



# SCOPE 3 EMISSIONS ASSESSMENT

## Anglo American

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## 1. INTRODUCTION

This document presents an estimate of Anglo American's Scope 3 emissions from various activities. These include:

- A detailed analysis of the Scope 3 emissions arising from the Coal Business units' product use, investments, downstream transport and upstream transport. The latter confined to product transport paid for by the company.
- An estimate of business travel emissions for the Group as a whole
- An order of magnitude assessment of significant Scope 3 emissions from the remainder of the Group.

In this analysis, the Greenhouse Gas Protocol<sup>1</sup>, an international carbon footprint standard developed by the World Resources Institute (WRI) and the World Business Council for Sustainable Development (WBCSD), together with guidance document for Scope 3 accounting and reporting<sup>2</sup> is largely followed.

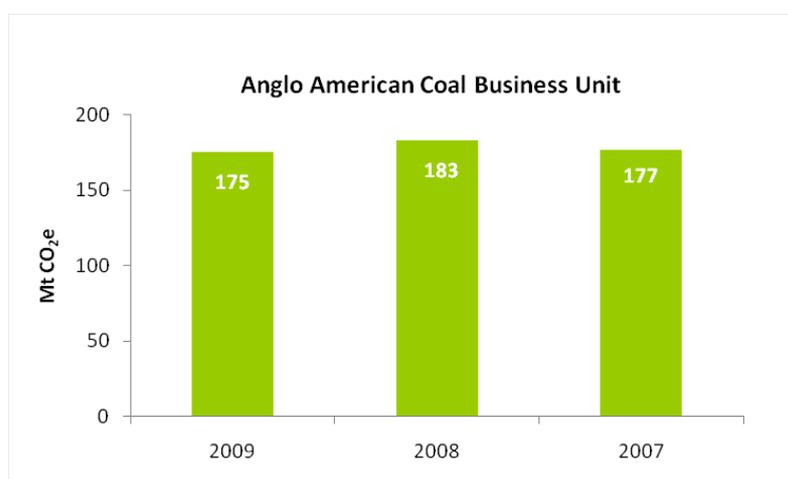


Figure 1: Scope 3 emissions for the Anglo American coal business

<sup>1</sup> The Greenhouse Gas Protocol – A Corporate Accounting and Reporting Standard (revised edition). World Business Council for Sustainable Development and World Resources Institute.

<sup>2</sup> <http://www.ghgprotocol.org/files/ghg-protocol-scope-3-standard-draft-for-road-testing-January-20101.pdf>

## 2. ASSESSMENT OF SCOPE 3 EMISSIONS FOR THE COAL BUSINESS UNITS

The coal business units were the focus of this assessment due to the recognition of the significant Scope 3 emissions associated with the product use phase. A value chain mapping and initial screening exercise identified 10 categories of emissions to potentially be material to the Anglo American coal business units' Scope 3 emissions. These are shown in Table 1 below, along with a qualitative indication of their significance from low to high. This assessment of significance was, however, to be confirmed through the quantitative analysis.

**Table 1 - Priority Scope 3 emissions for the Anglo American coal business units**

SCOPE 3 EMISSIONS CATEGORY	SIGNIFICANCE
Category 12. Use of sold products	Very high, will dominate the footprint
Category 9. Investments	medium
Category 10. Transportation and distribution (downstream)	medium
Category 4. Transportation and distribution (upstream)	medium
Category 6. Business travel	medium
Category 3. Fuel- and Energy-Related Activities Not Included in Scope 2	medium – low
Category 11. Processing of sold products	medium – low
Category 2. Capital Goods	low
Category 7. Employee commuting	low
Category 5. Waste generated in operations	low - insignificant

It is noted that, in addition to the above categories, the Greenhouse Gas Protocol requires the reporting company to report Scope 1 and 2 emissions from Tier 1 suppliers – i.e. those supplying directly to the reporting company. This will be looked at in more detail in 2011.

### Coal business: Scope 3 emissions

Category 4: Upstream transport, only emissions associated with product transport paid for by the reporting company were included. The Table below presents the results of this analysis.

**Table 2 – Summary of Scope 3 emissions for the Anglo American coal business units [Mtonne CO<sub>2</sub>e]**

CATEGORY	2009	2008	2007
12 - Product use	171.9	179.5	173.8
9 - Investments	0.4	0.4	0.3
10 - Downstream transport (primarily from ocean freighting)	2.3	2.4	2.2
4 - Upstream transport (product transport paid for by Anglo American only to Richards Bay Coal Terminal)	0.6	0.6	0.6

A more detailed breakdown of emissions from product use is shown in Table 3

**Table 3 – Scope 3 emissions from coal product use (attributable basis)**

COAL TYPE & MARKET	COAL USE [Mtonne]	SCOPE 3 USE PHASE EMISSIONS [Mtonne CO <sub>2</sub> e]	COAL USE [Mtonne]	SCOPE 3 USE PHASE EMISSIONS [Mtonne CO <sub>2</sub> e]	COAL USE [Mtonne]	SCOPE 3 USE PHASE EMISSIONS [Mtonne CO <sub>2</sub> e]
	2009		2008		2007	
Metallurgical (Export)	11.2	34.4	11.9	36.6	10.1	30.9
Thermal & Synfuel (Domestic)	51.4	96.8	52.9	99.8	54.6	103.0
Thermal (Export)	18.3	40.7	19.4	43.1	17.9	39.9
<b>TOTAL</b>	<b>80.9</b>	<b>171.9</b>	<b>84.2</b>	<b>179.5</b>	<b>82.5</b>	<b>173.8</b>

### 3. ANGLO AMERICAN GROUP'S BUSINESS TRAVEL

Business travel emissions were calculated using distance travelled on commercial airlines, as well as jet kerosene consumption in corporate jets for 2009. Travel using other transport modes such as trains, cars and buses was not considered at this stage.

For the commercial airline travel, the following information was used:

- Emission factors were obtained from UK Department of Environment, Food and Rural Affairs (2009). 2009 Guidelines to Defra / DECC's GHG conversion factors for company reporting. Available online: [www.defra.gov.uk](http://www.defra.gov.uk).
- Domestic travel in countries other than the UK was assumed to be the equivalent of a short haul flight in the UK (as UK domestic flights are very short).
- Domestic flights were assumed to be in economy class, while short and long haul international flights were assumed to be in business class.

**Table 4 – Anglo American Group’s business travel emissions [Mtonne CO2e]**

	<b>2009</b>
Commercial airlines	0.024
Corporate jets	0.002
<b>TOTAL</b>	<b>0.027</b>

#### **4. SIGNIFICANT SCOPE 3 EMISSIONS FROM THE REMAINDER OF THE GROUP**

A first order assessment was undertaken to estimate the order of magnitude of the Scope 3 emissions for the total Anglo American group. This was based on generic emission factors and data with exception of the Coal business units, which included a value chain mapping and screening exercise.

Priority Scope 3 emissions for which suitable data was available were then estimated to obtain an order of magnitude for the emission. These emission estimates are shown in Table 5, together with those Scope 3 categories calculated more rigorously for the Coal business units.

From Table 5, it can be seen that the use phase of coal (Category 12) dominates the Anglo American Scope 3 carbon footprint. Other Scope 3 emissions (orders of magnitude lower than coal use) include: emissions from Copper investments, downstream transport and processing of iron ore.

**Table 5 – Anglo American Scope 3 emissions (2009)**

<b>BUSINESS UNIT</b>	<b>SCOPE 3 CATEGORY</b>	<b>ESTIMATED ORDER OF MAGNITUDE OF SCOPE 3 EMISSIONS (attributable basis)</b>
Coal	12. Product use	171.9 Mt CO <sub>2</sub> e
Copper	9. Investments	10 to 50 Mt CO <sub>2</sub> e
Iron Ore	11. Processing of sold product	10 to 50 Mt CO <sub>2</sub> e
Iron Ore	10. Downstream transport	1 to 10 Mt CO <sub>2</sub> e
Other Mining and Industrial	9: Investments	1 to 10 Mt CO <sub>2</sub> e
Other Mining and Industrial	12. Use of sold products: coal from Canadian operations.	3 to 5 Mt CO <sub>2</sub> e
Coal	10. Downstream transport	2.3 Mt CO <sub>2</sub> e
Coal	4. Upstream transport	0.6 Mt CO <sub>2</sub> e
Diamonds	9. Investments	0.4 to 0.6 Mt CO <sub>2</sub> e
Coal	9. Investments	0.4 Mt CO <sub>2</sub> e
Platinum	9. Investments	0.1 to 0.5 Mt CO <sub>2</sub> e
Other mining and industrial	10. Downstream transport: Tarmac aggregates	0.1 to 1 Mt CO <sub>2</sub> e
Copper	10. Downstream transport	0.1 to 0.5 Mt CO <sub>2</sub> e
Platinum	3. Fuel- and Energy-Related Activities Not Included in Scope 2	0.05 to 0.1 Mt CO <sub>2</sub> e
Group	6. Business travel	0.027 Mt CO <sub>2</sub> e
Copper	11. Processing of sold product	0.01 to 0.1 Mt CO <sub>2</sub> e

It is noted that the exclusion of other categories in this table does not suggest that they are insignificant. For example, Scope 3 emissions associated with inputs to mining and processing could be a significant contributor, as could capital equipment purchased. However, the data requirements to calculate these Scope 3 emissions categories were either prohibitively extensive or the data was not readily available.

## 5. METHODOLOGY FOR SCOPE 3 CALCULATION FOR ANGLO COAL BUSINESS UNITS

This section presents the approach used to calculate Anglo American Coal business units' Scope 3 greenhouse gas emissions for the following prioritised emission categories for which data was available:

- Use of sold product
- Investments
- Downstream transportation and distribution of sold product
- Business travel (but not disaggregated for this business unit)

A summary of the emission factors used is presented, as well as the assumptions made in the calculations of the above. This information was also used in the estimation of emissions for the remainder of Anglo American Corporation.

### 5.1. Approach taken

The Greenhouse Gas Protocol<sup>3</sup>, an international carbon footprint standard developed by the World Resources Institute (WRI) and the World Business Council for Sustainable Development (WBCSD), together with latest draft guidance document for Scope 3 accounting and reporting<sup>4</sup> is largely followed. The draft guidance document outlines a step-wise method to calculate a complete Scope 3 carbon footprint. In the approach, a choice was made to follow the reporting requirements under the Carbon Disclosure Project, which allows a company to begin to report its Scope 3 carbon footprint by selectively reporting individual emission sources (e.g. business travel, product use phase emissions).

The approach taken was as follows, in line with the GHG Protocol draft guidance document:

1. Reviewing of principles and definition of goals in conjunction with Anglo American.
2. Mapping of the value chain to unpack Anglo American Coal business units' operations to identify and map the sources of Scope 3 emissions upstream and downstream. The 15 Scope 3 emissions categories outlined in the draft guidance document are used in this mapping.
3. Setting the boundary, to identify the most important value chain elements for quantification. Where are the hotspots of emissions? As far as possible existing studies and data were used, and various screening methods applied as appropriate.
4. Calculating a first order estimate of the significant Scope 3 emissions for which data is available:
  - a. Collection of appropriate emission factors for the categories considered
  - b. Collection of relevant activity data, (such as production volumes, transport distances and modes, inputs to processes etc.)
  - c. Multiplication of the emission factors by the activity data to obtain Scope 3 emissions

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<sup>3</sup> World Resources Institute and World Business Council for Sustainable Development (WRI and WBCSD) (2004), The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard: Revised Edition, available at <http://www.wri.org/publication/greenhouse-gas-protocol-corporate-accounting-and-reporting-standard-revised-edition>, accessed November 2010.

<sup>4</sup> WRI and WBCSD (2010) Greenhouse gas protocol Scope 3 accounting and reporting standard (second draft), available at <http://www.ghgprotocol.org/files/ghg-protocol-scope-3-standard-draft-november-20101.pdf> accessed December 2010.

## 5.2. Setting the organisational boundary

Central to the value chain mapping is determining what the organisational boundaries are and, in particular, how emissions from companies and operations in which Anglo has investments are to be treated.

The Greenhouse Gas Protocol allows reporting companies some flexibility as to how they account for emissions from companies in which they hold part ownership. Such emissions can either be included as Scope 1 or 2, or in their Scope 3 emissions. Anglo American has elected to report using the operational control consolidation option, due to the fact that it has limited opportunity to influence the greenhouse gas emissions from operations over which it does not have operational control. This implies the following:

1. For companies which it has 100% ownership and 100% control, Anglo American accounts for all Scope 1, 2 and 3 emissions. Only the Scope 3 emissions are relevant here.
2. For operations in which it has >50% ownership but 100% operational control Anglo American can either report all of that operation's emissions, or alternatively report the emissions in proportion to their ownership. The latter approach, that of proportional reporting has been followed, based on discussion with Anglo American.
3. For operations in which it has 50% ownership and not operational control, the Scope 1 and 2 emissions of those operations are reported with Anglo American's Scope 3 emissions, in proportion to their ownership. Anglo American also has the option of reporting the operation's Scope 3 emissions in proportion to ownership. These emissions are included in the draft Scope 3 Accounting and Reporting standard's Category 9: Investments.

Anglo American has an internal threshold for reporting and therefore does not typically report on operations in which it owns less than 25% investment. Although the Jellinbah East colliery, in which it has a 23% holding, is included in the calculations, there is a possibility that other operations in which it has a small holding have been excluded.

## 5.3. First pass screening of scope 3 emissions

After setting the organisational boundary and identifying the operations that fell within the above categories, a list was compiled of potential contributions to Scope 3 emissions in each of the 15 categories from the draft Scope 3 Accounting and Reporting Standard. An initial screening was conducted through an assessment of the outcomes of previous studies of the coal value chain, consultation with Anglo American and expert judgment on the part of the calculation team. On this basis, 10 categories of emissions were identified which were considered to be material to the Anglo American coal business units' Scope 3 emissions. These are shown in Table 6 below along with a qualitative indication of their significance from low to high. This assessment of significance was, however, to be confirmed through the quantitative analysis.

**Table 6 - Priority Scope 3 emissions for the Anglo American coal business units**

SCOPE 3 EMISSIONS CATEGORY	SIGNIFICANCE
Category 12. Use of sold products	Very high, will dominate the footprint
Category 9. Investments	medium
Category 10. Transportation and distribution (downstream)	medium
Category 4. Transportation and distribution (upstream)	medium
Category 6. Business travel	medium
Category 3. Fuel- and Energy-Related Activities Not Included in Scope 2	medium – low
Category 11. Processing of sold products	medium – low
Category 2. Capital Goods	low
Category 7. Employee commuting	low
Category 5. Waste generated in operations	low - insignificant

It is noted that, in addition to the above categories, the Greenhouse Gas Protocol requires the reporting company to report Scope 1 and 2 emissions from Tier 1 suppliers – i.e. those supplying directly to the reporting company.

For reporting for Anglo American Coal business units for 2007, 2008 and 2009, only data for calculating the first four categories in the above Table was available, either supplied directly by Anglo American, or through the public domain. For Category 4: Upstream transport, only emissions associated with product transport paid for by the reporting company were included.

#### 5.4. Collation of emission factors

Emission factors were collated from a variety of sources. Where available, country specific factors were used. For the rest, factors from more general sources were accessed, such as those from the ecoinvent life cycle database and the IPCC. A full list of the emission factors, along with any comments on them, appears below.

#### 5.5. Collation of activity data

The key activity data required for calculation of the category 12, 9 and 10 Scope 3 emissions is production data (and ideally actual tonnages of coal sold) from the collieries, end uses for the coal and consumption per end use and per country of end use, and transport destinations, distances and modes both domestically and globally.

1. Only saleable coal production data was supplied for fully owned collieries, and those in which Anglo Coal holds investments, was supplied directly by Anglo American Coal business units, and supplemented with data from Annual Reports and fact sheets where necessary. It is noted that that saleable coal produced is not necessarily equivalent to actual tonnages of coal sold.
2. End uses for the coal could also be ascertained from annual reports. This was disaggregated as coking, other metallurgical, synfuel production and thermal.
3. Distances from mine to port were obtained from documents issued by Anglo American which are available in the public domain. Oceanic transport distances were estimated from the website [www.searates.com](http://www.searates.com), based on assumptions on the destination port. No allowance was made for transport from the destination port to where the coal is used as this was assumed to be negligible in comparison to sea travel. Assumptions had to be made on the split between transport by road, and

diesel and electric rail. Sensitivity analysis suggests that the impact of these assumptions on overall Scope 3 emissions is relatively small.

## 5.6. Emission factors

EMISSIONS CATEGORY	EMISSION FACTOR	DATA SOURCE (S)	COMMENT	WEBLINK
<b>USE PHASE THERMAL COAL</b>	<b>(t CO<sub>2</sub>e / t coal burned)</b>			
Coal fired power station South Africa	<b>1.84</b>	Eskom Annual Report (2009) - CO <sub>2</sub> and N <sub>2</sub> O emissions; EIA (2007) - CH <sub>4</sub> emissions	Based on electricity sent out	<a href="http://www.eskom.co.za/annreport09/ar_2009/index_annual_report.htm">http://www.eskom.co.za/annreport09/ar_2009/index_annual_report.htm</a>
Coal fired power station Australia	<b>2.03</b>	Grant (2010) for Australasian Unit Process Life Cycle Inventory	Based on electricity sent out; Averaged from data for NSW, WA, QLD.	<a href="http://www.simapro.lifecycles.com.au/index.php?option=com_content&amp;task=view&amp;id=28&amp;Itemid=49">http://www.simapro.lifecycles.com.au/index.php?option=com_content&amp;task=view&amp;id=28&amp;Itemid=49</a>
Coal fired power station India	<b>1.89</b>	Chikkatur (2008)	Data base on Indian Electricity was interrogated to obtain data	<a href="http://www.pewclimate.org/docUploads/india-coal-technology.pdf">http://www.pewclimate.org/docUploads/india-coal-technology.pdf</a>
Coal fired power station China	<b>2.18</b>	Ecolnvent Database (2007)	Based on electricity sent out	
Coal fired power station Japan	<b>2.78</b>	Coal use and generated power : Sampattagul et al (2003) Energy value of imported steam coal : Japan Clean Coal Fact Sheet	Based on electricity sent out	<a href="http://www.aseanenvironment.info/Abstract/43003796.pdf">http://www.aseanenvironment.info/Abstract/43003796.pdf</a> <a href="http://www.brain-c-jcoal.info/cctinjapan-files/english/4table.pdf">http://www.brain-c-jcoal.info/cctinjapan-files/english/4table.pdf</a>
Coal fired power station Korea	<b>2.25</b>	Jeon et al (2010)		<a href="http://www.sciencedirect.com/science?_ob=ArticleURL&amp;_udi=B6V1T-4WS8600-1&amp;_user=922220&amp;_coverDate=01/31/2010&amp;_rdoc=1&amp;_fmt=high&amp;_orig=search&amp;_origin=search&amp;_sort=d&amp;_docanchor=&amp;view=c&amp;_acct=C000008818&amp;_version=1&amp;_urlVersion=0&amp;_userid=922220&amp;md5=a45c8a9a8a602">http://www.sciencedirect.com/science?_ob=ArticleURL&amp;_udi=B6V1T-4WS8600-1&amp;_user=922220&amp;_coverDate=01/31/2010&amp;_rdoc=1&amp;_fmt=high&amp;_orig=search&amp;_origin=search&amp;_sort=d&amp;_docanchor=&amp;view=c&amp;_acct=C000008818&amp;_version=1&amp;_urlVersion=0&amp;_userid=922220&amp;md5=a45c8a9a8a602</a>
Coal fired power station Europe	<b>2.23</b>	Ecolnvent Database (2007)	Based on electricity sent out; Averaged according to UCTE*	
Coal fired power station Israel	<b>2.87</b>	Israel Electric Statistical Report (2007)	Based on electricity sent out; Averaged for Orot Rabin and Rutenberg power stations	<a href="http://www.israel-electric.co.il/Static/WorkFolder/IRR/StatReport2007.pdf">http://www.israel-electric.co.il/Static/WorkFolder/IRR/StatReport2007.pdf</a>
Coal fired power station "Others"	<b>2.29</b>		Average of all nations to which thermal coal is exported	
Sasol Synfuels CTL	<b>1.80</b>		CH <sub>4</sub> and N <sub>2</sub> O emissions taken as negligible; excludes coal use for steam generation	<a href="http://www.engr.pitt.edu/pcc/2009/2009%20Plenary%20Presentations/Mulder.Presentation.pdf">http://www.engr.pitt.edu/pcc/2009/2009%20Plenary%20Presentations/Mulder.Presentation.pdf</a>

<b>USE PHASE COKING COAL / OTHER METALLURGICAL COAL</b>	<b>(t CO<sub>2</sub>e / t coal used)</b>			
Coking coal	3.06	IPCC Guidelines - Volume 2, Chapter 2 Stationary Combustion (2006)		
Other metallurgical coal	3.06	IPCC Guidelines - Volume 2, Chapter 2 Stationary Combustion (2006)	Emissions assumed similar to "coking coal"	
<b>INVESTMENTS - Scope 1 &amp; 2</b>	<b>(t CO<sub>2</sub>e / TJ)</b>			
Diesel	75.4	IPCC Guidelines - Volume 2, Chapter 3 Mobile Combustion (2006)		
Gas Oil	75.4	IPCC Guidelines - Volume 2, Chapter 3 Mobile Combustion (2006)		
	<b>(t CO<sub>2</sub>e / MWh)</b>			
Electricity - South African grid mix	1.03	Eskom Annual Report (2009)		<a href="http://www.eskom.co.za/annreport09/ar_2009/index_annual_report.htm">http://www.eskom.co.za/annreport09/ar_2009/index_annual_report.htm</a>
Electricity - Colombian grid mix	0.16	EIA (2007)		
Electricity - Australian grid mix	0.928	EIA (2007)		
<b>DOWNSTREAM TRANSPORT</b>	<b>(t CO<sub>2</sub>e / tkm)</b>			
Transoceanic freighter	7.8E-06	Ecolnvent Database (2007)		
Diesel rail	3.8E-05	Ecolnvent Database (2007)		
Electric rail	4.8E-05	Ecolnvent Database (2007)		
Road truck 40t	7.9E-05	Ecolnvent Database (2007)		
Domestic rail SA (42% electric, 58% diesel)	4.2E-05	Ecolnvent Database (2007)		

## Assumptions

### 5.6.1. Investments Scope 1 and 2

Jellinbah diesel and electricity consumption taken as similar to those of Mafube

### 5.6.2. Downstream transport

<b>SA EXPORTS DESTINATIONS (VIA RBCT)*</b>	<b>km</b>
India – Chennai	7,160
China, Japan, Korea – HongKong	14,040
Europe – Hamburg	13,440
Middle East – Israel	8,550
Others (average of the above)	10,798
<i>*Port names and distances obtained from www.SeaRates.com</i>	
<b>AU EXPORTS DESTINATIONS (VIA PORT OF GLADSTONE)*</b>	<b>km</b>
Japan - Tokyo	6,940
Korea - Pusan	7,150
North Asia – Tokyo	6,940
South East Asia – Chennai	10,750
Europe - Hamburg	22,000
<i>*Port names and distances obtained from www.SeaRates.com</i>	
<b>OTHER ASSUMPTIONS</b>	
Domestic rail in SA : 42% electric, 58% diesel	
Coal trucked by 40t vehicles to power stations (Kleinkopje, Landau)	
All SA export coal through RBCT	
All AU export coal through Gladstone (approximation)	
SA freight trains from mines to RBCT 100% electric	
AU freight trains from mines to ports 100% electric	
Conveyor belt from mine to power station/Sasol assumed operated by AA (New Denmark, New Vaal, Isibonelo, Kriel)	

COLLIERY	TRANSPORT MODES	km	REFERENCE
<b>Goedehoop</b>	Rail to RBCT	550	<a href="http://saisc.co.za/2010/downloads/publications/issues/vol_34_july_2010/Projects%20Zibulo.pdf">http://saisc.co.za/2010/downloads/publications/issues/vol_34_july_2010/Projects%20Zibulo.pdf</a>
<b>Greenside</b>			
Export thermal	Rail to RBCT	550	<a href="http://saisc.co.za/2010/downloads/publications/issues/vol_34_july_2010/Projects%20Zibulo.pdf">http://saisc.co.za/2010/downloads/publications/issues/vol_34_july_2010/Projects%20Zibulo.pdf</a>
Domestic other metallurgical	Domestic rail	150	
<b>Kleinkopje</b>			
Export thermal	Road and rail	550	<a href="http://saisc.co.za/2010/downloads/publications/issues/vol_34_july_2010/Projects%20Zibulo.pdf">http://saisc.co.za/2010/downloads/publications/issues/vol_34_july_2010/Projects%20Zibulo.pdf</a>
Domestic power	Road and rail	50	
<b>Landau</b>			
Export thermal	Rail mine to RBCT	550	<a href="http://www.dmr.gov.za/Mineral_Information/New/D2-2010%20%20part%201.pdf">http://www.dmr.gov.za/Mineral_Information/New/D2-2010%20%20part%201.pdf</a>
Domestic power	Road and rail	50	<a href="http://www.dmr.gov.za/Mineral_Information/New/D2-2010%20%20part%201.pdf">http://www.dmr.gov.za/Mineral_Information/New/D2-2010%20%20part%201.pdf</a>
<b>New Denmark</b>	Conveyor belt	-	<a href="http://www.dmr.gov.za/Mineral_Information/New/D2-2010%20%20part%201.pdf">http://www.dmr.gov.za/Mineral_Information/New/D2-2010%20%20part%201.pdf</a>
<b>New Vaal</b>	Conveyor belt	-	<a href="http://www.dmr.gov.za/Mineral_Information/New/D2-2010%20%20part%201.pdf">http://www.dmr.gov.za/Mineral_Information/New/D2-2010%20%20part%201.pdf</a>
<b>Isibonelo</b>	Conveyor belt	-	<a href="http://www.dmr.gov.za/Mineral_Information/New/D2-2010%20%20part%201.pdf">http://www.dmr.gov.za/Mineral_Information/New/D2-2010%20%20part%201.pdf</a>
<b>Kriel</b>	Conveyor belt	-	<a href="http://saisc.co.za/2010/downloads/publications/issues/vol_34_july_2010/Projects%20Zibulo.pdf">http://saisc.co.za/2010/downloads/publications/issues/vol_34_july_2010/Projects%20Zibulo.pdf</a>
<b>Callide</b>	Conveyor belt		<a href="http://www.csenergy.com.au/userfiles/CS03%20CALLIDE%20OCT%2020095.pdf">http://www.csenergy.com.au/userfiles/CS03%20CALLIDE%20OCT%2020095.pdf</a>
<b>Drayton</b>			
Export thermal	Rail mine to power stations	106	<a href="http://www.qrnational.com.au/CoalFreight/Documents/QR%20National%20Coal%20Contract%20mine%20sites%20map%20-%20export%20-%20October%202010.pdf">http://www.qrnational.com.au/CoalFreight/Documents/QR%20National%20Coal%20Contract%20mine%20sites%20map%20-%20export%20-%20October%202010.pdf</a>
Domestic power	Conveyor belt		<a href="http://en.wikipedia.org/wiki/Bayswater_Power_Station">http://en.wikipedia.org/wiki/Bayswater_Power_Station</a>
<b>Moranbah North</b>	Rail mine to Port of Gladstone	160	<a href="http://www.qrnational.com.au/CoalFreight/Documents/QR%20National%20Coal%20Contract%20mine%20sites%20map%20-%20export%20-%20October%202010.pdf">http://www.qrnational.com.au/CoalFreight/Documents/QR%20National%20Coal%20Contract%20mine%20sites%20map%20-%20export%20-%20October%202010.pdf</a>
<b>Foxleigh</b>	Rail mine to Port of Gladstone	276	<a href="http://www.qrnational.com.au/CoalFreight/Documents/QR%20National%20Coal%20Contract%20mine%20sites%20map%20-%20export%20-%20October%202010.pdf">TGH/10036%20-%20Anglo%20American/Queensland%20Rail/QR%20National%20Coal%20Contract%20mine%20sites%20map%20-%20export%20-%20October%202010.pdf</a>
<b>Dawson</b>	Rail mine to Port of Gladstone	180	<a href="http://www.mining-technology.com/projects/moura/">http://www.mining-technology.com/projects/moura/</a>

**5.6.3. Use Phase: Coking coal / Other metallurgical coal**

Other metallurgical coal emissions on use assumed similar to that of coking coal

**5.6.4. General Assumptions**

% Ownership and production split across coal types assumed unchanged across 2007, 2008, 2009

Richard's Bay Coal Terminal is included under transport and distribution emissions, rather than investments to avoid double counting. The emissions from this facility are however negligible.

Emissions factors for use phase in power stations is based on electricity sent out not electricity generated