructure projects, etc.);
- To optimise existing projects with respect to climate change mitigation (fuel efficiency on site) and adaptation (safeguarding sites against flash floods, etc.); and
- To optimise fixed operations with respect to climate change adaptation (the head office has been certified as a green building) and mitigation (vehicle fleet fuel efficiency).

Group Five is working towards the development of emission reduction targets for its fixed sites. It is anticipated that absolute emissions could be reduced by as much as 3% over the next five years, with 2012 as a base year. Whilst it is more complex to anticipate changes in absolute emissions for Group Five's project-based construction work, Group Five is working towards reducing the emission intensities of these operations over the next five years, as this will result in reduced costs.

The Green Committee, which consists of champions in each of the operating divisions, are responsible for identifying climate change risks and opportunities within their respective business units. The Committee has quarterly meetings to monitor and review climate change risks and opportunities, and highlight issues of importance. The Group's Executive Director for Risk, Safety, Health, Environment and Quality, who forms part of the Green Committee, reports to the Board. The Board and executive committee consider any potential changes that are required in response to climate change on a bi-annual basis.

The Green Committee is responsible for communicating Group Five's climate change strategy within the company. Communication of green initiatives is done via the 'Green Page' on the company intranet and monthly internal newsletters. Each champion is responsible for implementing and tracking performance of green initiatives within their own operating divisions. Annual feedback meetings with the heads of business units on the GHG inventory results and progress of the specific business unit also aid in communicating climate change related risks and opportunities. Furthermore, an environmental sustainability module has been incorporated into the company's accounting software, which is used to automatically identify sources of emissions, calculate emissions per division and are used to track the potential tax implication of its emissions. A Green Handbook Guideline which outlines Group five's approach to capturing data and reporting on its emissions and boundaries have been implemented across all the sectors. The GHG handbook have been communicated to all within the company, in order to ensure data accuracy.

ii. Market developments influenced by climate change regulation and global climate change perceptions have influenced the strategy of Group Five significantly - the global move to a carbon-constrained economy provides opportunities for business development in

construction and low carbon energy solutions. Opportunities like the increased demand for green buildings and renewable energy resulted in Group Five dedicating two teams under the business unit 'Engineering and Construction' for the identification and implementation of these types of projects. The decision to establish these teams was underpinned by the ambitious emission reduction targets pledged by South Africa and the barriers associated with development of renewable energy projects. These teams have a goal to secure as many projects as possible under the South African Renewable Energy Independent Power Producers Procurement (REIPPP) programme.

iii. Group Five's short term climate change strategy (<5 years) is aimed at positioning the business as the leading 'green building' construction company. Group Five believes that it can leave a legacy of buildings that not only aid in mitigating climate change, but also are built to withstand a changing climate. Group Five's has employees that are actively involved in the development of the Green Building Council of South Africa's (GBCSA) rating tools, and the company also has an employee on the board of the GBCSA. Group Five's marketing strategy has also been adopted to capitalise on promoting their leadership in the green buildings industry.

Physical climate change aspects (such as extreme weather events, extreme temperatures and changes in precipitation) and regulatory climate change aspects (such as the imminent carbon tax and increased fossil fuel prices) have also influenced the strategy. Group Five's long term contracts are carefully worded to reduce weather related costs/penalties, and projects are suitably insured for cover such impacts if they occur. With respect to projects currently in the books, the strategy has been adapted to take cognisance of increased energy costs (either direct cost or as a result of increased costs passed down via the supply chain) and the potential impact of the proposed carbon tax for South Africa.

iv. Group Five's long term strategy (>6 years) is to invest in opportunities that are presented by climate change, such as renewable energy, energy generation from waste, independent power producers and nuclear readiness. Group Five has two dedicated teams for identification and implementation of these projects:

- A division of Infrastructure Development Services responsible for the development of renewable energy projects and bidding into the REIPPP government program; and
- A division of Engineering & Construction to be involved as a contractor in the construction of renewable energy projects.

v. Group Five recognizes that its ability to be sustainable over the long term is central to maintaining a competitive advantage, and its response to climate change forms an important component of this agenda. Group Five is gaining a strategic advantage over its competitors by:

Group Five has actively reported on their CDP, over the past 8 years, which places them in a favourable position to meet South Africa's proposed GHG and energy reporting requirements, once the regulatory requirements come into effect in 2017.

The upcoming carbon tax implications have been identified as a potential risk factor. Group Five continuously assess and communicate the potential financial implication which the upcoming carbon tax may have on it operations and contracts. By constantly assessing and reviewing the changes in the upcoming Carbon tax, Group five has positioned itself to meet government's regulatory requirements in terms of Carbon tax.

The extensive renewable energy portfolio in South Africa, within Group Five; optimizes energy usage and manages energy costs.

vi. The most substantial business decisions made in this reporting year were to:

Investigating and pursuing investment opportunities within energy efficiency and renewable energy projects as well as continuing to place itself as a leader in construction of Green Star and Leadership in Energy and Environmental Design (LEED) buildings.

CC2.2c Does your company use an internal price of carbon?

Yes

CC2.2d: Please provide details and examples of how your company uses an internal price of carbon

South African operations:

The first internal carbon pricing was introduced in to the business in 2010. Group Five utilises the current price of carbon linked to the proposed South African carbon tax, as the set internal price within the company.

South Africa's Draft Carbon Tax Bill has an initial marginal carbon tax rate of R120 per ton CO2e. However taking into account all of the proposed tax-free thresholds, the effective carbon tax rate will vary between R6 - R48 per ton CO2e. Group Five therefore sets the internal price of carbon at R48 per ton CO2e.

The carbon tax is expected to remain revenue neutral for electricity pricing, therefore not increasing the electricity tariff above the NERSA approved increases. However fuel prices may increase by 13 cents/litre as it will be taxed under the fuel tax regime.

European operations:

Group Five has Intertoll operations in Poland and Hungary. In Poland, a carbon price has already been imposed through an explicit carbon tax of EUR 0.065/tCO2e. An additional tax of EUR 94 per tonne of oil equivalent has also been introduced as per the Poland Country Report of 2014. Group Five has introduced this taxation rate as the company's internal price of carbon. Hungary has followed the EU ETS carbon price signal which was effective in encouraging companies to build capacity in response to a carbon price. However the EU ETS in Hungary has not yet led to significant emissions abatement or the development of a carbon tax. Group Five is closely monitoring carbon tax development in Hungary which will, in turn, define the company's internal price of carbon for Hungarian operations.

The use of an internal carbon price by Group Five has assisted with investment decisions when considering new projects. During the tender stage of new projects, Group Five takes into account the electricity and fuel cost for the project incorporating the potential price of carbon into the pricing schedule, thereby passing the additional tax costs through to the client. This however, makes contracts more expensive and can reduce competitiveness. Therefore for Group Five to remain competitive it has to reduce its direct emissions and non- renewable electricity usage, or reduce the profit margin on projects. For this reason Group Five established the Energy business division (within the Engineering and Construction Cluster) to identify and implement renewable energy projects.

CC2.3: Do you engage in activities that could either directly or indirectly influence public policy on climate change through any of the following?

X Direct engagement with policy makers

CC2.3a: On what issues have you been engaging directly with policy makers?

Focus of legislation	Corporate position	Details of engagement	Proposed legislative solution
Carbon Tax	Support with minor exceptions	The most significant climate policy affecting Group Five's business is the impending South African carbon tax. The implementation of this tax has been delayed by one year to 2017. Group Five understands the need to implement a carbon tax to reduce the country's carbon footprint. However, its view is that the method of taxation should balance the country's tax needs with industry's need to remain competitive (which is crucial to encouraging further investment in the South Africa, especially in the construction sector). Group Five has been engaging directly with National Treasury regarding the proposed South African carbon tax. The company has commented on Carbon Tax Policy Paper, and has also participated in the carbon tax impact study by National Treasury to establish how local companies have responded to higher electricity prices and their ability to respond to further electricity price increases.	Group Five is concerned over the lack of clarity on the country's climate change strategy and what government is seeking to achieve in terms of climate change mitigation per sector. A customised sectoral climate change mitigation plan for the construction industry has not yet been developed. It is difficult for construction firms, including Group Five, to develop a low carbon strategy within the uncertain regulatory environment. Border tax is another issue of concern. For large construction projects, Group Five can either import or purchase local material (e.g. cement and steel). A carbon tax on input material will put local producers at an uncompetitive disadvantage, and favour inputs from producers elsewhere. Suggested border tax adjustments and trade tariffs are not clearly defined in the carbon tax papers to date.

CC2.3b: Are you on the Board of any trade associations or provide funding beyond membership?

No

CC2.3d: Do you publically disclose a list of all the research organizations that you fund?

Yes

CC2.3f: What processes do you have in place to ensure that all of your direct and indirect activities that influence policy are consistent with your overall climate change strategy?

Group Five's strategy in response to climate change is to engage with government in the development of policies and strategies to address energy efficiency and greenhouse gas reductions. Group Five forms part of the voice of the construction industry at monthly business meetings through the Business Unity of South Africa (BUSA).

Group Five's Executive Director for Risk, Safety, Health, Environment and Quality, Guy Mottram, is responsible for the oversight of Group Five's climate change response strategy, and also coordinates the company's direct/indirect engagement with government on climate change related policy. This ensures that Group Five's direct and indirect activities that influence policy are consistent with the company's overall climate change strategy.

CC3. Targets & Initiatives

CC3.1: Did you have an emissions reduction or renewable energy consumption or production target that was active (ongoing or reached completion) in the reporting year?

No

CC3.1f: Please explain (i) why you do not have a target; and (ii) forecast how your emissions will change over the next five years

i. Group Five is a diversified construction services, materials and infrastructure investment group. Therefore, its overall GHG inventory can be correlated to a number of construction projects and contracts in a given year. Group Five's service offerings range from the manufacturing of construction materials at fixed sites (fibre cement, piping, fencing, etc.), to temporary construction work throughout Africa. Group Five also partners with various firms on large infrastructure projects, and leases buildings for temporary work. This not only makes the calculation of Group Five's GHG inventory a complex undertaking, but also makes the setting of targets for these operations an even more difficult task. With regards to Group Five's temporary/project-based construction work, the GHG inventory of each project is directly linked to its design which is dictated by the client. As such, Group Five does not have direct control of the GHG emissions from its project-based contracts.

   GHG inventory calculations in the project-based construction industry are significantly more complex than for fixed operations. There is currently no international consensus on a GHG accounting approach for project-based construction. The major challenges lie in setting organisational and operational boundaries for complex projects built by consortiums and joint

ventures (a common practice in the mega-projects Group Five is involved with). Furthermore the alignment of greenhouse gas accounting systems for projects where the participants have different approaches due to the lack of standards can also be challenging. These challenges are further exacerbated by the split incentive barrier where the client (and ultimate owner of the project) has the biggest impact on the emissions through the design specifications, but classifies the project's emissions as 'indirect emissions' and therefore has little incentive to reduce them.

Group Five contracted a carbon consultancy firm to develop a GHG Management Handbook in order to improve the consistency of GHG emission calculations. This Handbook will be applied in conjunction with a new 'environmental reporting' system that will calculate emissions based on data captured in Group Five's financial system. The purpose of the 'environmental reporting' module which are built into Group Five's financial system is to increase accuracy of data, track potential carbon tax costing and to track carbon emissions on a quarterly basis. This data will then be used by the Green committee to identify major contributors to carbon emissions in the company, identify financial viable reduction initiatives or alternatives and to set achievable carbon reduction targets.

ii. Group Five is working towards the development of emission reduction targets for its fixed sites. It is anticipated that absolute emissions could be reduced by as much as 3% over the next five years, with 2012 as a base year. Whilst it is more complex to anticipate changes in absolute emissions for Group Five's project-based construction work, Group Five is working towards reducing the emission intensities of these operations over the next five years, as this will result in reduced costs.

CC3.2: Do you classify any of your existing goods and/or services as low carbon products or do they enable a third party to avoid GHG emissions?

Yes

CC3.2a: Please provide details of your products and/or services that you classify as low carbon products or that enable a third party to avoid GHG emissions?

Level of aggregation	Description of product/Group of products	Are you reporting low carbon product/s or avoided emissions?	Taxonomy, project or methodology used to classify product/s as low carbon or to calculate avoided emissions	% revenue from low carbon product/s in the reporting year	% R&D in low carbon product/s in the reporting year	Comment
Product	Emissions are avoided by customers utilising the green buildings constructed by Group Five. On average, green buildings are expected to save between 30-50% of energy (and therefore emissions) through their lifetime when compared with conventional buildings. Group Five is a founding member of the Green Building Council of South Africa (GBCSA). GBCSA aims to play a leading role in the transformation of the South African property industry ensuring buildings are designed, built and operated in an environmentally sustainable way. Group Five has constructed the following certified green buildings over the last five years: 1. Nedbank Phase 2 in Sandton (4 star) 2. Waterfall Office Park (5 star) 3. DStv City (4 star) 4. Norvatis (Leadership in Energy and	Yes	Other: Green building Council and LEED standards for energy efficient buildings	N/a	N/a	N/a

	Environmental Design – Gold status) 5. 90 Rivonia (Green star rating currently under review) When compared to conventional buildings, and assuming an average of 60 years lifetime for a building, the average avoided emissions of a new green office building over its lifetime is estimated to be +/- 320,000 tCO2e. This is calculated based on the assumption that each green building saves, on average, 50% of electricity compared to a conventional building. In South Africa power is generated by means of coal-fired power stations which have a grid emission factor of 1.03 tCO2e/ MWh.					
Product	Group Five is involved in the development of several renewable energy projects. Group Five has completed the construction of two renewable energy projects in conjunction with its JV partner Iberdrola. These two projects (one wind farm and one a Solar PV plant) contribute to 123 MW being added to the National Grid. A furtherer, two wind farms and two photovoltaic plants with a combined monetary value of 4.5 Billion rand is planned, and will	Yes	Other: Alternative Green Energy generation	N/a	N/a	N/a

	have a combined power generation potential of 257MW. Two new photovoltaic plants are currently being constructed in partnership with Enertronica, in the Northern Cape and Free State Provinces of South Africa, respectively. It is anticipated that on completion these PV plants will have a combined power generation potential of 165 MW. It is anticipated that these two construction projects will be completed in June 2016. For every 1 MWh of renewable energy generated, 1.03 tCO2e will be avoided by displacing an equivalent amount from the South African electricity grid. Assuming an average capacity factor for the wind and solar plants of 50%, these combined plants can achieve emissions savings of 1.16 million tCO2e for every year of operation					

CC3.3: 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

CC3.3a: Please identify the total number of projects at each stage of development, and for those in the implementation stages, the estimated CO_2e savings

Stage of development	Number of projects	Total estimated annual CO2e savings in metric tonnes CO_2e (only for rows marked *)
Under investigation	0	Not applicable
To be implemented*	2	Numerical Field
Implementation commenced*	Numerical Field	Numerical Field
Implemented*	1	32000
Not to be implemented	Numerical Field	Numerical Field

CC3.3b: For those initiatives implemented in the reporting year, please provide details in the table below

Activity type	Description of activity	Estimated annual CO_2e savings (metric tonnes CO_2e)	Scope	Voluntary /Mandatory	Annual monetary savings (unit currency – as specified in CC0.4)	Investment required (unit currency – as specified in CC0.4)	Payback period	Estimated lifetime of the initiative (years)	Comment
Transportation: fleet	In the reporting year, Group Five implemented a voluntary initiative to reduce the fuel consumption of its vehicle fleet. This project involved the planning and pre-approval of all trips, route optimisation, vehicle maintenance, and education on the relationship between fuel economies and driving behaviour. This initiative has reduced the total vehicle fleet's diesel consumption by 1000 litres per month, thereby reducing Group Five's direct (Scope 1) emissions.	32,000	Scope 1	Voluntary	144,000	0	<1 year	Ongoing	This voluntary initiative requires no capital investment as it is based on behavioural changes.

CC3.3c: What methods do you use to drive investment in emissions reduction activities?

Method	Comment
Lower return on investment (ROI) specification	From a capital investment perspective, projects delivering energy savings and greenhouse gas emission reductions are prioritised within Group Five. This prioritisation is motivated by Group Five's need for long term sustainability and to mitigate climate change risks.

CC4. Communications

CC4.1: Have you published information about your organization's response to climate change and GHG emissions performance for this reporting year in places other than in your CDP response? If so, please attach the publication(s)

Publication	Status	Page/Section reference	Attach the document	Comment
In mainstream financial reports in accordance with the CDSB Framework	Underway – previous year attached	Page 93 - Environmental	Attached – (Appendix A)	Group Five Integrated Annual Report for 2015
In voluntary communications	Underway – previous year attached	Page 39 Governance Regulatory Environment – Carbon Tax Policy Paper Pages 128 – 136 – Environmental	Attached – (Appendix B)	Supplementary information to the Integrated Annual Report 2015

CC5. Climate Change Risks

CC5.1: Have you identified any inherent climate change risks that have the potential to generate a substantive change in your business operations, revenue or expenditure?

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

CC5.1a: Please describe your inherent risks driven by changes in regulations

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management methods	Cost of management
Carbon taxes and the uncertainty surrounding new regulation	The Draft Carbon Tax Bill was released during November 2015. The design of the Draft Carbon Tax remains largely unchanged from the Carbon Tax Policy Paper that was released in May 2013. The initial marginal carbon tax rate of R120 per ton CO2e still applies, however taking into account all of the proposed tax-free thresholds, the effective carbon tax rate will vary between R6 - R48 per ton CO2e. The carbon offsetting allowances of 5-10 % also still apply. The carbon tax is expected to commence in January 2017. Only companies that own or control combustion installations (e.g. boilers) totalling 10	Increased operational cost	Up to 1 year	Direct	Very likely	Low - Medium	Due to the proposed changes within the Draft Carbon tax, only Everite will be impacted by direct carbon tax based on their coal and natural gas consumption. Everite's emissions from coal are roughly 27 000 tCO2e, this would equate to a carbon tax of R1.2 million. Everite's emissions from natural gas are roughly 1 300 tCO2e, this would equate to a carbon tax of R62 000. Group Five does make use of small amounts of LPG, how the carbon tax on these is considered to be immaterial. A further fuel price increase of 13 cents per litre is anticipated and will result in Group Five having to pay an additional R1.1 million on its fuel usage.	Group Five is managing carbon tax risks by implementing an electronic reporting system which is integrated with Group Five's accounting system. This system is utilized to accurately obtain and manage the information required to calculate the Group's proposed taxation liability before the expected implementation date. In addition Group Five is engaging with National Treasury for a carbon tax that is reasonable which does not	The costs of managing carbon tax with National Treasury are carried in house and consist on membership fees which amounts to approximately R450 000 per annum. There is no direct cost for managing this risk associated with incorporating increased operating costs into the contracts.

	MW or higher will be eligible for the carbon tax in the first phase (up to 2020). The carbon tax is expected to remain revenue neutral for electricity pricing, therefore not increasing the electricity tariff above the NERSA approved increases. However fuel prices may increase by 13 cents/litre as it will be taxed under the fuel tax regime.						Group Five's supply chain may also be impacted by carbon tax. Group Five's spend on cement may increase by between R12 and R14 million.	hinder international competitiveness. Further to this Group Five is a member of BUSA, which engaged with the National Treasurer on further matters related to the carbon tax on behalve of its members. The company has developed a Green Handbook Guideline for its business unites which outlines the reporting boundaries and tax implications in order to create awareness on the reporting requirements and tax implications.	
Emission reporting obligations	Legislation surrounding mandatory reporting in South Africa also poses a risk to Group Five. The following amendments were made in 2015:	Inability to do business Other: Reputational Damage, Fines and prosecutions	Up to 1 year	Direct	Likely	Mediu m-high	The financial implication of not complying with the regulatory requirements could result in potential fines and prosecutions of which the financial	Group Five has an environmental committee which is actively managing all regulatory requirements for	There is no direct cost other than cost required to do monitoring by an external party if and

	- The Draft regulations regarding registration, reporting on Energy Management and submission of Energy Management plans were published in 27 March 2016, which requires companies, which consumes above 180TJ energy, to measure and collect data on its energy consumption and report it on an annual basis. Furthermore, companies with an energy consumption higher than 400TJ will be required to submit an energy management plan. - Declaration of Greenhouse Gases as Priority Pollutants (draft published on 8 January 2016). Specific greenhouse gases that have been identified as priority						implications could be up to an amount of R 10 million. Furthermore, prosecution due to none compliance can potentially lead to reputational damage which in turn leads to loss of contracts and business opportunities.	all its operations are identified and are complied with.	where needed.

	air pollutants namely, CO2, CH4, N2O, HFCs, PFCs, SF6 are regulated. The regulation details production processes that are required to submit pollution prevention plans (draft regulation released 8 January 2016) if they exceed the limit of 0.1 Megatonnes. Currently construction is not specifically mentioned, but combustion as part of manufacturing is included. - National Greenhouse Gas Emissions Reporting Regulations (draft published 5 June 2015): Companies are required to report direct greenhouse gas emissions to the National Atmospheric Emission Inventory								

	System (NAEIS) according to the 2006 IPCC Guidelines.								

CC5.1b: Please describe your inherent risks that are driven by change in physical climate parameters

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management methods	Cost of management
Change in precipitation pattern and change in temperature extremes	The IPCC Working Group II Fifth Assessment Report (2014) states that: Climate change will exacerbate currently dry regions and result in decreased rainfall and increased frequency of droughts by the end of the century; This will cause a decrease in surface water and groundwater; The mean annual temperature will rise 2 ºC for Africa relative to the late 20th century mean annual temperature; and Variations in flood frequencies will increase as a result of climate change in	Reduction in capital availability	Up to 1 year	Direct	Very likely	Medium	On average a 'lost day', above that which is provided in the construction contracts, is estimated at a loss in revenue for Group Five of R 700,000 per day. Average rainfall and high temperatures experienced during 2015 resulted in project delays costing +/- R 8,900 per month based on 2 – 3 hours of stoppages for the occasional days disrupted. In addition disruptions also decrease the productivity of the work force which imposes a cost of R100/person/shift, which contributes to a 0.4% increase in production costs.	Group Five is managing the risk of a change in precipitation and temperature extremes on three fronts: 1. Group Five's Risk Committee consults the local weather bureau and assesses the specific weather patterns of in the region of the site prior to tendering and approving a project. This process considers the climate change projections based on the latest climate change science. During this assessment the average amount of rainy days are	1. The cost of building specific silt management structures is estimated at 2. R 50,000 per site. 3. There is no additional cost to incorporate rainfall clauses into contracts. This process is a standard and compulsory step for each contract. 4. There are currently no associated cost related to the regular heat testing programmes

	tropical regions of Africa. As a result Africa is one of the most vulnerable continents to climate change. Group Five has extensive operations across Africa, and are increasingly aware of the impact that climate change will have on the continent. High precipitation extremes coupled with low evaporation rates pose a significant risk to Group Five's business operations, particularly when working on projects in the rest of Africa where storm water infrastructure is generally limited. These high precipitation extremes can impact on							determined and drafted in to the contract with the client. 2. By implementing a Storm Water Management system at all of its construction sites. The Storm Water Management system is in line with Section 2 of the National Environmental Management Act and the Department of Water Affairs' minimum regulations. The system involves assessing the expected flow rate and channels of water at each construction site and then building silt management structures. These structures are maintained regularly and inspected after extreme rainfall events.	

	Group Five's construction projects in the following way: Increased costs; Increased 'lost days' than what was originally provided for in the contract; Reworking certain parts of a project due to storm damage; and Logistical risks with regards to the supply of material, water and energy.							3. By incorporating clauses relating to extreme rainfall patterns in construction contracts. In the contract with the client it is stated that, if it can be proven by Group Five that there is substantial variance from the planned amount of rainy days, this additional cost of non-working days will have to be covered by the client. Daily recordings are kept for projects sites and hours delayed are negotiated and claimed back from the clients.	
Other drivers: High Wind Conditions	High wind speeds can have detrimental impacts for Group Five's construction sites. Group Five uses cranes in most of its construction	Reduction in capital availability	Up to 1 year	Direct	About as likely as not	Low	Being unable to work in windy conditions imposes delays to projects. On average a 'lost day', above that which is provided in the construction contracts, is estimated at a loss in	Group Five manages this risk by ceasing all construction site operations when wind conditions become dangerous. This would result in Group Five	There are no additional costs associated with this management method.

	projects to lift and move construction materials around the site. Operating a crane in windy conditions can create a potentially dangerous situation. The wind forces imposed on both the crane and the load can affect the strength and stability of the crane and its ability to safely handle the load being lifted. If the wind speed doubles, the wind pressure increases by a factor of four times which makes operating them at elevated wind speeds a safety hazard (Safe Working Practice: Occupational Health & Safety Group). Climate change is likely to change the dynamics of winds, both on a						revenue for Group Five of R 700,000 per day.	delaying projects. As a management method, Group Five includes 'lost days clauses in all project-based construction work.	

	global scale at high altitudes and in a local level at low altitudes. These changing winds are likely to have a negative impact on Group Five's construction projects and, as such, pose a risk to their business.								

CC5.1c: Please describe your inherent risks that are driven by changes in other climate-related developments

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management methods	Cost of management
Reputation	Group Five aims to build a globally competitive company that supports sustainable construction across South Africa, the rest of Africa, the Middle East and Eastern Europe. This is Group Five's core value – a value which is strongly linked to how the company is viewed by its investors and shareholders.	Reduced stock price (market valuation)	Up to 1 year	Direct	More likely than not	Medium	Implications resulting from mitigating/adapting to climate change may result in a decline in Group Five's share price. With that said it is difficult for Group Five to approximate the possible financial implication that this will have, Group Five anticipates that the impact on their share price will intensify as regulation	Group Five is managing its reputation in response to climate change using the following methods: 1. Group Five has been a member of South Africa's National Business Initiative (NBI) since 2009. The NBI is a voluntary coalition of South African and multinational	The cost of the NBI membership during 2015 is confidential. The cost for conducting climate change risk ssessments is carried in house. The cost of creating short and long terms strategies are covered in Group Five's annual budget.

	Climate change is one of the factors that can pose a risk to Group Five's reputation. Group Five is exposed to an investor reputational risk if the company is not seen to be adequately esponding to regulatory and physical climate change risks that it is exposed to. This can potentially restrict the company from operating at 'business as usual' levels. Customers may therefore not view Group Five as the construction provider of choice. Furthermore, the lack of reputation in this regard could also prevent Group Five from gaining financial support when required, and business partnerships in the construction sector could be negatively affected.						accelerates and the impact of climate change becomes more visible. A 1% drop in Group Five's share price will decrease market capitalisation by R 31.9 million.	companies that are committed to working towards sustainable growth. Amongst other responsibilities, the NBI disseminates information on best practices and companies' responses to a changing climate. In the reporting year, Group Five participated in the NBI's study that aimed to understand how South African businesses are adapting to climate change. 2. Incorporating climate change into its risk management process, and communicating the results of these assessments to the Group Five board. The board then adopts a top-down approach to address risks	Zero additional costs are incurred for communicating Group Five's emissions performance and climate change strategy to its investors. Cost for responding to the CDP in the reporting year was R 200,000.

	Whilst Group Five is currently viewed as a leader in the construction industry, this reputational risk may pose a risk in the future as climate change impacts are predicted to worsen.							and prioritise opportunities. Creating short and long term strategies in response to climate change. Group Five's short term strategy is geared towards increasing its portfolio of green buildings, whilst its long term strategy is focused on the development of its renewable energy business. Group Five plans to build 1000 housing units in North Ghana under the Savannah Accelerated Development Authority, with the aim of partnering to produce solar energy. In addition, Group Communicating its emissions	

								performance and climate change strategy to its investors in annual reports and voluntary communications. Continuing to voluntarily respond to the CDP.	

CC6. Climate Change Opportunities

CC6.1: Have you identified any inherent climate change opportunities that have the potential to generate a substantive change in your business operations, revenue or expenditure?

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

CC6.1a: Please describe your inherent opportunities that are driven by changes in regulation

Opportunity driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management methods	Cost of management
Other regulatory drivers : Clean Development Mechanism (CDM) projects that can be used as carbon offsets	Group Five's strategy in response to the proposed carbon tax in South Africa is to engage with government in the development of policies and strategies to address energy efficiency and greenhouse gas reductions. The Draft Carbon Tax Bill was released during November 2015. The design of the Draft Carbon Tax remains largely unchanged from the Carbon Tax Policy Paper that was released in May 2013. The initial marginal carbon tax rate of R120 per ton CO2e still applies, however taking into account all of the proposed tax-free thresholds, the effective carbon tax rate will vary between R6 - R48 per ton CO2e. The carbon offsetting allowances	Increased demand for existing products/services	Up to 1 year	Direct	Likely	Medium	The Carbon Tax Policy Paper (released in May 2013) states that from 2016, GHG emissions will be priced at a rate of R120/tCO2e. A CDM project that generates 1MW of renewable electricity is equivalent to reducing 4,000 tCO2e per year from the atmosphere (as electricity will be displaced from a coal-fired grid). Assuming that carbon offsets will be able to be sold at R100/tCO2e, this translates to an increased revenue stream for the company making use of clean energy of R 4 million/MW/year.	Group Five will continue to pursue opportunities in the renewable energy sector in Southern Africa, and will remain invested in Kayema, a solar energy system manufacturer which specialises in solar water heaters. Under the proposed carbon offset structure, solar water heaters may be used to offset against South Africa's carbon tax. These management methods place Group Five in a good position to use carbon offsets as a marketing	Group Five's investment in Kayema is estimated at R 40 million.

	of 5-10 % also still apply. The draft Regulations on Carbon Offsets for Carbon Tax were published for public comment on 20 June 2016. This Paper proposed that carbon offset projects that are developed under the Clean Development Mechanism (CDM) may be eligible to offset carbon tax liability. This presents Group Five with an opportunity to develop and construct CDM projects for clients. These clients can then not only benefit from environmentally friendly technology, but also from additional revenue from the sale of carbon offsets. Group Five has already constructed three CDM projects including: 1. The capture and utilisation of methane gas at Sibanye's Beatrix Gold Mine; 2. The use of waste gas at the Namakwa Sands smelter for electricity							opportunity to generate additional business up until 2021.	

	generation; and 3. The generation of electricity from solar power at the Kathu mine in the Northern Cape). This means that Group Five is already well placed to capitalise on this opportunity.								
Other: Emerging markets	South Africa is committed to reducing GHG emissions through the implementation of renewable energy technologies. This has been driven by: The President's pledge made in Copenhagen in 2009 to reduce emissions by 34% below business as usual levels by 2020, and by 42% in 2025; The proposed carbon tax; Increased electricity prices; The Renewable Energy Independent Power Producers Procurement (REIPPP) programme, which aims to deliver 3725 MW of renewable energy by 2020.	Increased demand for existing products/services	Up to 1 year	Direct	Very Likely	High	The REIPPP programme is expected to attract investment of around R100 billion between 2012 and 2016. Group Five will be constructing two solar photovoltaic plants in this period at a total amount of approximately R500 million	Group Five has two teams specifically focused on renewable energy projects: 1. A division of Infrastructure Development Services responsible for the development of renewable energy projects and bidding under the REIPPP programme. 2. A division of Engineering and Construction involved as a contractor in the construction of renewable energy projects. This E&C	The cost to start up the renewable energy division of the E&C business unit was R 1 million.

	Group Five is well positioned to capitalise on these emerging market opportunities as the company has dedicated teams devoted to the development of renewable energy projects. Group Five is also currently constructing two renewable energy projects: Adams Solar PV plant (165 MW), and Pulida Solar PV plant (165 MW)							business unit was created in 2010 to manage the opportunity by providing procurement and construction support to dedicated renewable energy technologies.	

CC6.1b: Please describe the inherent opportunities that are driven by changes in physical climate parameters

Opportunity driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management methods	Cost of management
Change in temperature extremes	According to the Intergovernmental Panel on Climate Change's Fifth Assessment Report, Africa is the most vulnerable continent in respect to climate change. Funding was earmarked during the Copenhagen Accord for infrastructure development in response to a changing climate. These funds will be allocated to infrastructure improvements such as improved water supply, sanitation, irrigation, embankment and sea level protection. This could provide opportunities in terms of funding for new infrastructure projects. Group Five is well positioned with both project experience in countries throughout Africa and successful project delivery. In the reporting year alone, Group Five worked on contracts in Namibia, Mozambique, Zimbabwe, Uganda, the Democratic Republic of the	Increased demand for existing products/services	Up to 1 year	Direct	More likely than not	Medium - High	It is anticipated that R 950 billion needs to be spent annually in Africa to improve infrastructure in order to adapt to climate change. R 827 billion has been budgeted in South Africa to build new and upgrade existing infrastructure between 2014 and 2016. This amounts to R 537 billion is in the energy sector, R 151 billion in transport and logistics projects, and R35 billion for building dams and pipelines.	Group Five is managing this opportunity by tendering for infrastructure projects in Africa. In this reporting year Group Five created the Strategic Project Development team to work with infrastructure Development Services to achieve earlier positioning for longer term large infrastructure contracts. Group Five is anticipating a 5 - 7% growth in investment into infrastructure projects in Africa over the next year.	There was no additional cost to create the Strategic Project Development team as these skills were already carried in house.

	Congo, Burkina Faso, Tanzania, and Ghana. On a national level, South Africa plans to build new infrastructure and upgrade existing infrastructure in response to climate change. Funding has been budgeted for the energy sector, for transport and logistics projects, and for building dams and pipelines. This is not only a function of the national developmental goal but also driven by the national climate change response policy. These sectors are the central focus of Group Five's business, and therefore present additional opportunities.								

CC6.1c: Please describe the inherent opportunities that are driven by changes in other climate-related developments

Opportunity driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management methods	Cost of management
Other drivers	Currently the world's atmosphere contains +/- 400 ppm of carbon dioxide due to the over-exploitation of fossil fuels. To avoid irreversible impacts	New product/business services	3 to 6 years	Direct	Likely	Medium	The net income attributable to Group Five's Nuclear Construction Services division in the reporting year	In order to manage the opportunity created by nuclear energy, in this reporting year	The cost to start up the Nuclear Construction Services division of the E&C business unit

	of climate change, the world needs to reduce the atmosphere's carbon dioxide to below 350 ppm. These emissions can be reduced by moving towards clean energy generation such as nuclear power. Compared to fossil fuels, nuclear energy has less emissions and it can be a vital component of a clean energy strategy. Nuclear power is an important component to reducing greenhouse gas emissions while still providing enough energy required for socioeconomic development. Currently nuclear generation avoids over two billion tonnes of CO2 from fossil fuels each year. In 2014, the South African government announced its support for a nuclear						was R 2.9 million.	Group Five created the Nuclear Construction Services division under its Engineering and Construction business cluster. This division will provide the skills required for nuclear power plant work in order to attract opportunities in this field. The division is fully compliant with Eskom's nuclear standards and requirements in South Africa.	was R 1 million. The cost to invest in Lesedi Nuclear Services was R 14 million in this reporting year and R 2 million in the previous reporting year.

	build programme. Group Five is well placed to meet this opportunity through its Nuclear Construction Services division. In addition Group Five and its nuclear partner, Lesedi Nuclear Services, were awarded the Koeberg PTR Tank contract during 2014.								

CC7. Emissions Methodology

CC7.1: Please provide your base year and base year emissions (Scopes 1 and 2)

Scope	Base year	Base year emissions (metric tonnes CO2e)
Scope 1	01/07/2009 - 30/06/2010	69464
Scope 2 (location-based)	01/07/2009 - 30/06/2010	84484

CC7.2: 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

Defra Voluntary Reporting Guidelines

The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition)

CC7.3: Please give the source for the global warming potentials you have used

Gas	Reference
CO2 CH4	IPCC Fourth Assessment Report (AR4 - 100 year) IPCC Fourth Assessment Report (AR4 - 100 year)

CC7.4: Please give the emissions factors you have applied and their origin; alternatively, please attach an Excel spreadsheet with this data at the bottom of the page

Fuel/Material/Energy	Emission Factor	Unit	Reference
Diesel/Gas oil	2.67	kg CO2e per litre	DEFRA Factors 2015
Motor Gasoline	2.30	kg CO2e per litre	DEFRA Factors 2015
LPG	3.16	kg CO2e per kg	DEFRA Factors 2015
Weighted vehicle average emission factor	0.20428	kg CO2e per km	Group Five specific fleet emission factor
Bituminous Coal	2.44	tCO2e per tonne	IPCC 2006 Guidelines
Natural gas	0.056	tCO2e/GJ	IPCC 2006 Guidelines
Other: South African Grid Electricity	1.027	tCO2e per MWh	Eskom

Electricity: Zimbabwe	0.596	tCO2e per MWh	DEFRA Factors 2015
Other: Namibia Grid Electricity	0.024	tCO2e per MWh	Solomon Associates: http://solomononline.com/documents/Whitepapers/Lube_CEI_AM_WWW.pdf
Other: Tanzania Grid Electricity	0.043	tCO2e per MWh	Solomon Associates: http://solomononline.com/documents/Whitepapers/Lube_CEI_AM_WWW.pdf
Other: Ghana Grid Electricity	0.080	tCO2e per MWh	Solomon Associates: http://solomononline.com/documents/Whitepapers/Lube_CEI_AM_WWW.pdf
Other: Burkina Faso Grid Electricity	0.637	tCO2e per MWh	DEFRA Factors 2013
Other: DRC Grid electricity	0.002	tCO2e per MWh	Solomon Associates: http://solomononline.com/documents/Whitepapers/Lube_CEI_AM_WWW.pdf
Other: Mozambique Grid Electricity	0.003	tCO2e per MWh	Solomon Associates: http://solomononline.com/documents/Whitepapers/Lube_CEI_AM_WWW.pdf
Other: Poland Grid Electricity	0.780	tCO2e per MWh	DEFRA Factors 2015
Other: Hungary Grid Elecricity	0.317	tCO2e per MWh	DEFRA Factors 2015

CC8. Emissions Data

CC8.1: Please select the boundary you are using for your Scope 1 and 2 greenhouse gas inventory

Financial control

CC8.2: Please provide your gross global Scope 1 emissions figures in metric tonnes CO2e

57738

CC8.3: Does your company have any operations in markets providing product or supplier specific data in the form of contractual instruments?

No

CC8.3a Please provide your gross global Scope 2 emissions figures in metric tonnes CO2e

Scope 2, location-based	Scope 2, market-based (if applicable)	Comment
51 111	-	-

CC8.4: Are there any sources (e.g. facilities, specific GHGs, activities, geographies etc.) of Scope 1 and Scope 2 emissions that are within your selected reporting boundary which are not included in your disclosure?

No

CC8.5: Please estimate the level of uncertainty of the total gross global Scope 1 and 2 emissions figures that you have supplied and specify the sources of uncertainty in your data gathering, handling and calculations

Scope	Uncertainty range	Main sources of uncertainty	Please expand on the uncertainty in your data
Scope 1	More than 2% but less than or equal to 5%	Data Management	Group Five's Scope 1 emissions are as a result of the combustion of petrol, LPG, coal, natural gas and diesel in its operations. The quantities of each of the materials are collected from supplier invoices, issue requisition records, and Group five's financial system, which are then used as input parameters to the GHG inventory. Therefore, the uncertainty of these sources is based on internal data management, which Group Five estimates to be more than 2% but less than or equal to 5%.
Scope 2 (location-based)	More than 2% but less than or equal to 5%	Metering/ Measurement Constraints	Group Five's Scope 2 emissions are from the consumption of grid electricity. No heat, steam, or cooling is purchased from external sources. Group Five's electricity invoices are used as data inputs in the GHG inventory. Since third party metering is used, Group Five estimates the measurement uncertainty to be between 2% and 5%.

CC8.6: Please indicate the verification/assurance status that applies to your reported Scope 1 emissions

No

CC8.7: Please indicate the verification/assurance status that applies to your reported Scope 2 emissions

No

CC8.8: Please identify if any data points have been verified as part of the third party verification work undertaken, other than the verification of emissions figures reported in CC8.6, CC8.7 and CC14.2

Additional data points verified	Comment
Product footprint verification	Group five has successfully completed several Green star and Leadership in Energy and Environmental Design buildings during this reporting period of which the criteria (energy efficiency and emissions due to products used) were evaluated by an external third party. These include the Novatis head-office which was evaluated against the LEED USA standard, and achieved a Gold status, 90 Rivonia and DSTV City which both received Green Star ratings.

CC8.9: Are carbon dioxide emissions from biologically sequestered carbon relevant to your organization?

No

CC9. Scope 1 Emissions Breakdown

CC9.1: Do you have Scope 1 emissions sources in more than one country?

Yes

CC9.1a: Please break down your total gross global Scope 1 emissions by country/region

Country/Region	Scope 1 metric tonnes CO2e
South Africa	52916
Namibia	270
Mozambique	567
Zimbabwe	182
Ghana	396
Democratic Republic of the Congo	702
Burkina Faso	56
Tanzania	22
Hungary	1311
Poland	1316

CC9.2: Please indicate which other Scope 1 emissions breakdowns you are able to provide (tick all that apply)

By business division (CC9.2a)
By GHG type (CC9.2c)

CC9.2a: Please break down your total gross global Scope 1 emissions by business division

Business division	Scope 1 emissions (metric tonnes CO2e)
Construction	23859
Engineering and Construction	214
Intertoll and Concessions	3513
Manufacturing	30153

CC9.2c: Please break down your total gross global Scope 1 emissions by GHG type

GHG type	Scope 1 emissions (metric tonnes CO2e)
CO2	57738

CC10. Scope 2 Emissions Breakdown

CC10.1: Do you have Scope 2 emissions sources in more than one country?

Yes

CC10.1a: Please break down your total gross global Scope 2 emissions and energy consumption by country/region

Country/Region	Scope 2, location-based emissions (metric tonnes CO2e)	Purchased and consumed electricity, heat, steam or cooling (MWh)	Purchased and consumed low carbon electricity, heat, steam or cooling (MWh)
South Africa	46682	45454	0
Namibia	0	0	0
Mozambique	0	0	0
Zimbabwe	35	34	0
Ghana	47	587	0
Democratic Republic of the Congo	123	212	0
Burkina Faso	44	68	0
Tanzania	0	0	0
Hungary	1209	3802	0
Poland	2955	3838	0

CC10.2: Please indicate which other Scope 2 emissions breakdowns you are able to provide (tick all that apply)

By business division (CC10.2a)

CC10.2a: Please break down your total gross global Scope 2 emissions by business division

Business division	Scope 2, location-based emissions (metric tonnes CO2e)	Scope 2, market-based emissions (metric tonnes CO2e)
Construction	3163	0
Engineering and Construction	199	0
Manufacturing	39926	0
Intertoll and Concessions	7822	0

CC11. Energy

CC11.1: What percentage of your total operational spend in the reporting year was on energy?

More than 10% but less than or equal to 15%

CC11.2: Please state how much heat, steam and cooling in MWh your organization has purchased and consumed during the reporting year

Energy type	MWh
Heat	0
Steam	0
Cooling	0

CC11.3: Please state how much fuel in MWh your organization has consumed (for energy purposes) during the reporting year.

182 853

CC11.3a: Please complete the table by breaking down the total "Fuel" figure entered above by fuel type

Fuels	MWh
Diesel/Gas oil	86 240
Motor Gasoline	4 174
Bituminous Coal	92235
LPG	203

CC11.4: Please provide details of the electricity, heat, steam or cooling amounts that were accounted at a low carbon emission factor in the market-based Scope 2 figure you provided in CC8.3a

Basis for applying a low carbon emission factor	MWh consumed associated with low carbon electricity, heat, steam or cooling	Comments
No purchases or generation of low carbon, electricity, heat, steam or cooling.	-	-

CC11.5: Please report how much electricity you produce in MWh, and how much electricity you consume in MWh

Total electricity consumed (MWh)	Consumed electricity that is purchased (MWh)	Total electricity produced (MWh)	Total renewable electricity produced (MWh)	Consumed renewable electricity that is produced by company (MWh)	Comment
53995	53995	0	0	0	0

CC12. Emissions Performance

CC12.1: How do your gross global emissions (Scope 1 and 2 combined) for the reporting year compare to the previous year?

Decreased, 33% due to a dramatic decline in activities within the Construction cluster

CC12.1a: Please identify the reasons for any change in your gross global emissions (Scope 1 and 2 combined) and for each of them specify how your emissions compare to the previous year

Reason	Emissions value (percentage)	Direction of change	Comment
Emissions reduction activities	19	Decrease	In the reporting year, Group Five implemented emission reduction projects , as well as the dramatic reduction in active construction contracts, due to economical constraints; led to a reduction in emissions by 43 876tCO2e per annum . Group Fives Scope 1 and Scope 2 reduced from 133 379 tCO2e to 108 832 tCO2e during this reporting year. This reduction (108 832 tCO2e divided by 133 379tCO2e)*100*1/100 is equivalent to a reduction of 19%.
Divestment	0	No Change	Group Five did not divest from any business in the reporting
Acquisitions	0	No Change	Group Five did not make any acquisitions in the reporting year
Mergers	0	No Change	Group Five did not merge with any entities in the reporting year

Change in output	32	Increase	There was a change in the number of projects, specifically in the Construction cluster.
Change in methodology	0	No Change	There was no change in the calculation methodology applied.
Change in boundary	0	No Change	There was no change in boundary.
Change in physical operating conditions	0	No Change	There was no change in physical operating conditions.
Unidentified	0	No Change	Not applicable
Other	0	No Change	Not applicable

CC12.1b: Is your emissions performance calculations in CC12.1 and CC12.1a based on a location-based Scope 2 emissions figure or a market-based Scope 2 emissions figure?

Location-based

CC12.2: Please describe your gross global combined Scope 1 and 2 emissions for the reporting year in metric tonnes CO2e per unit currency total revenue.

Intensity figure	Metric numerator (Gross global combined Scope 1 and 2 emissions)	Metric denominator	Scope 2 figure used	% change from previous year	Direction of change from previous year	Reason for change
0.00000783	Metric tonnes CO2e	Unit total revenue	Location-based	11	Decrease	Group Five's emissions intensity (per unit total revenue) decreased by 11% in the reporting year due to the implementation of emission reduction projects, and as a result of less active contracts, which decreased emissions by 24547 tCO2e.

CC12.3: Please provide an additional intensity (normalized) metric that is appropriate to your business operations

Intensity figure	Metric numerator (Gross global combined Scope 1 and 2 emissions)	Metric denominator:	Scope 2 figure used	% change from previous year	Direction of change from previous year	Reason for change
11	Metric tonne CO2e	Permanent Employees	Local based	1.79	Decreased	Group Five's emissions intensity (per permanent employee) decreased by 1.79% in the reporting year due to the implementation of emission reduction projects and a reduction in the number of active contracts within the Construction Cluster.

CC13. Emissions Trading

CC13.1: Do you participate in any emissions trading schemes?

No, and we do not currently anticipate doing so in the next 2 years

CC13.2: Has your organization originated any project-based carbon credits or purchased any within the reporting period?

No

CC14. Scope 3 Emissions

CC14.1: Please account for your organization's Scope 3 emissions, disclosing and explaining any exclusions

Sources of Scope 3 emissions	Evaluation status	Metric tonnes CO2e	Emissions calculation methodology	Percentage of emissions calculated using data obtained from suppliers or value chain suppliers	Explanation
Purchased goods and services	Relevant, calculated	399 782	Activity data: Supply chain records, invoices, were used to source activity data of the quantity of each product purchased. Emissions factors: The emission factors used and their sources are: Steel = 2.03 kg CO2e/kg – "Inventory of Carbon and Energy" study on construction material done by the University of Bath (2011). Cement = 0.74 kg CO2e/kg – "Inventory of Carbon and Energy" study on construction material done by the University of Bath (2011). Grease = 0.804 kg CO2e/kg – IPCC 2006 Guidelines, Chapter 5, Vol 3. Pg5.9 Oil – 0.527 kg CO2e/kg – (2013 Guidelines to Defra / DECC's GHG Conversion Factors	100	-

			for Company Reporting: Methodology Paper for Emission Factors). Welding rod – 3.02 kg CO2e/kg – "Inventory of Carbon and Energy" study on construction material done by the University of Bath (2011). Paraffin = 0.527 kg CO2e/kg – (2013 Guidelines to Defra / DECC's GHG Conversion Factors for Company Reporting: Methodology Paper for Emission Factors). GWP values: Carbon dioxide = 1 Methodology: Emissions were calculated by multiplying the activity data quantity by the relevant emission factor. These emissions factors included emissions resulting from the extraction, production and transportation of the activity data. The methodology used was ISO 14064-1 and the Greenhouse Gas Protocol: Corporate Value Chain (Scope 3) Accounting and Reporting Standard. Assumptions: No assumptions were made. Allocation methods: Financial control method was used.		

Capital Goods	Not relevant, explanation provided	-	-	-	The emissions associated with the purchase of capital goods in the reporting year can be attributed to the purchase of: New equipment; and New vehicles. Since Group Five did not start-up any new business units in the reporting year, there were few purchases of new equipment and new vehicles. As such, the emissions associated with the production of these capital goods are not relevant. This conclusion is based on a qualitative estimate.
Fuel-and-energy-related activities (not included in scope 1 or 2)	Relevant, calculated	8 217	Activity data: Supply chain records, invoices, were used to source activity data of the quantity of each fuel source purchased. Emissions factors: The emission factors used and their sources are: Diesel = 0.568 kg CO2e/litre - (2013 Guidelines to Defra / DECC's GHG Conversion Factors for Company Reporting: Methodology Paper for Emission Factors). Petrol = 0.463 kg CO2e/litre - (2013 Guidelines to Defra / DECC's GHG Conversion Factors for Company Reporting: Methodology Paper for Emission Factors). LPG = 0.339 kg CO2e/litre - (2013 Guidelines to Defra / DECCs GHG Conversion Factors for Company	100	-

			Reporting: Methodology Paper for Emission Factors). Coal = 0.295 kg CO2e/kg – IPCC 2006 Guidelines Electricity (transmissions and distribution losses) (South Africa grid) = 0.121 tCO2e/MWh - (calculated in accordance with the Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition) using data from Eskoms 2012 Annual Report). GWP values: Carbon dioxide = 1 Methodology: Emissions were calculated by multiplying the quantity of fuel used by the relevant emission factor. These emissions factors relate to the extraction, production and transportation of the fuel. Upstream emissions from coal, diesel, petrol, LPG, Paraffin, and T&D losses from electricity purchases were included. The methodology used was ISO 14064-1 and the Greenhouse Gas Protocol: Corporate Value Chain (Scope 3) Accounting and Reporting Standard. Assumptions: No assumptions were made. Allocation methods: Financial control method was used.		

Upstream transportation and distribution	Relevant, calculated	3 177	Activity data: The quantity of fuel used for upstream transportation and distribution was obtained from suppliers. Emissions factors: The emission factor used and its sources is: Average Heavy Goods Vehicle = 0.053 kg CO2e/tonne.km - (2013 Guidelines to Defra / DECCs GHG Conversion Factors for Company Reporting: Methodology Paper for Emission Factors). GWP values: Carbon dioxide = 1 Methodology: Emissions were calculated by multiplying the quantity of purchased goods by the distance travelled to reach Group Five site and by the emission factor of the heavy goods vehicles. The methodology used was ISO 14064-1 and the Greenhouse Gas Protocol: Corporate Value Chain (Scope 3) Accounting and Reporting Standard. Assumptions: It was assumed that all goods were transported in heavy goods vehicles to Group Five operations.	100	-

			The one way distance travelled per good was estimated. Allocation methods: Financial control method was used.		
Waste generated in operations	Not relevant, explanation provided	31.96	-	-	Very little organic waste was generated in Group Five operations, thus emissions relating to waste is estimated as insignificant.
Business travel	Not relevant, explanation provided	-	-	-	A high level calculation was carried out and it was found that emissions related to business travel only amounted to 0.04% of Group Five scope 3 emissions.
Employee commuting	Not relevant, explanation provided	52.37	-	-	Employee commuting was found to be insignificantly small compared to other Scope 3 emissions after carrying out a high level calculation.
Upstream leased assets	Not relevant, explanation provided				Very few leased assets are used in Group Five operations. The emissions associated with upstream leased assets are not relevant.
Downstream transportation and distribution	Relevant, Calculated	-	-	-	xxxxx
Processing of sold products	Not relevant, explanation provided	-	-	-	Due to the nature of the business there is very little processing of sold products, and found to be irrelevant.
Use of sold products	Not relevant, explanation provided	-	-	-	Due to the high levels of uncertainty this was not calculated and is difficult to estimate.
End of life treatment of sold products	Not relevant, explanation provided	-	-	-	Due to the high levels of uncertainty this was not calculated and is difficult to estimate.
Downstream leased assets	Not relevant, explanation provided	-	-	-	Group Five do not lease out any assets.

Franchises	Not relevant, explanation provided	-	-	-	Group Five does not have franchises, and therefore there are no emissions associated with this scope 3 category. This Scope 3 category is not relevant to Group Five's overall GHG inventory.
Investments	Not relevant, explanation provided	-	-	-	No investments were made by Group Five during this reporting year.
Other (upstream)	Not relevant, explanation provided	-	-	-	Group Five do not have any other upstream emissions.
Other (downstream)	Not relevant, explanation provided	-	-	-	Group Five do not have any other downstream emissions.

CC14.2: Please indicate the verification/assurance status that applies to your reported Scope 3 emissions

No third party verification or assurance

CC14.3: Are you able to compare your Scope 3 emissions for the reporting year with those for the previous year for any sources?

Yes

CC14.3a: Please identify the reasons for any change in your Scope 3 emissions and for each of them specify how your emissions compare to the previous year

Sources of Scope 3 emissions	Reason for change	Emissions value (%)	Direction of change	Comment
Purchased goods & services	Change in output	16.3	Decrease	Reduced GHG emissions in this category due to reduced purchases in the reporting year.
Fuel- and energy-related activities (not included in Scopes 1 or 2)	Emissions reduction activities	17	Decrease	Through the implementation of emission reduction project in the reporting year (fleet optimisation project in Ghana) this category's emissions decreased by 17%. The reduction might also be attributed to less plant intensive construction activities.
Upstream transportation & distribution	Change in output	33.3	Decrease	Reduced GHG emissions in this category due to reduced purchases in the reporting year.

CC14.4: Do you engage with any of the elements of your value chain on GHG emissions and climate change strategies?

No, we do not engage

CC14.4d Please explain why you do not engage with any elements of your value chain on GHG emissions and climate change strategies, and any plans you have to develop an engagement strategy in the future

Group Five has different types of projects and contracts in various countries. The projects and suppliers change on a regular basis, and therefore engagement with specific suppliers will not necessarily benefit subsequent projects. The design and final deliverables of Group Five's projects are dictated by each client and, as such, the company does not have direct control over the emissions of each project. Based on this, there are also no plans to develop a supplier engagement process in the future.

CC15. Sign off

CC15.1: Please provide the following information for the person that has signed off (approved) the CDP climate change response

Name	Job title	Corresponding job category
Izak van der Watt	Group SHEQ Manager	Environment/Sustainability manager

APPENDIX A:

COMMUNICATION
(EXECERPTS FROM INTEGRATED ANNUAL REPORT 2015)

APPENDIX B:

COMMUNICATION

(EXECERPTS FROM SUPPLEMENTARY INFORMATION TO THE ANNUAL REPORT 2015)