

# **Tasmanian Geological Survey Record 2009/01**

## **Some Tasmanian coal statistics (2009)**

*by C.A. Bacon*

## Introduction

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Local coal is used by some of Tasmanian secondary industry as a boiler fuel. The largest users are the Boyer paper factory and the Railton cement works, which together use around three-quarters of the Tasmanian coal produced.

Statistics relating to Tasmanian coal consumption, coal production and employment are given in Tables 1 to 4, and are shown graphically in Figures 1 to 7, together with an account of coal reserves within Tasmania. These statistics are taken from figures collated by the NSW Joint Coal Board, published in yearbooks *Black Coal in Australia* to 1987/88 (wherein figures are given on a financial year basis) and more recently in *Australian Black Coal Statistics*, which gives figures on a calendar year basis; and from figures collected by Mineral Resources Tasmania. Figures from various sources can differ, and users should be aware of the basis of calculation: financial or calendar year, and even whether the end of the year is deemed to be at the end of, or part way through, a production fortnight.

The statistics kept by Mineral Resources Tasmania are compiled from quarterly production returns for each mining lease. In addition, each company is asked to provide an annual report which is used, in part, to compile the MRT Annual Review.

[28 January 2009]

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**TABLE I**

Coal production ('000 t), 1980 to current

Year	Raw Coal (JCB Statistics)			Saleable Coal (JCB Statistics)				Raw coal (MRT prod. stats)			Raw Coal (MRT statistics) Inspectors Report		
	Total	U/G	O/C	Total	U/G	O/C	Stocks#	Total	U/G	O/C	Total	U/G	O/C
1980/81	302			208			57	304					
1981/82	390			249			42	395					
1982/83	557			329			87	548					
1983/84	453			280			92	453					
1984/85	491			321			95	496					
1985/86	502	489	13	310	305	5	60	509					
1986/87	617	583	34	394	373	21	92	622					
1987/88	600	544	56	380	343	37	110	608					
1988/89	645	553	92	407	344	63		632					
1989	571	548	23	312	297	15	95						
1989/90	596	548	48	356	314	42		569			597	574	23
1990	628	519	109	390	310	80	98						
1990/91	585	493	92	350	287	63		546	497	49			
1991	536	480	56	324	280	44	88						
1991/92	542	484	58	342	288	54		544	484	60	555	480	75
1992	518	459	59	340	281	59	102						
1992/93	476	414	62	301	243	58		495	408	87	439	371	68
1993	539	463	76	341	277	64	89						
1993/94	571	472	99	378	297	81		564			568	441	127
1994	584	444	140	370	268	102	15						
1994/95	614	394	220	401	234	220		608	394	214	608	394	214
1995	560	294	266	403	183	266	43						
1995/96	582	298	284	400	188	212		§559	298	*261	466	298	‡168
1996	604	337	267	408	218	190	47						
1996/97	556	361	195	392	244	148		546			560	361	199
1997	554	396	158	402	286	116							
1997/98	578	414	164	414	296	118		567			532		
1998	583	383	200	417	268	149	54						
1998/99	574	433	141	419	307	112		563			554	439	115
1999	567	512	55	401	354	47	75						
1999/00	549	523	26	387	367	20		566			560	523	37
2000	472	472	-	326	338	12	112						
2000/01	468	420	48	339	310	29		473^			466	418	48
2001	523	458	65	387	335	52	145						
2001/02	540	508	32	404	385	19		548			540	508	32
2002	528	492	36	379	357	22							
2002/03	523	501	22	343	328	15		546			523	500	23
2003	558	503	55	399	345	54							
2003/04	484	419	65	350	295	55		482			505	437	68
2004	493	436	57	354	315	39							
2004/05	576	474	102	424	344	80		578			575	474	101
2005	596	485	111	425	343	82							
2005/06	636	526	110	433	354	79		652			635	527	108
2006	671	473	198	442	304	138							
2006/07								640			538	393	145
2007													
2007/08								725			725	435	290

# 1980/81 to 1988/89 Closing Stocks as at June, 1989 to 1996 as at December

\* Includes coal reprocessed from screening rejects stockpile

‡ 168 000 tonnes won by open-cut mining, and almost 100 000 tonnes reprocessed from screenings stockpile.

§ This figure includes coal mined in the previous year and stockpiled, but treated in this year.

^ Includes 2000 tonnes mined in previous year and 4394 tonnes of purchased coal.

**TABLE 2**  
*Coal sales and washery output*

Year	Saleable Coal (JCB) Total		Washed Coal (MRT)	Coal Sales (MRT)	Washery and Screening Reject (MRT)	
	('000 t)	Underground	Open cut	('000 t)	('000 t)	
1994/95	401	234	220	275	385	207
1995/96	400	188	212	207	390	180
1996/97	392	244	148	297	378	177
1997/98	414	296	118	380	-	157
1998/99	419	307	112	385	381	157
1999/00	387	367	20	398	394	162
2000/01	339	310	29	349	382	130
2001/02	404	385	19	387	382	137
2002/03	343	328	15	360	381	179
2003/04	350	295	55	349	393	140
2004/05	424	344	80	380	411	171
2005/06	433	354	79	446	434	235
2006/07				410	418	235
2007/08				469	454	276

Note: Some Tasmanian coal sold after being screened, not washed. Screened coal counts as 'saleable' coal in the JCB statistics, but does not appear in the MRT 'washed coal' figures.

**TABLE 3**  
*Coal consumption ('000 t)*

Year	Cement works	Paper mills	General industry	Total consumption	Imported coal used	Local coal used#
1980/81	71	93	43	207	10	197
1981/82	94	100	73	267	4	263
1982/83	77	172	75	324	13	311
1983/84	49	195	61	305	12	293
1984/85	78	200	67	345	26	319
1985/86	87	203	101	391	46	345
1986/87	67	219	99	385	26	359
1987/88	71	218	119	408	47	361
1988/89	81	235	132	448	60	388
*1989	84	228	126	438	63	375
*1990	92	218	137	447	60	387
*1991	78	196	128	402	69	333
*1992	67	183	127	377	51	326
1993		181		400	62	338
1994		192		444	74	370
1995		194		473	51	422
1996		187		466	63	403
1997	129	201	116	446		
1998		184		426	49	387
1999		183	252	435	8	428
2000		169	271	440	15	425
2001		152	253	405	43	362
2002		162	289	451		
2003		158	286	444		
2004		164	277	441	45	396
2005		170	296	466	31	435
2006		171	309	480	34	446

1980/81 to 1988/89 from NSW Joint Coal Board financial year statistics

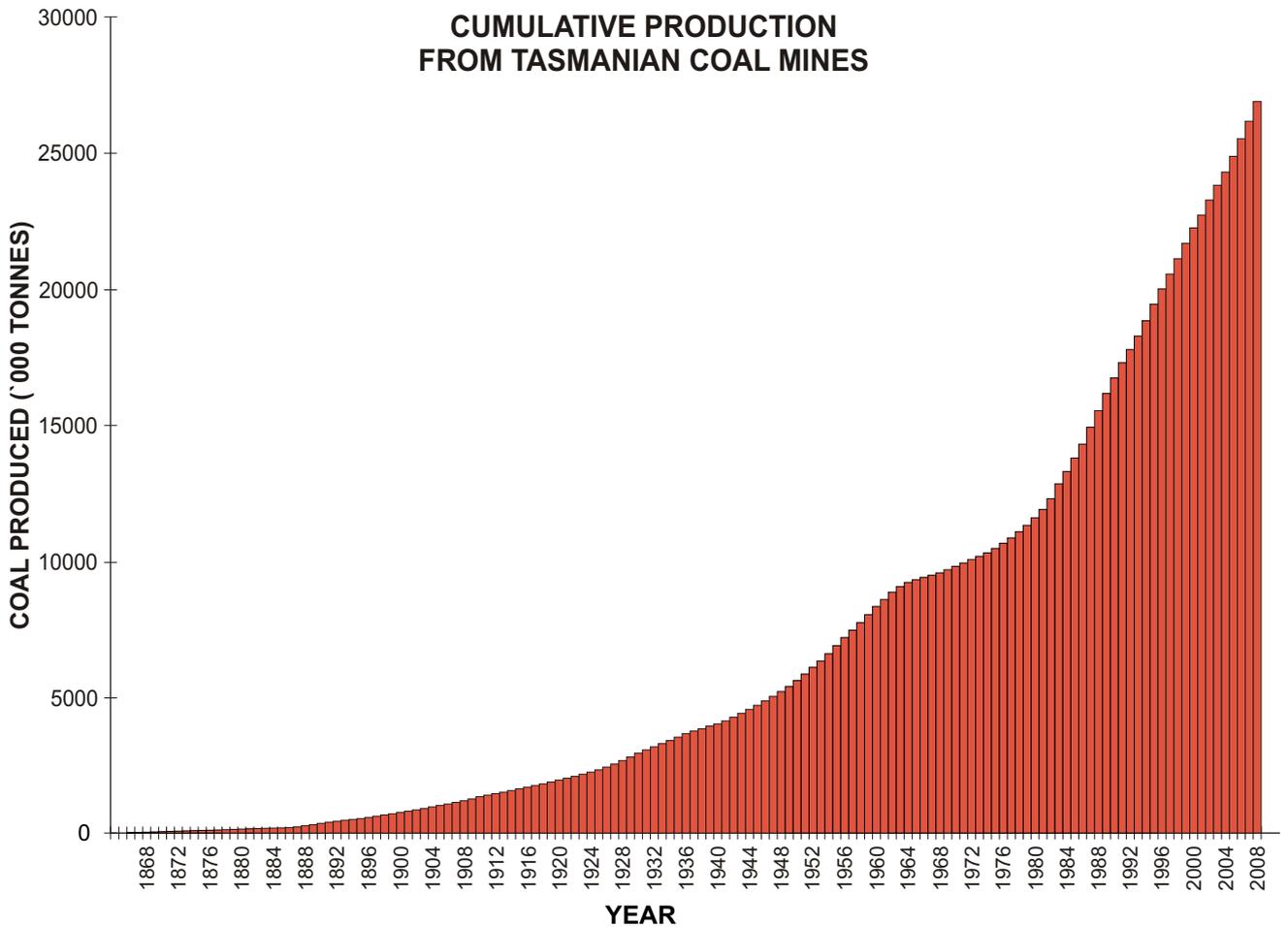
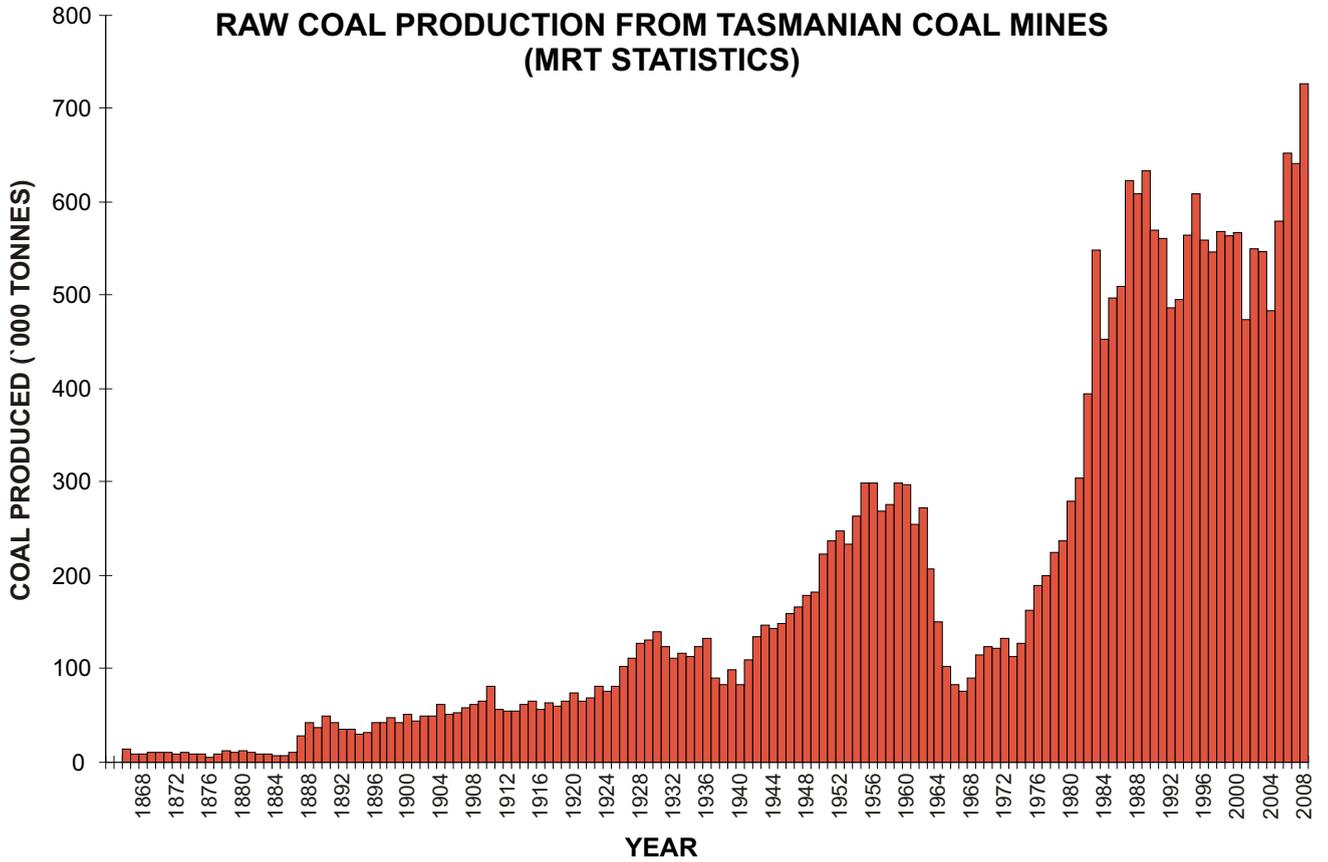
\* calendar year JCB statistics

# calculated from total coal used less imported coal except for 1994.

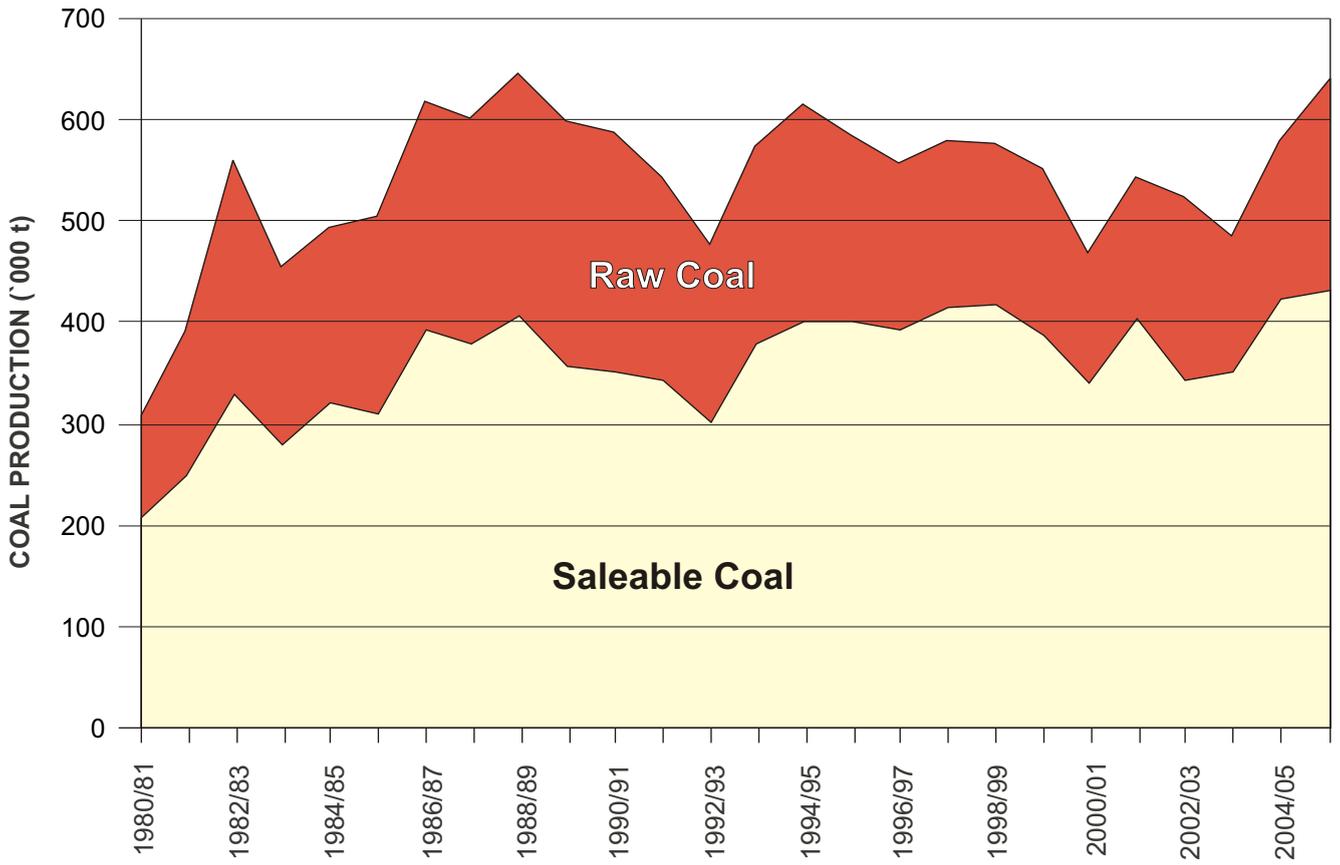
In 1994 125 000 t of coal were imported; 74 000 t were consumed, and 51 000 t were added to stockpiles

**TABLE 4**  
Employment (persons)

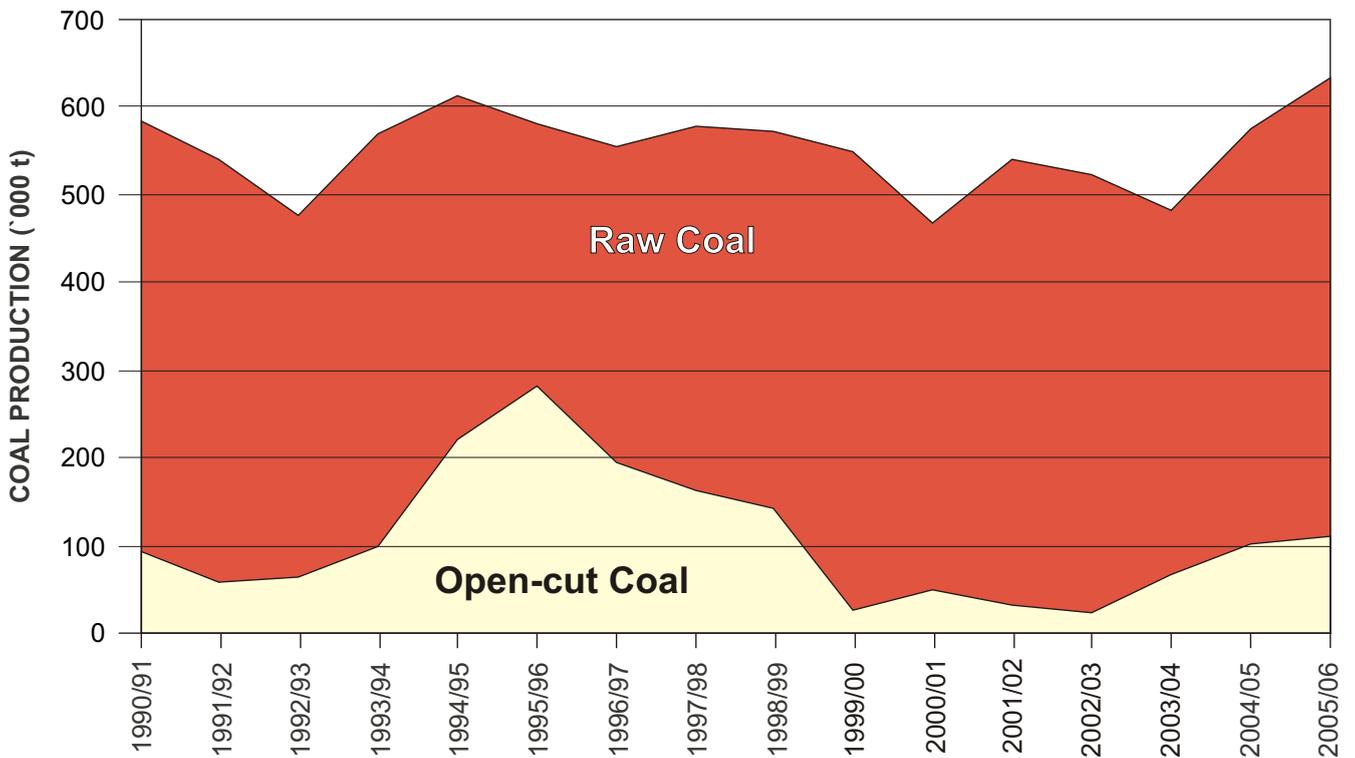
	JCB statistics as at June			DOM statistics as at June	JCB statistics as at December		
	Total	Underground	Open cut	Total	Total	Underground	Open cut
1980	113	113			123	123	
1981	135	135		135	141	141	
1982	141	141		141	141	141	
1983	140	140		140	138	138	
1984	138	138		138	143	143	
1985	143	143		143	139	139	
1986	155	143	12	155	154	150	4
1987	150	150	-	150	150	130	20
1988	146	135	11	146	139	130	9
1989	133	130	3	134	139	131	8
1990	153	126	27	136	150	132	18
1991	150	132	18	146	151	134	17
1992	155	139	16	149	146	129	17
1993	127	111	16	130	113	97	16
1994	129	101	28	119	130	87	43
1995	110	66	44	124	111	68	43
1996	111	69	42	115	106	67	49
1997	103	66	37	111	105	64	41
1998	104	68	36	103	101	72	29
1999	88	82	6	106	84	70	14
2000	84	84	-	91	83	75	8
2001	89	80	9	82	70	67	3
2002	85	77	8	84	81	72	9
2003	78	71	7		78	72	6
2004	79	65	14	78	89	74	15
2005	82	71	11	86	84	72	12
2006				86			
2007				86			
2008				88			



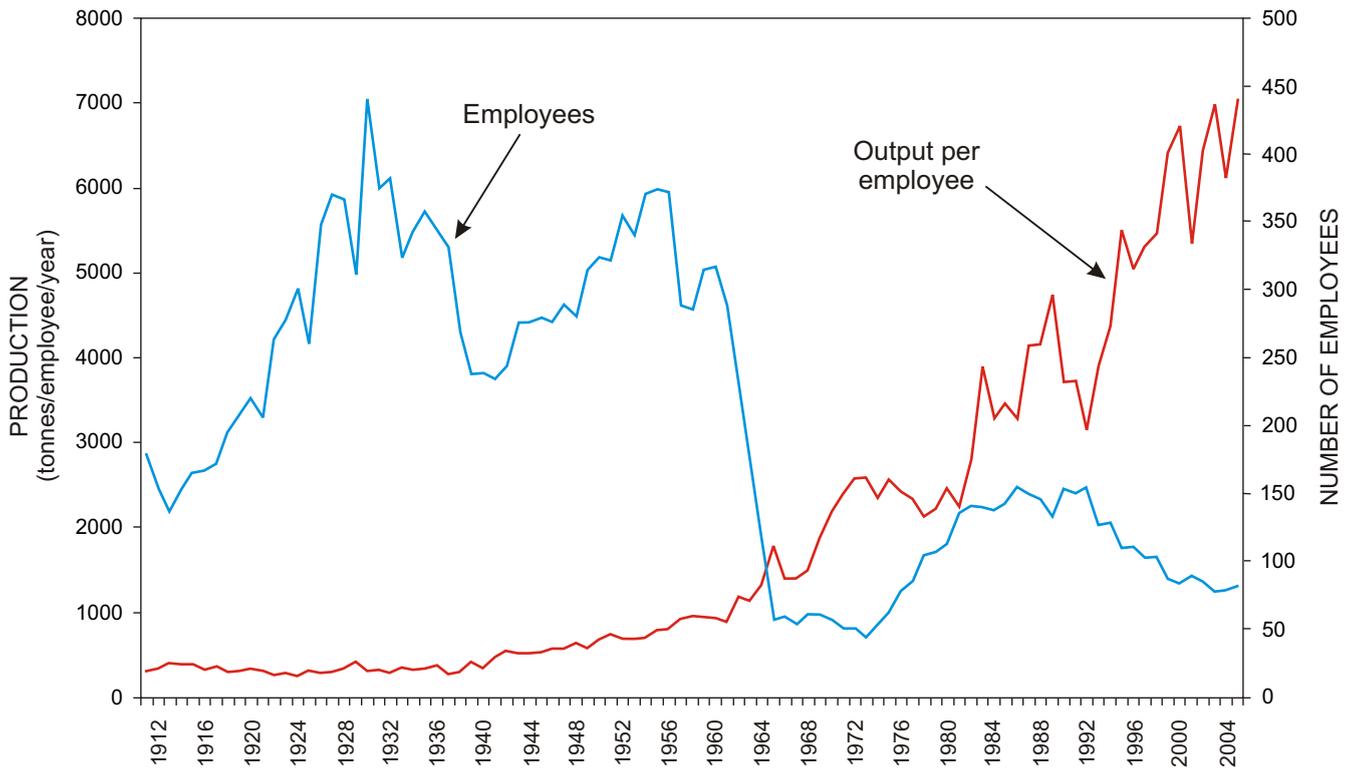
**TASMANIAN COAL PRODUCTION  
1980/81 TO 2005/06**



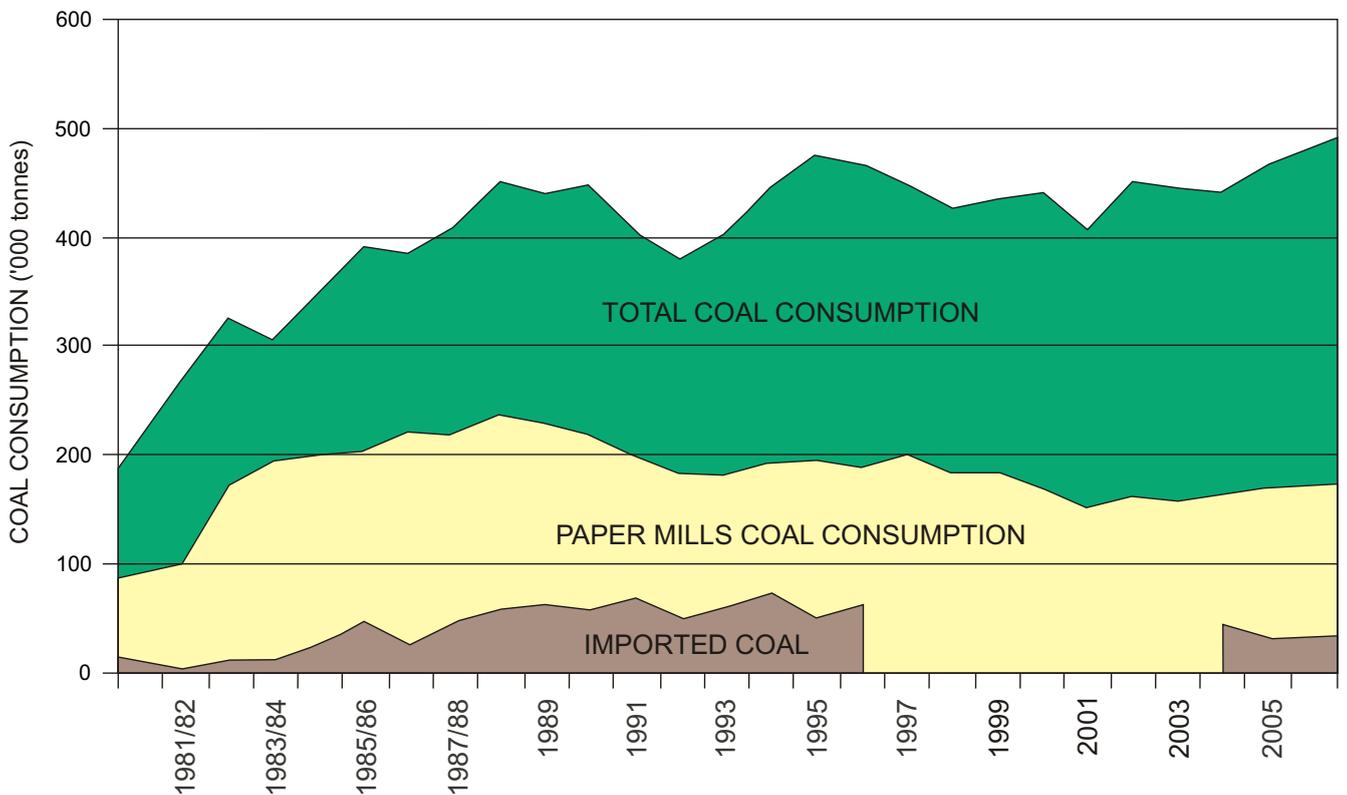
**TOTAL RAW COAL AND OPEN-CUT PRODUCTION  
1990/91 TO 2005/06**



## ANNUAL EMPLOYMENT IN TASMANIAN COAL MINES AND RAW COAL PRODUCTION PER EMPLOYEE



## TASMANIAN COAL CONSUMPTION 1980/81 TO 2006



## APPENDIX I

### Tasmanian coal production statistics from 1866

YEAR	RAW COAL PRODUCTION			CUMULATIVE TOTAL '000 ton(ne)s	ANNUAL EMPLOYMENT persons	ANNUAL PRODUCTION '000 tonnes /employee
	'000 ton(ne)s /year	'000 ton(ne)s /year	'000 tonnes /year			
<i>Source: Booth (1962)</i>						
1866	14	-	-	14	-	-
1867	8	-	-	22	-	-
1868	9	-	-	31	-	-
1869	10	-	-	41	-	-
1870	10	-	-	51	-	-
1871	10	-	-	61	-	-
1872	8	-	-	69	-	-
1873	10	-	-	79	-	-
1874	9	-	-	88	-	-
1875	8	-	-	96	-	-
1876	6	-	-	102	-	-
1877	9	-	-	111	-	-
1878	12	-	-	123	-	-
1879	10	-	-	133	-	-
<i>Source: Mines records (calendar year)</i>						
1880	12	-	-	145	-	-
1881	11	-	-	156	-	-
1882	9	-	-	165	-	-
1883	9	-	-	174	-	-
1884	7	-	-	181	-	-
1885	7	-	-	188	-	-
1886	10	-	-	198	-	-
1887	28	-	-	226	-	-
1888	42	-	-	268	-	-
1889	37	-	-	305	-	-
1890	50	-	-	355	-	-
1891	43	-	-	398	-	-
1892	36	-	-	434	-	-
1893	35	-	-	469	-	-
1894	30	-	-	499	-	-
1895	32	-	-	531	-	-
1896	42	-	-	573	-	-
1897	42	-	-	615	-	-
1898	48	-	-	663	-	-
1899	43	-	-	706	-	-
1900	51	-	-	757	-	-
1901	45	-	-	802	-	-
1902	49	-	-	851	-	-
1903	49	-	-	900	-	-
1904	61	-	-	961	-	-
1905	52	-	-	1013	-	-
1906	53	-	-	1066	-	-
1907	59	-	-	1125	-	-
1908	61	-	-	1186	-	-
1909	66	-	-	1252	-	-
<i>Source: Mines Department (calendar year)</i>						
1910	82	-	-	1334	-	-
1911	57	-	-	1391	180	317
1912	54	-	-	1445	155	348
1913	55	-	-	1500	136	404
1914	61	-	-	1561	152	401

YEAR	RAW COAL PRODUCTION			CUMULATIVE TOTAL '000 ton(ne)s	ANNUAL EMPLOYMENT persons	ANNUAL PRODUCTION '000 tonnes /employee
	'000 ton(ne)s /year	'000 ton(ne)s /year	'000 tonnes /year			
1915	65	-	-	1626	165	394
1916	56	-	-	1682	167	335
1917	63	-	-	1745	172	366
1918	60	-	-	1805	195	308
1919	66	-	-	1871	209	316
1920	75	-	-	1946	220	341
1921	66	-	-	2012	206	320
1922	69	-	-	2081	263	262
1923	81	-	-	2162	278	291
1924	76	-	-	2238	301	252
1925	82	-	-	2320	260	315
1926	102	-	-	2422	348	293
1927	112	-	-	2534	370	303
1928	128	-	-	2662	367	349
1929	130	-	-	2792	311	418
1930	139	-	-	2931	441	315
1931	124	-	-	3055	374	332
1932	112	-	-	3167	382	293
1933	117	-	-	3284	323	362
1934	114	-	-	3398	342	333
1935	124	-	-	3522	358	346
1936	132	-	-	3654	344	384
1937	91	-	-	3745	332	274
1938	83	-	-	3828	269	309
1939	99	-	-	3927	238	416
1940	83	-	-	4010	239	347
1941	110	-	-	4120	234	470
1942	134	-	-	4254	243	551
1943	146	-	-	4400	276	529
1944	144	-	-	4544	276	522
1945	149	-	-	4693	279	534
1946	159	-	-	4852	276	576
1947	167	-	-	5019	289	578
					<i>Source: NSW JCB (figures at 30 June)</i>	
1948	179	-	-	5198	280	639
1949	182	-	-	5380	314	580
1950	222	-	-	5602	324	685
1951	237	-	-	5839	321	738
1952	248	-	-	6087	355	699
1953	234	-	-	6321	340	688
1954	264	-	-	6585	371	712
	<i>Source: Mines Dept (calendar year)</i>	<i>Source: NSW JCB (calendar year) '000 tonnes/year</i>				
1955	299	303	-	6884	374	799
1956	299	305	-	7183	372	804
1957	268	269	-	7451	288	931
1958	276	281	-	7727	285	968
1959	299	305	-	8026	315	949
1960	297	306	-	8323	317	937
1961	255	266	-	8578	289	882
1962	272	275	-	8850	230	1183
1963	206	201	-	9056	181	1138
1964	151	152	-	9207	114	1325
1965	102	103	-	9309	57	1789
1966	83	86	-	9392	59	1407

YEAR	RAW COAL PRODUCTION			CUMULATIVE TOTAL '000 ton(ne)s	ANNUAL EMPLOYMENT persons	ANNUAL PRODUCTION '000 tonnes /employee
	'000 ton(ne)s /year	'000 ton(ne)s /year	'000 tonnes /year			
1967	76	78	-	9468	54	1407
1968	91	93	-	9559	61	1492
1969	115	120	-	9674	61	1885
1970	124	126	-	9798	57	2175
1971	122	124	-	9920	51	2392
	'000 tonnes/year					
1972	132	133	-	10052	51	2588
1973	114	112	-	10166	44	2591
1974	127	127	-	10293	54	2352
1975	162	162	-	10455	63	2571
1976	189	190	-	10644	78	2423
1977	199	199	-	10843	85	2341
1978	224	224	-	11067	105	2133
1979	237	237	-	11304	107	2215
	Source: Mines Dept (financial year)	Source: NSW JCB (calendar year)	Source: NSW JCB (financial year)			
1980	279	234	-	11583	113	2469
1981	304	346	302	11887	135	2252
1982	395	515	390	12282	141	2801
1983	548	473	557	12830	140	3914
1984	453	458	453	13283	138	3283
1985	496	526	491	13779	143	3468
1986	509	555	502	14288	155	3284
1987	622	621	617	14910	150	4147
1988	608	634	600	15518	146	4164
1989	632	571	645	16150	133	4752
1990	569	628	596	16719	153	3719
1991	560	536	585	17279	150	3733
1992	486	518	542	17765	155	3135
1993	495	539	476	18260	127	3898
1994	564	584	571	18824	129	4372
1995	608	560	614	19432	110	5527
1996	559	604	582	19991	111	5036
1997	546	554	556	20537	103	5301
1998	567	583	578	21104	104	5452
1999	563	567	574	21667	88	6398
2000	566	472	549	22233	84	6739
2001	473	523	468	22706	89	5315
2002	548	528	540	23254	85	6447
2003	546	558		23800	78	7000
2004	482	493		24282	79	6101
2005	578	596		24860	82	7049
2006	652	671		25512		
2007	640			26152		
2008	725			26877		

Note: Reporting base

1866 – 1971 — tons/year

1971 – present — tonnes/year

1 ton = 1.016047 tonnes. No allowance made for change in cumulative totals.

Calculation t/employee/year from:

1910–1947 by Mines Department calendar year production/employment average for year;

1948–1979 by Mines Department calendar year production/employment given by NSW JCB at June each year;

1980–2005 by Mines Department/MRT financial year production/employment given by NSW JCB at June each year.

## APPENDIX 2

### Coal Reserves

Coal resources and reserves were calculated in 1986. The calculation standards were compliant with the definitions contained in *Australian Code for Reporting Identified Coal Resources and Reserves* (AS 2519–1993) which replaced the earlier standard AS2519–1982. The figures have not been revised.

Coal *resources* are all of the potentially useable coal in a defined area and are based on observation and extrapolation from those points. Coal *reserves* may only be estimated when “sufficient information is available to enable detailed or conceptual mine planning and for which such planning has been undertaken”.

Since the exploration programs in the late 1970s mining performance has shown that conversion from resource to reserve status must also take into account adverse mining conditions and smaller scale faulting, which can greatly downgrade tonnage estimates. It may be concluded from Tasmanian mining conditions that indicated resources can only be used as a reliable guide for long-term resource estimation where conditions will permit open-cut mining. This method of extraction is only feasible for a very small proportion of Tasmania’s coal.

In-ground *resources* can be calculated, but the reader must remember that only a fraction of these resources will be suitable for economic extraction. Whilst the in-ground coal resources in Tasmania are substantial, only a small quantity of this coal can now be regarded as an economically mineable resource.

There is the possibility that at some time in the future some coal may possibly be burnt *in situ*, with factories or power plants being sited above the seam, drawing up hot gases and/or circulated (heated) water. This technique is referred to as ‘in situ gasification’. This can enable coal which cannot be extracted by usual means, due to problems of mining access, to be profitably used.

#### TASMANIAN IN-GROUND COAL RESOURCES (1986)

Location	Measured + Indicated (million tonnes)	Inferred (million tonnes)
Mt Nicholas	98	small
Harefield	5	-
Fingal	250	large
Dalmayne	160	large
Douglas River	30	small
Langloh (Hamilton)	10	-
Woodbury	25	-
Merrywood		very small <1
Mt Christie		very small <1
Denison Rivulet		very small <2
Strathblane		very small <1
Moss Glen		very small <1
Catamaran		very small <5
Colebrook		very small <5
York Plains		very small <1
Preolenna		very small <5
Mersey		very small <5
Cygnat		very small <1
Mt Lloyd		very small <2
Kaoota		very small <1
<b>Total</b>	<b>578</b>	