

GHG Emission Calculations

NGER Category	NGER Emission Source	NGER Measurement Determination Reference	NGER Method	Emission Source	Units	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10	Y11	Y12	Y13	Y14	Y15	Y16	Y17	Life of Mine					
						FY28	FY29	FY30	FY31	FY32	FY33	FY34	FY35	FY36	FY37	FY38	FY39	FY40	FY41	FY42	FY43	FY44						
Scope 1 Emissions: Total tonnes as CO2-equivalents																												
Not reported under NGER																												
Emissions and Energy from Fuel Combustion	Stationary Energy	Part 2.4 Emissions released from the combustion of liquid fuels	Method 1	Vegetation clearing	t CO2-e	23,494	13,817	9,920	8,861	-	-	-	-	-	-	-	-	-	-	-	-	-	-	56,092				
				Explosives	t CO2-e	1,132	1,520	1,564	1,563	1,576	1,575	1,571	1,316	697	558	529	404	330	72	-	-	-	-	-	-	14,407		
				LNG - stationary use (power generation)	t CO2-e	-	-	32,567	32,567	32,567	32,567	32,567	32,567	32,567	65,134	65,134	65,134	65,134	65,134	65,134	65,134	65,134	65,134	65,134	65,134	65,134	749,040	
	Diesel - stationary use (power generation/black-start generator)			t CO2-e	-	-	325	325	325	325	325	325	325	325	325	325	325	325	325	325	325	325	325	325	325	4,877		
	Diesel - stationary use (Construction equipment)			t CO2-e	325	325	325	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	975		
	Diesel - stationary use (Mining equipment-non-road registered)			t CO2-e	43,633	71,651	84,987	86,430	91,770	101,988	114,256	106,340	65,417	54,158	52,152	45,320	42,404	12,192	-	-	-	-	-	-	-	972,698		
	Transport Energy			Diesel - transport use (Light vehicles)	t CO2-e	822	822	822	822	822	822	822	822	711	711	711	711	711	711	91	-	-	-	-	-	10,221		
Total Scope 1 Emissions						t CO2-e	69,406	88,136	130,511	130,568	127,060	137,276	149,541	141,369	99,718	120,886	118,850	111,894	108,904	77,815	65,459	65,459	65,459	1,808,311				
Scope 1 Emissions: tonnes CO2 (t CO2-e)																												
Emissions and Energy from Fuel Combustion	Stationary Energy	Part 2.4 Emissions released from the combustion of liquid fuels	Method 1	LNG - stationary use (power generation)	t CO2-e	-	-	32,485	32,485	32,485	32,485	32,485	32,485	32,485	64,970	64,970	64,970	64,970	64,970	64,970	64,970	64,970	64,970	747,150				
				Diesel - stationary use (power generation/black-start generator)	t CO2-e	-	-	324	324	324	324	324	324	324	324	324	324	324	324	324	324	324	324	324	324	4,857		
				Diesel - stationary use (Construction equipment)	t CO2-e	324	324	324	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	971	
	Transport Energy			Diesel - stationary use (Mining equipment-non-road registered)	t CO2-e	43,446	71,345	84,624	86,060	91,378	101,552	113,767	105,885	65,138	53,926	51,929	45,127	42,223	12,140	-	-	-	-	-	-	968,541		
				Diesel - transport use (Light vehicles)	t CO2-e	816	816	816	816	816	816	816	816	706	706	706	706	706	706	91	-	-	-	-	-	10,147		
				Total CO2 Emissions						t CO2-e	44,586	72,485	118,572	119,685	125,002	135,176	147,392	139,510	98,652	119,926	117,928	111,126	108,222	77,524	65,293	65,293	65,293	1,731,667
				Scope 1 Emissions: tonnes CH4 (t CO2-e)																								
Emissions and Energy from Fuel Combustion	Stationary Energy	Part 2.4 Emissions released from the combustion of liquid fuels	Method 1	LNG - stationary use (power generation)	t CO2-e	-	-	63.2	63.2	63.2	63.2	63.2	63.2	63.2	126.4	126.4	126.4	126.4	126.4	126.4	126.4	126.4	126.4	1,454				
				Diesel - stationary use (power generation/black-start generator)	t CO2-e	-	-	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	7		
				Diesel - stationary use (Construction equipment)	t CO2-e	0.5	0.5	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	
	Transport Energy			Diesel - stationary use (Mining equipment-non-road registered)	t CO2-e	62.2	102.1	121.1	123.1	130.7	145.3	162.8	151.5	93.2	77.1	74.3	64.6	60.4	17.4	-	-	-	-	-	-	1,386		
				Diesel - transport use (Light vehicles)	t CO2-e	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.0	1.0	1.0	1.0	1.0	1.0	0.1	-	-	-	-	-	15		
				Total CH4 Emissions						t CO2-e	63.8	103.7	186.4	187.9	195.6	210.1	227.6	216.3	157.9	205.0	202.2	192.4	188.3	144.4	126.9	126.9	126.9	2,862
				Scope 1 Emissions: tonnes N2O (t CO2-e)																								
Emissions and Energy from Fuel Combustion	Stationary Energy	Part 2.4 Emissions released from the combustion of liquid fuels	Method 1	LNG - stationary use (power generation)	t CO2-e	-	-	19.0	19.0	19.0	19.0	19.0	19.0	19.0	37.9	37.9	37.9	37.9	37.9	37.9	37.9	37.9	37.9	436				
				Diesel - stationary use (power generation/black-start generator)	t CO2-e	-	-	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	14		
				Diesel - stationary use (Construction equipment)	t CO2-e	0.9	1.9	0.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	
	Transport Energy			Diesel - stationary use (Mining equipment-non-road registered)	t CO2-e	124.3	204.1	242.1	246.2	261.5	290.6	325.5	303.0	186.4	154.3	148.6	129.1	120.8	34.7	-	-	-	-	-	-	2,771		
				Diesel - transport use (Light vehicles)	t CO2-e	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.0	4.0	4.0	4.0	4.0	0.5	-	-	-	-	-	-	58		
				Total N2O Emissions						t CO2-e	129.9	210.7	267.6	270.8	286.0	315.1	350.1	327.5	210.3	197.2	191.5	172.0	163.7	74.1	38.8	38.8	38.8	3,283
				Scope 2 Emissions																								
Scope 2 Emissions	Electricity consumed from the Grid	Part 7.2 - Location Based Method		Electricity consumption from the grid	t CO2-e	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
Total Scope 2 Emissions (t CO2-e)						t CO2-e	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
Scope 3 Emissions																												
Scope 3 Emissions	Category 1	GHG Protocol		Explosives	t CO2-e	-	-	11	15	16	16	16	16	16	13	7	6	5	4	3	1	-	143					
	Category 2	GHG Protocol		Open Cut	t CO2-e	42,693	42,693	42,693	42,693	42,693	42,693	42,693	42,693	42,693	42,693	42,693	42,693	42,693	42,693	42,693	42,693	42,693	42,693	725,781				
		GHG Protocol		Underground	t CO2-e	5,504	5,504	5,504	5,504	5,504	5,504	5,504	5,504	5,504	5,504	5,504	5,504	5,504	5,504	5,504	5,504	5,504	5,504	93,564				
	Category 3	GHG Protocol		Diesel	t CO2-e	11,035	17,940	21,306	21,582	22,898	25,416	28,439	26,488	16,376	13,601	13,107	11,424	10,705	3,107	80	80	80	80	243,664				
		GHG Protocol		LNG	t CO2-e	-	-	11,376	11,376	11,376	11,376	11,376	11,376	11,376	11,376	22,752	22,752	22,752	22,752	22,752	22,752	22,752	22,752	22,752	261,648			
	Category 7	GHG Protocol		Air (Perth - Karratha Airport) 775km	t CO2-e	-	-	140,707	140,707	140,707	140,707	140,707	140,707	140,707	140,707	140,707	140,707	140,707	140,707	140,707	140,707	140,707	140,707	2,110,601				
	Category 9	GHG Protocol		Downstream Transport & Distribution - Road	t CO2-e	-	-	571	952	1,176	914	803	923	1,309	1,548	1,508	1,511	1,531	1,526	1,505	1,263	511	511	17,550				
		GHG Protocol		Downstream Transport & Distribution - Sea	t CO2-e	-	-	1	1	2	1	1	1	2	2	2	2	2	2	2	2	2	2	26				
	Category 10	GHG Protocol		Processing of sold products	t CO2-e	-	-	-	1.5	1.1	1.1	1.1	1.1	0.9	0.8	0.6	0.6	0.6	0.5	0.5	0.5	0.5	1.7	12				
	Total Scope 3 Emissions (t CO2-e)						t CO2-e	-	-	571	955	1,179	916	805	925	1,312	1,551	1,511	1,513	1,534	1,529	1,508	1,265	513	3,452,989			