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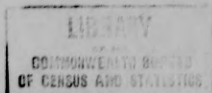
CANBERRA.

OFFICIAL STATISTICS, COMMONWEALTH OF AUSTRALIA.

MANUFACTURING INDUSTRIES,

23 OCT 1950

1948-49.



No. 32. ELECTRIC LIGHT AND POWER WORKS.

PREPARED UNDER INSTRUCTIONS FROM

THE RIGHT HONORABLE THE TREASURER,

BY

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COMMONWEALTH BUREAU OF CENSUS AND STATISTICS
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PREFACE.

1. GENERAL: The industries included in the series for 1948-49 are listed on the back of the cover, and are the same as those covered by the 1947-48 series. The 1948-49 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, factory proprietors are requested to furnish separate returns for each activity in order to allow classification on this basis. 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, Wool products and some other articles.

Each of the Summaries in the series "Manufacturing Industries", relates to the operations of factories classified to the selected industry or industries specified. However, owing to the diverse nature of the activities carried on in some industrial establishments, 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. The extent to which this qualification is important in the case of each Summary is indicated in the table(s) relating to the output of the individual products of the industry or industries involved.

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 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, 1948-49.

NOTE: All Summaries in this Series have now been issued with the exception of No's 18. Clothing; 26. Breweries; 31. Brooms and Brushes; 33. Gas Works; 35. Paper Mills; 36. Wineries and Distilleries; 37. Aerated Waters and Cordials and 39. Wire and Wire Working (incl. Nails).

ELECTRIC LIGHT AND POWER WORKS.

1. SUMMARY OF STATISTICS: The following table furnishes a summary of the principal statistics of the establishments generating electricity in Australia for each of the years 1938-39 and 1945-46 to 1948-49.

TABLE I : ELECTRIC LIGHT AND POWER WORKS : AUSTRALIA

Year	Number of Factories	Persons Employed (a)	Salaries and Wages Paid (b)	Power, Fuel and Light etc. used	Value of Materials etc. Used (c)	Value of Production (d)	Value of Output
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	No.	No.	£'000	£'000	£'000	£'000	£'000
1938-39	395	6,498	1,877	3,239	519	8,725	12,483
1945-46	372	7,071	2,568	6,399	1,029	12,718	20,146
1946-47	370	7,718	2,966	7,454	1,263	10,753	19,470
1947-48	363	8,426	3,874	8,456	1,331	11,655	21,849
1948-49	363	8,937	4,819	12,860	1,845	11,946	26,651

(a) Includes Working Proprietors. (b) Excludes amounts drawn by Working Proprietors. (c) Includes value of containers, packing, etc., tools replaced and repairs to plant. (d) Value of Production equals column (7) less total of columns (4) and (5).

In the following table particulars of the Industry are given for each State during the year 1948-49.

TABLE II : ELECTRIC LIGHT AND POWER WORKS : STATES, 1948-49.

Particulars	N.S.W.	VIC.	Q'LD.	S.A.	W.A.	TAS.	AUSTRALIA
No. of Factories	91	68	47	32	116	3	363
No. Employed (a)							
Males	3,827	2,045	883	1,089	906	121	8,871
Females	26	14	2	7	9	8	66
Total	3,853	2,059	885	1,096	915	129	8,937
Value of -	£.	£.	£.	£.	£.	£.	£.
Salaries and Wages Paid (b)	2,096,073	1,221,460	433,417	574,995	429,249	64,277	4,819,471
Power, Fuel & Light, etc. used	5,782,246	2,609,257	1,665,749	1,412,436	1,339,673	196	12,859,577
Materials etc. used	1,003,670	250,320	322,869	121,894	117,914	28,564	1,845,231
Production (c)	6,582,097	2,652,896	904,615	378,077	430,830	497,270	11,245,785
Output	13,368,013	5,512,473	2,893,233	2,412,427	1,938,417	526,030	26,650,593
Land and Buildings	5,166,305	2,653,822	1,011,591	1,795,329	316,645	696,027	11,639,719
Plant and Machinery	12,906,602	12,725,787	3,555,697	4,272,831	1,386,960	4,234,623	39,082,500

(a) Includes Working Proprietors. (b) Excludes amounts drawn by Working Proprietors. (c) See note (d) to Table I.

ELECTRIC LIGHT AND POWER WORKS (CONTD.)

2. AVERAGE SALARIES, OUTPUT AND PRODUCTION: 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 1938-39 and 1945-46 to 1948-49.

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	293	1,921	1,341	21.54
1945-46	370	2,849	1,799	20.35
1946-47	388	2,523	1,393	27.58
1947-48	465	2,593	1,313	35.01
1948-49	545	2,982	1,337	40.34

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

3. ELECTRICITY GENERATED: In the next two tables details are given of the amounts of electricity generated in Australia during 1948-49, and each of the years 1938-39 and 1945-46 to 1948-49.

TABLE IV : ELECTRICITY GENERATED : AUSTRALIA, 1948-49.
('000 KWH.)

Particulars	Government	Local Authorities	Companies	Total
Electric Light and Power Works -				
(i) Sold or used outside Generating Station	4,612,804	1,667,895	1,234,123	7,714,822
(ii) Used in Generating Station	247,971	112,610	63,005	423,586
(iii) Lost	551,103	176,776	83,624	811,503
<u>Total Sold, Used or Lost</u>	<u>5,411,878</u>	<u>2,157,281</u>	<u>1,380,752</u>	<u>8,949,911</u>
Loss Electricity purchased	177,351	162,122	43,308	382,781
<u>Total Electricity Generated in Electric Light and Power Works</u>	<u>5,234,527</u>	<u>1,995,159</u>	<u>1,337,444</u>	<u>8,567,130</u>
Plus Electricity Generated in Other Works	-	-	-	485,813
<u>Total Generation:</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>9,052,943</u>

TABLE V : ELECTRICITY GENERATED : AUSTRALIA
(Million K.W.H.)

Year	N.S.W.	VIC.	Q'LD	S.A.	W.A.	TAS.	AUSTRALIA
1938-39	1,348	1,223	387	256	307	567	4,688
1945-46	2,832	1,904	613	402	339	820	6,910
1946-47	3,229	2,002	656	459	378	803	7,527
1947-48	3,546	2,260	759	520	402	873	8,360
1948-49	3,717	2,504	890	567	399	976	9,053

ELECTRIC LIGHT AND POWER WORKS (CONTD.)

4. **EMPLOYMENT:** The number of employees in Tables I, II and VII has 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 for each of the years 1938-39 and 1945-46 to 1948-49 according to the average number employed during the actual period worked.

TABLE VI : FACTORIES CLASSIFIED ACCORDING TO HANDS EMPLOYED : AUSTRALIA.

No. of Persons Employed in each Factory	1938-39		1945-46		1946-47		1947-48		1948-49	
	No. of Factories	No. Employed	No. of Factories	No. Employed	No. of Factories	No. Employed	No. of Factories	No. Employed	No. of Factories	No. Employed
Under 4	203	383	184	335	178	314	170	306	170	298
4	44	176	36	144	25	100	27	108	32	128
5 to 10	82	513	87	547	100	619	97	603	90	586
11 to 20	28	415	20	285	25	381	24	346	27	339
21 to 50	20	675	19	529	17	503	19	574	20	586
51 to 100	9	671	13	924	10	722	10	711	10	749
101 to 200	9	3,685	5	770	6	872	5	696	5	635
201 to 300			4	1,085	4	1,119	3	829	3	785
301 & over			4	2,456	5	3,117	8	4,217	9	4,853
Total :	395	6,518	372	7,075	370	7,747	363	8,450	363	8,959
Average no. Employed per Factory	17		19		21		23		25	

Further details of employment in the industrial group - Electric Light and Power Works - are furnished in the two tables following. In Table VII the numbers of males employed are shown for each of the years 1938-39 and 1945-46 to 1948-49 according to the nature of their employment but because of the change in classification, which operated from 1945-46, comparison between 1938-39 and the later years shown is not wholly effective.

TABLE VII : MALES EMPLOYED, CLASSIFIED ACCORDING TO OCCUPATIONAL STATUS : AUSTRALIA

Occupational Status	1938-39	1945-46	1946-47	1947-48	1948-49
<u>Males</u>					
Working Proprietors	84	80	76	87	90
Managerial and Clerical Staff, including Salaried Managers and Working Directors	6,144	465	477	501	519
Chemists, Draftsmen and other laboratory and Research Staff		78	86	101	100
Foremen and Overseers		334	387	479	514
Workers in Factory (Skilled & Unskilled)	107	5,997	6,581	7,145	7,617
Carters (excl. Delivery only) Messengers and Persons working regularly at Home		48	50	49	31
<u>Total Males :</u>	6,335	7,002	7,657	8,362	8,871
<u>Total Females (a) :</u>	163	69	61	64	66
<u>Total Persons :</u>	6,498	7,071	7,718	8,426	8,937

(a) Mainly clerical staff.

ELECTRIC LIGHT AND POWER WORKS (CONTD.)

The number of persons employed on or about the 15th June, for each of the years 1939 and 1946 to 1949, are distributed according to age and sex in Table VIII.

TABLE VIII : 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
<u>MALES</u>									
1939	15	(a)	(a)	(a)	(a)	(a)	351	5,890	6,256
1946	21	57	70	94	31	66	368	6,935	7,324
1947	18	63	90	77	105	86	423	7,371	7,812
1948	21	60	75	96	71	131	433	8,125	8,579
1949	25	49	80	86	104	103	422	8,685	9,132
<u>FEMALES</u>									
1939	1	(a)	(a)	(a)	(a)	(a)	58	91	150
1946	-	3	4	5	4	5	21	41	62
1947	1	5	7	2	2	5	21	43	65
1948	1	1	6	6	3	3	19	41	61
1949	-	-	2	1	6	4	13	51	64

(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 for the years 1947-48 and 1948-49. Particulars refer to the rated horse-power of Prime Movers installed, and the kilowatt capacity and the equivalent in terms of horse-power, in various classes, of the Generators installed.

The terms Total Installed, Effective Capacity and Maximum Load, so far as they relate to Generators, are defined as follows:-

Total Installed is kilowatt capacity of all serviceable generators installed, including standby.

Effective Capacity is the kilowatt capacity of all generators which can be linked up at any one time.

Maximum Load is the peak load on the system at any time during the year. Time may vary from instantaneous to 30 minutes duration.

The definitions apply to all generating stations including hydro plants, except that the effective capacity of the latter is taken to be that when the quantity of water available equals that available under average conditions.

TABLE IX : CAPACITY OF ENGINES AND GENERATORS : AUSTRALIA

Particulars	Steam Engines		Internal Combustion Engines			Water	Total
	Reciprocating	Turbine	Gas	Petrol or other Light Oils	Heavy Oils		
1947-48							
	Rated H.P.	Rated H.P.	Rated H.P.	Rated H.P.	Rated H.P.	Rated H.P.	Rated H.P.
Engines Installed -							
Total Installed	21,173	2,458,760	21,040	3,985	167,413	375,596	3,047,967
Generators Installed -	K.W.	K.W.	K.W.	K.W.	K.W.	K.W.	K.W.
Kilowatt Capacity -							
Total Installed	13,936	1,822,523	14,525	3,921	109,472	270,927	2,235,304
Effective Capacity	13,561	1,610,163	11,299	3,791	99,591	244,480	1,982,885
Maximum Load	12,493	1,519,895	9,690	2,394	76,730	243,096	1,864,298
Horse Power Equivalent-	H.P.	H.P.	H.P.	H.P.	H.P.	H.P.	H.P.
Total Installed	18,683	2,443,183	19,472	5,256	146,753	363,191	2,996,538
Effective Capacity	18,179	2,158,506	15,147	5,082	133,507	327,737	2,658,158
Maximum Load	16,748	2,037,495	12,990	3,210	102,860	325,883	2,499,186

1948-49

	Rated H.P.	Rated H.P.	Rated H.P.	Rated H.P.	Rated H.P.	Rated H.P.	Rated H.P.
Engines Installed -							
Total Installed	21,501	2,506,100	21,057	6,619	204,300	366,739	3,126,316
Generators Installed -	K.W.	K.W.	K.W.	K.W.	K.W.	K.W.	K.W.
Kilowatt Capacity -							
Total Installed	14,196	1,855,573	14,122	4,506	124,848	272,763	2,286,008
Effective Capacity	13,739	1,612,613	11,380	3,351	114,011	269,448	2,024,542
Maximum Load	13,170	1,574,260	10,032	2,124	86,616	269,446	1,955,648
Horse Power Equivalent -	H.P.	H.P.	H.P.	H.P.	H.P.	H.P.	H.P.
Total Installed	19,030	2,487,358	18,930	6,040	167,356	365,634	3,064,348
Effective Capacity	18,417	2,161,675	15,255	4,492	152,829	361,190	2,713,858
Maximum Load	17,654	2,110,264	13,448	2,847	116,107	361,187	2,621,507

6. POWER, FUEL AND LIGHT ETC. USED: Details of the quantities and values of the various items of power, fuel and light used in electric Light and Power works during each of the years 1938-39, 1947-48 and 1948-49 are shown in the following table.

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

Particulars	Unit of Qty.	Quantity			Value		
		1938-39	1947-48	1948-49	1938-39	1947-48	1948-49
Power, Fuel & Light -					£.	£.	£.
Coal - Black	ton	1,927,240	3,440,621	3,885,456	2,035,953	5,834,015	8,053,463
Brown	"	2,178,610	3,757,143	4,136,130	311,856	531,978	686,989
Brown Coal Briquettes	"	(a)	365,518	429,693	(a)	680,545	887,745
Coke	"	18,536	42,621	39,972	10,726	38,269	53,897
Wood	"	206,516	222,578	222,969	168,591	335,517	399,155
Fuel Oil	gal.	17,329,303	35,168,627	49,752,664	497,258	1,645,521	2,373,849
Tar (Fuel)	"	(b)	-	23,382	(c)	-	518
Gas	-	(d)	(d)	(d)	75,682	79,650	68,782
Other (Charcoal, etc.)	-	(d)	(d)	(d)	9,144	52,032	50,646
Water & Lubricating Oil Used	-	(d)	(d)	(d)	129,318	252,408	284,533
Total :		(d)	(d)	(d)	3,239,228	9,449,935	12,859,577

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

7. VALUE OF LAND AND BUILDINGS, PLANT AND MACHINERY: Particulars of the book values of premises occupied and plant used in Electric Light and Power Works at the 30th June for each of the years 1938-39 and 1945-46 to 1948-49 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 number, as well as other factors, affect comparison from year to year.

TABLE XI : VALUE OF LAND AND BUILDINGS, PLANT AND MACHINERY : AUSTRALIA
(£)

Year	Book value 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	8,388,057	27,751,494	685,815	4,002,306	202,274	925,801
1945-46	9,234,673	32,130,749	331,279	3,288,214	169,929	1,580,037
1946-47	9,402,410	32,697,083	357,614	1,853,564	194,508	1,261,214
1947-48	10,497,087	34,818,613	585,001	2,888,362	150,644	1,315,012
1948-49	11,639,719	39,082,500	1,612,460	5,787,538	176,114	1,323,030

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

8. MINIMUM WEEKLY RATES OF WAGE. The table showing the minimum weekly rates of wage previously included has been omitted on this occasion.

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CANBERRA A.C.T. 29TH SEPTEMBER, 1950.