

COMMONWEALTH BUREAU OF CENSUS AND STATISTICS,
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MANUFACTURING INDUSTRIES,

1949-1950

NO. 33. GAS WORKS.

Prepared Under Instructions from
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MANUFACTURING INDUSTRIES : AUSTRALIA, 1949-50

PREFACE

1. GENERAL: The industries included in the series for 1949-50 are listed on the back of the cover, and are the same as those covered by the 1948-49 series. The 1949-50 summaries published to date are indicated at the top of page 2.
2. CLASSIFICATION OF FACTORIES: For purposes of industry classification, a factory in Australia is classified according to the nature of the product. Where two or more distinct types of industrial activity are carried on in one establishment, a separate return is obtained, wherever practicable, for each activity in order to allow classification on this basis. In cases where this is not practicable, there is no alternative but to classify the factory according to its predominant activity. This difficulty is most acute in the Metal Trades industries, (e.g. Engineering firms also producing Agricultural Implements, Stoves and Ovens, and/or Brass and Copper products), but it is also to be found in factories concerned with the treatment or manufacture of Skins, Leather, Clothing, Wool products and some other articles.

Each of the summaries in the series "Manufacturing Industries", relates as far as possible to the operations of factories classified to the industry specified. Sometimes articles applicable to this industry are also produced, as subsidiary production, in other industries, and, wherever possible, quantity tables have been extended to show details of production separately for the industry under review and the total in all industries.

3. BASIS OF THE STATISTICS: The scope of the factory statistics is fully explained in Part I of the annual Production Bulletin.

Briefly, a "factory" is taken to be a manufacturing establishment in which four or more hands are employed or in which power other than hand is used.

All persons employed in the manufacturing activities of the factory are counted as factory employees. The figures relating to employment, therefore, exclude all those engaged in selling and distribution, such as salesmen, travellers, collectors, carters engaged solely on outward delivery of manufactured goods, and retailing storemen. The figures do include, however, proprietors who work in their own factories as well as "out-workers".

The value of output is the wholesale selling value at the factory of goods made or processed during the year, including by-products. In addition it includes the value of other work done, such as repair work, assembling and making-up for customers.

The value of production is the value of output minus the cost of raw materials, containers, power, fuel, light, lubricants, water, tools replaced, and repairs to plant, and represents the value added in the process of manufacture within the factories. As full details of the cost of production are not collected, the amount of profit resulting from operations cannot be ascertained. The value of production, therefore, is the source from which such items as wages, interest, depreciation, profits, taxation, insurance, advertising and other sundry charges are met.

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MANUFACTURING INDUSTRIES, AUSTRALIA : 1949-50

NOTE: Summaries already published in this series are:- Nos. 1. Cement and Cement Goods; 2. Bricks, Tiles, Pottery and Earthenware; 4. White Lead, Paints and Varnish; 5. Chemical Fertilizers; 7. Industrial Metals - Ferrous - Parts I to IV; 8. Industrial Metals - Non-Ferrous - Parts I and II; 9. Electrical Machinery and Equipment; 10. Motor Vehicles and Cycles; 11. Agricultural Implements; 12. Wireless Apparatus; 13. Stoves, Ovens and Ranges; 15. Hosiery and Other Knitted Goods; 16. Tanneries; 17. Boots and Shoes; 19. Flour and Other Grain Mills; 20. Biscuits; 21. Confectionery; 22. Jam, Fruit and Vegetable Canning; 23. Pickles, Sauces, Condiments, Coffee, Spices, etc.; 26. Breweries; 27. Tobacco, Cigars and Cigarettes; 28. Sawmilling; 29. Rope and Cordage; 30. Rubber Works; 32. Electric Light and Power Works; 35. Paper Mills; 36. Wineries and Distilleries; 37. Aerated Waters and Cordials; 39. Wire and wire working (Including Nails).

GAS WORKS

1. SUMMARY OF STATISTICS: The following table furnishes a summary of the principal statistics of the factories classified as Gas works in Australia for the years 1938-39, 1945-46 and 1947-48 to 1949-50.

TABLE I : GAS WORKS : AUSTRALIA

Year	Number of Factories	Persons Employed	Salaries & wages Paid	Power, Fuel & Light etc. Used	Value of Materials, etc. Used	Value of Production	Value of Output
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	No.	No.	£'000	£'000	£'000	£'000	£'000
1938-39	107	2,931	785	251	1,872	2,694	4,817
1945-46	104	3,502	1,194	408	3,965	3,313	7,726
1947-48	103	3,718	1,643	595	5,255	3,672	9,522
1948-49	101	3,808	1,837	723	6,734	3,587	11,044
1949-50	100	3,515	2,027	845	7,220	3,663	11,728

(a) Includes Working Proprietors. (b) Excludes amounts drawn by Working Proprietors. (c) Includes value of containers, packing, etc., replacement of tools and repairs to plant. (d) Value of Production equals column (7) less total of columns (4) and (5). (e) excludes the value of coke produced and used in own works in some States.

In the following table particulars of the Industry are given for each State during the year 1949-50.

TABLE II : GAS WORKS : STATES, 1949-50

Particulars	N.S.W.	VIC.	Q'LD.	S.A.	W.A.	TAS.	AUST.
No. of Factories	39	36	16	3	4	2	100
No. Employed (a)							
Males	1,352	1,322	420	445	(c)	(c)	3,784
Females	15	8	6	2	(c)	(c)	31
Total	1,367	1,330	426	447	(c)	(c)	3,815
	£	£	£	£	£	£	£
Value of -							
Salaries and Wages Paid (b)	756,752	706,721	210,301	225,899	(c)	(c)	2,027,173
Power, Fuel and Light, etc. Used (d)	724,842	56,960	16,626	3,417	(c)	(c)	844,735
Materials, etc. used	3,037,438	2,10,967	548,398	585,139	(c)	(c)	7,219,956
Production (e)	1,829,373	1,028,869	409,196	260,877	(c)	(c)	3,663,146
Output (d) (f)	5,591,693	3,696,796	970,480	349,433	(c)	(c)	11,727,837
Land and Buildings	1,008,755	544,208	228,800	29,393	(c)	(c)	1,938,645
Plant and Machinery	3,409,687	5,210,429	917,127	1,393,500	(c)	(c)	11,655,761
	H.P.	H.P.	H.P.	H.P.	H.P.	H.P.	H.P.
H.P. of Engines Ordinarily in use	12,055	9,378	1,689	1,560	(c)	(c)	26,225

(a) Includes Working Proprietors. (b) Excludes amounts drawn by Working Proprietors. (c) Not available for publication. These figures are included in the total for Australia. (d) Excludes the value of Coke produced and used in own works in some States. (e) See note (d) to Table I. (f) Gas is valued at point of consumption less costs of distribution. Other articles produced are valued at selling values at works, excluding all delivery costs and charges.

2. AVERAGE SALARIES, OUTPUT AND PRODUCTION: Particulars of the average salary and wage paid, together with the average values of output and production per person engaged and the ratio of salaries and wages to the value of production, are shown in the following table for the years 1938-39, 1945-46 and 1947-48 to 1949-50.

TABLE III : AVERAGE SALARIES AND WAGES PAID, OUTPUT, ETC. PER EMPLOYEE :
AUSTRALIA

Year	Salaries and Wages per Employee (a)	Value of Output per person Engaged (b)	Value of Production per Person Engaged (b)	Ratio per cent of Salaries and Wages to Value of Production
	£.	£.	£.	%
1938-39	268	1,644	919	29.15
1945-46	341	2,206	946	36.03
1946-47	347	2,212	911	38.11
1947-48	442	2,561	988	44.76
1948-49	482	2,900	942	51.22
1949-50	532	3,074	960	55.34

(a) Excludes Working Proprietors and amounts drawn by them.

(b) Includes Working Proprietors.

3. MATERIALS USED AND ARTICLES PRODUCED: In the following table details are given of the quantities and values of materials used and gas produced in Gas Works in Australia for the year 1949-50.

TABLE IV : MATERIALS USED AND GAS PRODUCED IN GAS WORKS : AUSTRALIA

Particulars	Unit of Quantity	Quantity	Value (£)
<u>Materials Used</u> -			
Coal carbonized	ton	1,864,630	5,676,124
Purifying material	"	8,746	54,917
Oil for gas-making	gal.	13,046,694	651,706
<u>Gas Produced</u> -			
Gas Sold	'000 cu.ft.	30,490,856	10,733,475
Gas used in own works	"	134,566	(a)
Gas lost	"	4,272,341	(b)
<u>TOTAL GAS SOLD, USED OR LOST:</u>	"	34,897,963	(a)

(a) Quantity only available.

The following table shows details of the principal by-products of Gas Works. Some of the items are also produced in other works, and the table has accordingly been extended to show separately (i) production in Gas works and (ii) production in all Australian factories.

TABLE V : PRINCIPAL BY-PRODUCTS OF GAS WORKS : AUSTRALIA, 1949-50

Particulars	Unit of Quantity	Produced in Gas Works		Produced in All Factories	
		Quantity	Value (£)	Quantity	Value (£)
Coke	ton	1,094,982	(a)	2,259,383	(a)
Coke breeze	"	75,604	99,792	162,998	142,142
Tar - Used in own Works	gal.	4,817,632	(b)	4,817,632	(b)
Crude, for Sale	"	(c) 33,739,869	(c) 665,302	33,739,869	665,302
Refined, for sale	"	(c) 12,324,454	(c) 252,379	12,324,454	252,379
Tar Oils, Crude	"	(a) 3,758,406	(c) 130,938	3,758,406	130,938
Ammoniacal Liquor	"	(c) 10,110,657	(c) 37,162	10,110,657	37,162
Sulphate of Ammonia	ton	760	15,295	46,736	1,016,607
Creosote	gal.	(c) 665,491	(c) 55,207	665,491	55,207

(a) Not available. (b) Quantity only collected. (c) Includes production in other works, details of which are not available for separate publication.

For comparative purposes the next table gives particulars of the quantities of (1) coal used and gas and coke produced in Gas Works and (2) Coal used and Coke produced in Coke works in Australia during the years 1938-39, 1945-46 and 1947-48 to 1949-50.

TABLE VI : COAL CARBONIZED, GAS AND COKE PRODUCED : AUSTRALIA

Year	Gas works			Coke Works	
	Coal Used	Gas Produced	Coke Produced	Coal Used	Coke Produced
	Ton	'000 Cub.ft.	Tons	Tons	Tons
1938-39	1,176,629	21,472,303	757,046	1,707,434	1,164,873
1945-46	1,759,429	31,954,138	1,027,197	1,482,576	986,005
1947-48	1,981,733	36,549,723	1,170,545	2,103,136	1,384,238
1948-49	2,022,172	36,733,420	1,181,516	1,855,698	1,150,039
1949-50	1,864,630	34,897,963	1,094,982	1,972,915	1,164,401

4. EMPLOYMENT: The numbers of persons employed shown in Tables I, II, VIII and IX represent the average numbers employed over the whole year. In the following table, the factories have been classified for the years 1938-39, 1945-46 and 1947-48 to 1949-50 according to the average number employed during the actual period worked. During these years, all factories operated for the full twelve months.

TABLE VII : FACTORIES : CLASSIFIED ACCORDING TO PERSONS EMPLOYED : AUSTRALIA

No. of persons employed in each Factory	1938-39		1945-46		1947-48		1948-49		1949-50	
	No. of Fac-	No. of Em-	No. of Fac-	No. of Em-	No. of Fac-	No. of Em-	No. of Fac-	No. of Em-	No. of Fac-	No. of Em-
	ories played	ories played	ories played	ories played	ories played	ories played	ories played	ories played	ories played	ories played
Under 4	45	106	17	41	16	33	14	37	14	37
4	10	40	13	52	8	32	5	32	8	32
5 to 10	17	117	33	220	36	246	36	252	35	249
11 to 20	17	233	13	192	14	209	15	237	13	197
21 to 50	10	329	17	554	10	596	15	492	17	537
51 to 100	2	162	3	196	3	159	5	204	5	263
101 to 200	6	1,544	4	592	4	595	4	618	4	619
201 & over			4	1,625	4	1,329	4	1,556	4	1,876
Total:	107	2,931	104	3,502	103	3,719	101	3,803	100	3,815
Average No. employed per Factory	27		34		36		38		38	

Further details of employment in the industrial group - Gas works - are furnished in the next three tables. In Table VIII, the numbers of persons employed are shown according to the nature of their employment in Gas works for the year 1948-49.

TABLE VIII : PERSONS EMPLOYED ACCORDING TO OCCUPATIONAL STATUS : AUSTRALIA, 1948-49

Grade of Occupation	Gas Works -			
	Government	Local Authority	Other	Total
Working Proprietors	-	-	2	2
Managerial and Clerical Staff, incl. Salaried Managers and Working Directors	8	34	227	269
Chemists and Draftsmen and Other Laboratory and Research Staff	10	-	101	111
Foremen and Overseas Workers in Factory (Skilled and Unskilled)	37	12	176	225
Carters (excl. Delivery only), Messengers and Persons working regularly at Home	112	216	2,733	3,061
	7	4	136	147
TOTAL:	174	266	3,375	3,815

In Table IX, the numbers of males employed are shown for the years 1938-39, 1945-46 and 1947-48 to 1949-50 according to the nature of their employment, but because of the change in classification, which operated from 1945-46, comparison between 1938-39 and later years shown is not wholly effective.

TABLE IX : MALES EMPLOYED CLASSIFIED ACCORDING TO OCCUPATIONAL STATUS : AUSTRALIA

Occupational Status	1938-39	1945-46	1947-48	1948-49	1949-50
MALES					
Working Proprietors	-	1	-	-	2
Managerial & Clerical Staff, Incl.	2,522	223	245	242	242
Salaried Managers & working Directors		103	109	103	108
Chemists, Draftsmen & Other Laboratory and Research Staff		167	183	222	225
Foremen and Overseers		2,924	3,013	3,084	3,060
Workers in Factory (Skilled & Unskilled)		52	135	122	147
Other (Carters & Messengers, etc.)	354				
Total Males	2,876	3,470	3,685	3,773	3,784
Total Females (a)	55	32	33	35	31
Total Persons	2,931	3,502	3,718	3,808	3,815

(a) Mainly Clerical Staff.

The numbers of persons employed in Gas works, on or about the 15th June, for the years 1939, 1946 and 1948 to 1950 are distributed according to age and sex in Table X.

TABLE X : DISTRIBUTION OF EMPLOYEES ACCORDING TO AGE AND SEX:

AUSTRALIA

(Excluding working Proprietors)

June	Under 16 Years	16 Years	17 Years	18 Years	19 Years	20 Years	Total 16 to 20 Years	21 Years and Over	Total All Ages
MALES									
1939	8	(a)	(a)	(a)	(a)	(a)	118	2,785	2,911
1946	11	9	15	31	25	14	97	3,538	3,646
1948	6	8	21	16	25	19	89	3,668	3,763
1949	1	10	9	11	14	22	66	3,788	3,855
1950	-	4	10	13	15	12	54	3,801	3,855
FEMALES									
1939	-	(a)	(a)	(a)	(a)	(a)	12	44	56
1946	-	1	1	1	1	2	6	26	32
1948	-	2	-	-	-	1	3	28	31
1949	-	1	-	1	3	2	7	27	34
1950	1	-	2	-	4	1	7	18	26

(a) Details not collected.

5. **POWER EQUIPMENT:** Statistics of the power equipment of the factories included in this group are given in the next table. The details given include the rated horse-power of the engines ordinarily in use together with those in reserve or idle.

TABLE XI : TYPES AND RATED HORSE POWER OF ENGINES : AUSTRALIA

Class of Engine	Rated Horse-power of Engines					
	Ordinarily in Use			In reserve of Idle		
	1938-39	1948-49	1949-50	1938-39	1948-49	1949-50
Steam - Reciprocating	5,365	7,209	7,601	1,147	1,994	1,951
Turbine	6,390	6,852	6,822	1,394	1,428	1,426
Internal Combustion						
Gas	3,787	2,074	2,027	1,023	655	376
Petrol or other Light Oils	30	55	57	3	44	94
Heavy Oils	-	-	-	4	-	-
water	-	-	-	-	-	-
Total Prime Movers:	15,572	16,270	16,507	3,571	4,121	3,847
Motors driven by electricity -						
Purchased	2,333	10,317	9,715	931	2,188	2,366
Own Generation	(a) 6,948	(a) 8,415	(a) 8,393	962	1,841	1,415
Total Electricity:	9,281	18,732	18,115	1,893	4,029	3,781
Total Power Used:	17,905	26,217	26,225	5,464	8,150	7,628

(a) These motors are driven by electricity generated by Prime Movers shown above are excluded from statistics of total power used, to avoid duplication.

6. POWER, FUEL AND LIGHT, ETC. USED: Details of the quantities and values of the various items of power, fuel and light, etc., used in Gas Works, are shown in the following table for the years 1938-39, 1948-49 and 1949-50.

TABLE XII : POWER, FUEL AND LIGHT, ETC. USED : AUSTRALIA

Particulars	Unit of Qty.	Quantity			Value (£)		
		1938-39	1948-49	1949-50	1938-39	1948-49	1949-50
Power, Fuel & Light-							
Coal - Black	ton	1,590	2,661	1,043	1,503	3,490	3,173
Coke	"	136,797	277,317	206,021	145,352	484,920	552,800
Wood	"	4,209	1,590	2,919	2,379	2,111	4,464
Fuel Oil	gal.	3,115,191	1,232	1,426	45,455	99	123
Tar (Fuel)	"	(a)	7,869,897	8,033,106	(b)	99,235	124,070
Electricity	-	(c)	(c)	(c)	17,587	47,222	69,668
Gas	-	(c)	(c)	(c)	-	-	-
Other (Charcoal, etc.)	-	(c)	(c)	(c)	3,575	2,469	2,494
Water & Lubricating Oil Used	-	(c)	(c)	(c)	34,935	83,740	87,343
Total:		(c)	(c)	(c)	250,786	723,286	844,735

(a) Not available. (b) Included with other (Charcoal, etc.). (c) Value only available.

7. VALUE OF LAND AND BUILDINGS, PLANT AND MACHINERY: Particulars of the book values of premises occupied and plant used in Gas Works at the 30th June for the years 1938-39, 1945-46 and 1947-48 to 1949-50 are shown in the next table. Details of the values of additions and replacements made and depreciation allowed during the same period are also shown. It should be noted that the amounts shown are those recorded by factories which were operating during each year and that changes in their numbers, as well as other factors, affect comparison from year to year.

TABLE XIII : VALUE OF LAND AND BUILDINGS, PLANT AND MACHINERY

AUSTRALIA (E).

Year	Book values as at 30th June (a)		Additions and Replace- ments made during Year		Depreciation Allowed During Year	
	Land and Buildings	Plant and Machinery	Land and Buildings	Plant and Machinery	Land and Buildings	Plant and Machinery
1938-39	1,462,772	7,490,428	30,102	394,321	31,380	228,511
1945-46	1,571,427	9,475,328	39,207	781,384	22,214	239,595
1947-48	1,814,838	10,004,594	83,810	721,244	13,509	266,048
1948-49	1,813,223	10,907,386	121,773	973,464	15,073	250,754
1949-50	1,939,645	11,655,761	155,970	975,656	14,987	254,398

(a) Includes estimated value of rented premises and machinery.

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