



Commonwealth Bureau of Census and Statistics,

CANBERRA.

OFFICIAL STATISTICS, COMMONWEALTH OF AUSTRALIA.

MANUFACTURING INDUSTRIES, 1938-39.

NO. 33 GAS WORKS

PREPARED UNDER INSTRUCTIONS FROM
THE HONORABLE THE TREASURER.

BY

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By Authority
L. F. JOHNSTON, COMMONWEALTH GOVERNMENT PRINTER, CANBERRA
(Printed in Australia.)

P R E F A C E

1. Industries included in the Series: This summary concludes the series for the year 1938-39. A complete list of the industries for which summaries have been issued is given on the back of the cover page.
2. Classification of Factories: The classification of factories in Australia is based on the nature of the product. Where two or more distinct types of industrial activity are carried on in one establishment, factory proprietors are requested to furnish separate returns for each activity. In some instances, however, this is not practicable, and in such cases 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, Wood products and some other articles. In consequence, and to an extent which will vary with individual industries, the figures may include the subsidiary but extraneous activities of those establishments included in the industry, while they will exclude relevant activities which are subsidiary to the predominant activity of establishments classified to some other industry. This qualification is important in the case of Gas Works, the industry with which this summary is concerned. The details given do not include Gas produced in Coke Works or Blast Furnaces; nor do they include coke, tar and other items which are also the product of Coke Works.
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 an industrial 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, and retailing storemen. The figures do include, however, proprietors who work in their own business and "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.

ROLAND WILSON

Commonwealth Statistician

Canberra, A.C.T.
21st June, 1940.

GAS WORKS

The following table furnishes a summary of the principal statistics of the factories engaged in the manufacture of Gas.

1. GAS WORKS : AUSTRALIA, 1924-25 TO 1938-39.

Year	Number of Factories	Persons Employed (a)	Salaries and Wages Paid (b)	Power, Fuel and Light Used	Value of Other Materials Used	Value of Production	Value of Output
	No.	No.	£'000	£'000	£'000	£'000	£'000
1924-25	122	(c) 5,469	1,379	257	2,108	3,467	5,832
1928-29	114	(d) 4,473	1,132	555	3,362	3,667	7,584
1929-30	115	4,097	1,052	519	3,775	3,845	8,139
1930-31	113	3,360	907	408	2,006	3,145	5,559
1931-32	114	2,889	713	382	1,790	2,793	4,965
1932-33	111	2,777	652	412	1,699	2,672	4,783
1933-34	111	2,888	654	422	1,653	2,603	4,678
1934-35	111	2,941	673	420	1,526	2,688	4,644
1935-36	112	3,073	724	412	1,615	2,849	4,876
1936-37	108	2,846	685	356	1,706	2,508	4,570
1937-38	108	2,886	745	357	1,702	2,768	4,827
1938-39	107	2,931	785	370	1,872	2,694	4,936

(a) Including Working Proprietors. (b) Exclusive of amounts drawn by Working Proprietors. (c) Average over period worked by factory. (d) For 1928-29 and succeeding years, the employment figures have been averaged over the whole year.

In the following table particulars of the Industry are given for each State during the year 1938-39.

2. GAS WORKS : STATES, 1938-39.

Particulars	New South Wales	Victoria	Queensland	South Australia	Western Australia	Tasmania	AUSTRALIA
	No.	No.	No.	No.	No.	No.	No.
Number of Factories	43	39	16	3	4	2	107
Number Employed (a) -							
Males	1,076	824	228	571	120	55	2,876
Females	14	4	-	37	-	-	55
Total	1,092	828	228	608	120	55	2,931
Value of -	£.	£.	£.	£.	£.	£.	£.
Salaries and Wages Paid (b) ..	286,911	223,512	63,365	165,236	(c)	(c)	785,176
Fuel used ..	207,891	(d) 141,601	5,714	1,244	(c)	(c)	370,422
Materials used ..	762,764	723,365	150,944	127,528	(c)	(c)	1,872,448
Production ..	1,357,195	603,659	181,597	406,814	(c)	(c)	2,693,982
Output	2,327,850	(d) 1,466,625	338,255	535,586	(c)	(c)	4,936,852
Land and Buildings	741,580	401,847	189,979	25,024	(c)	(c)	1,462,772
Plant and Machinery	3,219,493	2,167,864	560,011	1,145,049	(c)	(c)	7,496,428
	H.P.	H.P.	H.P.	H.P.	H.P.	H.P.	H.P.
H.P. of Engines Ordinarily in use ..	10,078	4,272	749	2,196	(c)	(c)	17,905

(a) Includes Working Proprietors. (b) Exclusive of amounts drawn by Working Proprietors. (c) Not available for publication. These figures are included in the total for Australia. (d) Includes Coke produced and used in own works.

Particulars of the average salary and wage paid together with the average values per employee of output and production are shown in the following table for each of the years indicated:-

/3. AVERAGE

**3. AVERAGE SALARIES AND WAGES PAID, OUTPUT, ETC. PER EMPLOYEE :
AUSTRALIA, 1924-25 TO 1938-39.**

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
	£.	£.	£.	%
1924-25	253	1,066	634	39.77
1928-29	253	1,696	820	30.89
1929-30	257	1,986	939	27.35
1930-31	270	1,655	936	28.84
1931-32	247	1,717	967	25.53
1932-33	234	1,722	962	24.40
1933-34	227	1,620	902	25.12
1934-35	229	1,579	914	25.04
1935-36	236	1,587	927	24.40
1936-37	241	1,606	861	27.31
1937-38	258	1,673	959	26.91
1938-39	268	1,684	919	29.15

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

In the following table details are given of the quantities and values of materials used and articles produced in Gas Works in Australia for the years 1937-38 and 1938-39.

4. MATERIALS USED AND ARTICLES PRODUCED : AUSTRALIA, 1937-38 AND 1938-39.

Particulars	Unit of Quantity	1937-38		1938-39	
		Quantity	Value	Quantity	Value
Materials used:-					
Coal, carbonized	ton	1,156,373	1,406,535	1,176,629	1,516,915
Purifying material	"	5,029	14,121	7,815	23,265
Oil for gas-making	gal.	3,438,366	63,995	4,624,666	89,318
Other	-	(b)	52,437	(b)	47,538
Articles produced:-					
Gas sold	1000 cu.ft.	18,275,622	4,427,381	18,651,385	4,878,825
Gas used in own works	"	209,706	(a)	203,753	(a)
Gas lost	"	2,461,055	(a)	2,617,165	(a)
Total Gas sold, used or lost	"	20,946,383	(a)	21,472,303	(a)
Coke used in own works	ton	227,554	(a)	312,941	(a)
Coke for sale	"	536,661	659,118	516,406	610,362
Coke Breeze	"	27,513	8,779	(c)	(c)
Tar used in own works	gal.	3,178,126	(a)	6,107,991	(a)
Tar, crude for sale	"	19,321,289	303,432	19,475,657	269,116
Tar, Refined for sale	"	611,352	14,332	764,137	18,709
Tar Oils, crude	"	1,327,427	33,044	1,251,796	33,371
Ammoniacal Liquor	"	4,365,707	9,476	5,235,259	12,612
Sulphate of Ammonia	ton	3,409	34,423	3,053	32,938

(a) Quantity only collected. (b) Value only available. (c) Not available for publication.

For comparative purposes the next table gives particulars of the quantities of coal used and the production of gas and coke in Australia over a series of years.

5. GAS WORKS : AUSTRALIA, 1908 TO 1938-39.

Year	Coal Carbonized	Gas Made		Coke Produced	
	tons	'000 cu.feet	Value (a)	tons	Value
1908	583,831	5,304,566	1,363,232	306,442	182,253
1913	805,167	10,611,068	1,968,703	456,073	310,449
1920-21	1,090,566	16,757,216	3,693,129	673,727	557,561
1928-29	1,338,812	20,618,915	4,901,339	850,047	1,026,977
1929-30	1,300,942	23,822,569	5,158,116	921,039	1,058,015
1930-31	1,099,082	18,692,599	4,336,230	703,868	858,887
1931-32	1,011,297	17,761,521	4,370,103	621,799	772,537
1932-33	954,392	17,324,707	4,301,190	618,523	759,926
1933-34	922,146	17,812,258	4,339,152	612,031	777,008
1934-35	1,062,146	20,837,670	4,844,377	628,710	743,556
1935-36	1,062,146	20,837,670	4,844,377	628,710	743,556
1936-37	1,062,146	20,837,670	4,844,377	628,710	743,556
1937-38	1,062,146	20,837,670	4,844,377	628,710	743,556
1938-39	1,062,146	20,837,670	4,844,377	628,710	743,556

(a) Excludes distribution costs. (b) Includes distribution costs. (c) Value of Coke sold.

The numbers employed shown in Table 2 have been adjusted to represent the average employment over the whole year in those cases where short time was worked. In the following table, the factories have been classified according to the average number employed during the actual period worked.

6. FACTORIES : CLASSIFIED ACCORDING TO HANDS EMPLOYED :
AUSTRALIA, 1924-25 TO 1937-38.

Number of Persons Employed in each Factory	1924-25		1928-29		1930-31		1936-37		1937-38(a)	
	Number of Factories	Number Employed	Number of Factories	Number Employed	Number of Factories	Number Employed	Number of Factories	Number Employed	Number of Factories	Number Employed
Under 4	34	75	36	86	44	101	43	101	43	101
4	19	76	13	52	11	44	12	48	10	40
5 to 10	26	182	21	147	20	140	20	146	20	139
11 to 20	18	259	19	292	15	204	14	197	16	223
21 to 50	16	506	12	353	14	447	11	316	10	294
51 to 100	3	185	5	311	3	180	3	243	4	277
Over 100	6	4,186	8	3,232	6	2,244	5	1,795	5	1,842
TOTAL:	122	5,459	114	4,473	113	3,360	108	2,846	108	2,916
Average number employed per factory	45		39		30		26		27	

(a) 1938-39 not yet available.

Further details of employment in Gas Works are furnished in the following three tables. In the first the employees have been classified according to the nature of their employment.

7. PERSONS EMPLOYED CLASSIFIED ACCORDING TO GRADE OF OCCUPATION : AUSTRALIA, 1924-25 TO 1938-39.

Grade of Occupation		1924-25	1928-29	1930-31	1937-38	1938-39
		No.	No.	No.	No.	No.
Working Proprietors	..	9	5	-	-	-
Managers and Overseers	..	210	277	244	250	263
Clerical Staff	..	891	440	327	322	312
Engine Drivers and Firemen	..	439	417	349	317	290
Workers, Skilled and Unskilled	..	3,786	3,202	2,272	1,854	1,706
Other (Carters and Messengers)	..	134	132	156	143	350
TOTAL:		5,469	4,473	3,360	2,886	2,931

The next table shows the actual number of persons employed (excluding Working Proprietors) on the pay day nearest to the 15th of each month for the years 1937-38 and 1938-39.

8. NUMBER OF PERSONS EMPLOYED IN AUSTRALIA ON PAY-DAY NEAREST TO THE 15TH OF EACH MONTH (WORKING PROPRIETORS EXCLUDED) 1937-38 AND 1938-39.

Month		1937-38			1938-39		
		Males	Females	Total	Males	Females	Total
		No.	No.	No.	No.	No.	No.
July	..	2,940	60	3,000	2,958	55	3,013
August	..	2,913	60	2,973	2,981	57	3,038
September	..	2,890	61	2,951	2,926	56	2,982
October	..	2,836	61	2,897	2,891	56	2,947
November	..	2,836	61	2,897	2,864	56	2,920
December	..	2,780	62	2,842	2,905	56	2,961
January	..	2,752	61	2,813	2,869	55	2,924
February	..	2,774	61	2,835	2,917	56	2,973
March	..	2,753	62	2,815	2,858	57	2,915
April	..	2,835	64	2,899	2,866	56	2,922
May	..	2,934	62	2,996	2,912	56	2,968
June	..	2,955	63	3,018	2,911	56	2,967
AVERAGE:		2,850	61	2,911	2,905	56	2,961

The distribution according to age of those employed on or about the 15th June, 1939 is shown in the next table.

9. CLASSIFICATION OF EMPLOYEES ACCORDING TO AGE, JUNE, 1939.

Sex	Under 16 years	16 and under 21 years	Adults	Total
	No.	No.	No.	No.
Males	8	118	2,785	2,911
Per Cent. of Total	0%	4%	96%	100%
Females	-	12	44	56
Per Cent. of Total	0%	2%	79%	100%
Persons	8	130	2,829	2,967
Per Cent. of Total	0%	4%	96%	100%

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 engines ordinarily in use together with those in reserve or idle for the years 1937-38 and 1938-39.

10. POWER EMPLOYED TO DRIVE MACHINERY : AUSTRALIA.

Class of Engine	Rated H.P. of Engines			
	Ordinarily in Use		In Reserve or Idle	
	1937-38	1938-39	1937-38	1938-39
Steam - Reciprocating ..	4,070	5,365	2,873	1,147
Turbine	5,115	6,390	2,619	1,394
Internal Combustion -				
Gas	3,803	3,787	1,046	1,023
Petrol or Other Light Oils	30	30	2	3
Heavy Oils	-	-	4	4
Water	-	-	-	-
Total Prime Movers	13,018	15,572	6,544	3,571
Motors driven by electricity -				
Purchased	2,553	2,333	1,016	931
Own Generation	5,639	6,948	1,224	962
Total Electricity	8,192	9,281	2,240	1,893
TOTAL POWER USED (a):	15,571	17,905	8,784	5,464

(a) Without duplication.

Details of the quantities and values of the various items of power, fuel and light used in Gas Works, are shown in the following table:-

11. POWER, FUEL AND LIGHT, ETC. USED : AUSTRALIA, 1938-39.

Particulars	Unit of Quantity	Quantity	Value £.
Coal - Black	Ton	1,590	1,503
Brown	"	-	-
Coke	"	222,967	264,988
Wood	"	4,289	2,379
Fuel Oil	Gallon	3,115,191	45,455
Electricity	-	(a)	17,537
Gas	-	(a)	1,451
Other (Charcoal, etc.) ..	-	(a)	2,124
Water used	-	(a)	27,181
Lubricating Oil	-	(a)	7,754
TOTAL:		Value only	370,422

(a) Value only available.

Particulars of the book values of premises occupied and plant used in Gas Works at the 30th June for each of the five years ended 1939 are shown in the next table. In addition, details of the values of additions and replacements made and depreciation allowed during the year 1938-39 are also shown. It should be noted that the amounts expended in Additions and Replacements refer to expenditure incurred by existing factories and do not include the cost of erecting and equipping new factories; these latter items, however, are included with the book values shown at 30th June. The amounts shown for Depreciation are those returned by factories. Changes in the number of factories operating and other factors affect comparison from year to year.

12. VALUE OF LAND AND BUILDINGS, PLANT AND MACHINERY : AUSTRALIA.

Particulars	Land and Buildings	Plant and Machinery
	£.	£.
Additions and Replacements made during year (a)	30,182	394,321
Depreciation allowed during year (a) ..	31,380	228,511
Book Value (a) as at 30th June -		
1939	1,462,772	7,496,428
1938	1,508,141	7,359,263
1937	1,527,911	7,246,208
1936	1,650,801	6,906,522
1935	1,600,280	6,849,421

(a) See note above.

The following table shows the weekly minimum rates of wage and hours of labour in operation at 30th June, 1939, as prescribed by Commonwealth and State Industrial Tribunals. Where no rate is shown it indicates that the particular occupation is not specifically provided for.

13. GAS WORKS.

Minimum Weekly Rates of Wage and Hours of Labour as at 30th June, 1939.

Occupation	New South Wales		Victoria		Queensland		South Australia		Western Australia		Tasmania	
	Hrs	Week-ly Wage	Hrs	Week-ly Wage	Hrs	Week-ly Wage	Hrs	Week-ly Wage	Hrs	Week-ly Wage	Hrs	Week-ly Wage
		S(a)		C(b)		S(d)		C(e)		S(a)		C(f)
Coal crusher attendant ..	44	88/3 and 91/6	44	87/-	..	..	44	84/-	44	85/2	44	83/-
Purifier man ..	44	88/3	44	87/-	44	92/10	44	84/-	44	88/2	44	83/-
Pipe jumper ..	44	103/-	44	95/-	44	106/-	44	92/-	..	..	44	91/-
Conveyor Attendant ..	44	91/6 and 96/6	44	87/- and 90/-	..	..	44	84/- and 87/-	44	91/2	44	83/- and 86/-
Oilier and greaser (retort) ..	44	92/6	44	88/-	44	90/-	44	85/-	..	..	44	84/-
Fireman (retort) ..	44	103/-	44	99/-	..	..	44	96/-	..	..	44	95/-
Stoker ..	44	103/-	44	95/-	44	106/-	44	92/-	..	..	44	91/- to 98/-
Retort operator	44	103/-	44	99/-	44	106/-	44	96/-	44	108/1	44	95/-
Tar main attendant	44	99/9	44	96/-	..	..	44	93/-	44	97/2	44	92/-
Oxide breaker, man	44	88/3	44	87/-	..	..	44	84/-	44	88/2	44	83/-
Valve room attendant ..	44	96/6	44	88/-	..	..	44	85/-	..	..	44	84/-
Tar tank cleaner	44	91/6	44	87/-	..	..	44	84/-	44	88/2	44	83/-
Boilerman ..	44	96/6 and 103/-	..	..	44	108/-	..	..	..	..	..	..
Flue cleaners ..	44	99/9	44	102/-	44	106/-	44	99/-	..	..	44	98/-
Scurfer and patcher	44	99/9	44	102/-	44	106/-	44	99/-	..	..	44	98/-
Sulphate plant man	44	103/-	44	89/-	..	..	44	86/-	..	..	44	85/-
Tar separator man	44	91/6	44	88/-	..	..	44	85/-	44	91/2	44	81/-
Caustic soda tank man ..	44	88/3	44	87/-	..	..	44	84/-	..	..	44	83/-
Engine drivers ..	44	99/9	44	99/9 and 105/9	44	92/- to 108/-	44	96/9 and 102/9	44	101/- and 107/-	44	95/9 and 101/9

C. denotes Commonwealth Court Award.

S. denotes State Award.

(a) Agreement. (b) Melbourne, Geelong and Warrnambool rates, other districts 3/- per week less. There is also a State Award on same lines. (d) No. 1 district (Brisbane). (e) Adelaide rates - Mt. Gambier 3/- per week less. (f) Hobart rates - Launceston 1/- per week less.