

GAS UNDERTAKINGS

Note.—For information regarding the scope of the Census, instructions for making returns, and definitions of the terms used in this report, reference should be made to the Introductory Notes on pages v to xviii.

Introductory

The following report relates to Gas Undertakings operated by Local Authorities or Companies for public supply. Gas produced by owners of coke ovens was included as part of the output of those firms and particulars of such output will be found in the report on the Coke and By-Products Trade (see page 265); similarly, the general returns made by Railway Companies (see page 524) dealt with gas undertakings maintained for railway purposes.

The following table shows the main results of the Censuses of 1930 and 1924 in respect of undertakings in Great Britain that employed an average of more than ten persons, separate particulars being shown for Local Authorities and for Companies. The period for which returns were made by Local Authorities in England and Wales was usually the financial year ended 31st March, 1931 or 1925, and in Scotland, the year ended 15th May following.

Particulars	Unit	1930			1924		
		Com- panies	Local Authori- ties	Total	Com- panies	Local Authori- ties	Total
Value of products and of work done (Gross output)	£'000	42,808	20,523	63,331	42,052	20,794	62,846
Cost of materials used	"	19,329	9,109	28,438	23,147	10,893	34,040
Net output	"	23,479	11,414	34,893	18,905	9,901	28,806
Average number of persons employed	No.	78,702	33,465	112,167	73,669	32,613	106,282
Net output per person employed...	£	298	341	311	257	304	271
Power available:—							
Prime movers ...	H.P.	150,144	62,017	212,161	112,938	53,924	166,862
Electric motors driven by purchased electricity	"	8,040	19,698	27,738	5,131	12,082	17,213
Number of returns	No.	439	246	685	480	247	727
Number of establishments	"	659	370	1,029	*	*	*

* Not available.

The gross output figures shown above are made up of the total net selling value of gas and residual products produced for sale, together with the total amounts charged for work done for consumers; the value of constructional work done by employees of Local Authorities and Companies in extending and maintaining the properties of the gas undertaking is excluded (see page 470), and the figures also exclude any work done for consumers for which no charge was made. The figures of cost of materials used, however, include the materials used in all work carried out by employees of the undertakings, including work involving important extensions of the properties and plant, the cost of which would not necessarily form a charge on the revenue of the censal year; and, as the employees engaged in all such work are included in the recorded aggregates, the numbers of persons employed may also be somewhat overstated in relation to the gross output of the year in which the work was done. The effect is to reduce the total net output and the net output per person employed in the Gas Industry in relation to other trades, while the results shown for the industry itself in these two respects for the different years may be affected by the fact that work of a capital nature may have been of substantially greater volume in one year than another.

Deficiencies in 1930 aggregates.—The aggregate number of persons employed in 1930 by gas undertakings that stated that they employed not more than ten persons on the average was 2,589, the corresponding figure for 1924 being 2,855. The value of the gross output of the small undertakings in 1924 was £1,846,000, and particulars of the items included in this figure are given below:—

	£'000
Coal gas and water gas	1,493
Coke and breeze	253
Tar	70
Other products	9
Fitting and repairing meters, stoves and other appliances for consumers	21
TOTAL	1,846

In addition, 72 undertakings to which schedules were sent at the 1930 Census furnished no information. These undertakings were either small or had ceased to operate before the end of the censal year.

Size of undertakings.—In the following table the main particulars recorded at the Census of 1930 are grouped according to the average numbers of persons shown in the returns:—

Size of undertaking (average numbers employed)	Number* of returns	Gross output	Net output	Average number of persons employed	Net output per person employed
	No.	£'000	£'000	No.	£
11-24 ...	228	2,305	1,197	3,833	312
25-49 ...	178	3,820	2,015	6,384	316
50-99 ...	123	4,930	2,631	8,400	313
100-199 ...	64	5,200	2,652	8,915	297
200-299 ...	37	5,199	2,692	9,164	294
300-399 ...	11	1,991	951	3,791	251
400-499 ...	12	2,838	1,343	5,392	249
500-749 ...	8	2,417	1,290	4,811	268
750-999 ...	7	3,456	1,900	5,956	319
1,000-1,499 ...	6	3,759	2,013	6,929	291
1,500 and over ...	11	27,416	16,209	48,592	334
TOTAL ...	685	63,331	34,893	112,167	311

This table shows the importance in the gas industry of the small number of large scale organisations, nearly one-half of the total number of employees and about 52 per cent. of the total net output being covered by the 17 returns for undertakings employing 1,000 or more workpeople.

Regional distribution.—In the following table the results recorded at the Censuses of 1930 and 1924 are grouped according to the areas* into which Great Britain has been sub-divided:—

Area	Number of returns	Gross output	Net output	Average number of persons employed	Net output per person employed	
	No.	£'000	£'000	No.	£	
1 ...	1930	29	22,056	12,842	40,421	318
	1924	58	21,826	10,173	38,454	265
2 ...	1930	90	8,292	4,701	14,143	332
	1924	92	8,283	3,889	13,684	284
3 ...	1930	64	3,898	2,174	6,757	322
	1924	69	4,409	2,190	6,864	319
4 ...	1930	25	2,097	1,172	4,271	274
	1924	34	2,534	1,196	4,753	252
5 ...	1930	48	5,286	2,557	8,614	297
	1924	50	5,239	2,248	7,893	285
6 ...	1930	297	15,273	7,640	28,068	272
	1924	283	13,493	5,601	23,896	234
7 ...	1930	34	1,271	728	2,524	288
	1924	38	1,515	696	2,643	263
8 ...	1930	19	283	152	556	273
	1924	23	347	159	634	251

* For particulars see page xviii.

Area	Number of returns	Gross output	Net output	Average number of persons employed	Net output per person employed	
		£'000	£'000	No.	£	
9	1930	22	3,129	1,960	4,430	442
	1924	25	2,894	1,523	4,251	358
10	1930	57	1,746	967	2,383	406
	1924	55	2,306	1,131	3,210	352
TOTAL	1930	685	63,331	34,893	112,167	311
	1924	727	62,846	28,806	106,282	271

The largest gas undertakings were situated in the Greater London area in each year, the average number of employees recorded in each return for this area being 1,394 in 1930 as compared with 109 in the remainder of Great Britain. In both years net output per person employed was substantially greater in the two Scottish areas than elsewhere.

Northern Ireland.—The following table summarises the particulars recorded at the Census of Production taken by the Government of Northern Ireland for 1930, together with those furnished at the 1924 Census. The 1930 figures relate to undertakings that employed an average of more than *five* persons, while those for 1924 relate to all undertakings.

Particulars	Unit	1930	1924
Value of products and of work done (Gross output)	£'000	906	891
Cost of materials used	"	496	500
Net output	"	410	391
Average number of persons employed	No.	1,671	1,524
Net output per person employed	£	245	257
Power available :—			
Prime movers	H.P.	2,409	1,392

The principal items included in the gross output values shown in the above table were as follows :—

Kind of product and work done	Unit	1930	1924
Coal gas, water gas and other producer gas	Mill. cub. ft.	5,135	4,583*
	£'000	683	635
Coke and breeze	Th. tons	71	69
	£'000	108	135
Tar, crude and refined	"	74	68
By-products	"	33	51
Fitting up and repairing meters, stoves, etc., for consumers	"	8†	2†
TOTAL	£'000	906	891

* Including quantity used in gas works.

† Amount received for work done.

The quantities of the different kinds of gas produced by undertakings in Northern Ireland in 1930 and 1924 (including gas used in the works in which it was made) were as follows :—

Kind of gas	Unit	1930	1924
Coal gas :—			
Returned in cubic feet and therms	Mill. cub. ft.	4,210	2,716
	Th. therms	19,166	12,648
Returned in cubic feet only	Mill. cub. ft.	—	792
Water gas and other producer gas :—			
Returned in cubic feet and therms	Mill. cub. ft.	1,155	1,032
	Th. therms	5,442	4,261
Returned in cubic feet only	Mill. cub. ft.	—	43
TOTAL :—			
Returned in cubic feet and therms	Mill. cub. ft.	5,365	3,748
	Th. therms	24,608	16,909
Returned in cubic feet only	Mill. cub. ft.	—	835

The following table shows the value (at cost) of constructional and repair work carried out by employees of gas undertakings in Northern Ireland on buildings, plant and other properties :—

Constructional and repair work	1930	1924
	£'000	£'000
On buildings :—		
New construction	1	78
Repairs and renewals	16	
On machinery and plant	33	96
On street mains and services	95	
TOTAL	145	174

Production

Total quantity of gas produced.—The following statement shows the total quantity of gas produced by authorised undertakings in Great Britain in 1930 and 1924. Gas used in the works in which it was made is included for both years.

Gas made	1930	1924
	Mill. cub. ft.	Mill. cub. ft.
By Companies	192,786	176,955
By Local Authorities	104,156	96,496
TOTAL	296,942*	273,451

* In the Annual Return relating to all Authorised Gas Undertakings in Great Britain, the total quantity of coal, water and other gas made in 1930 was recorded as 313,046 million cubic feet. This total includes purchases of coke oven gas amounting to 13,201 million cubic feet, which are excluded from the Census of Production aggregate.

Undertakings operated by Companies produced 64.9 per cent. of the total output of gas in 1930 and 64.7 per cent. in 1924.

The following table shows the quantities of the chief kinds of gas made in the two years :—

Kind of gas	1930		1924	
	Companies	Local Authorities	Companies	Local Authorities
	Million cub. ft.	Million cub. ft.	Million cub. ft.	Million cub. ft.
Coal gas	153,532	97,369	140,465	90,020
Water gas and other producer gas	34,148	5,249	36,446	6,476
Other gases produced for distribution	4,309	—		
Coal gas and water gas, not separately distinguished ...	797	1,538	44	—
TOTAL	192,786	104,156	176,955	96,496

Calorific value of gas made.—The table below shows the number of therms corresponding to the quantities in cubic feet together with the average thermal equivalent for each class of gas. This information, which was supplied voluntarily, was practically complete for 1930 but was defective for 1924 to the extent of about 10 per cent. of the total output of Companies and about 48 per cent. of that of Local Authorities. The number of therms was based on the declared calorific value.

Kind of gas	Million cubic feet	Thousand therms	No. of cubic feet to the therm
1930			
Companies :—			
Coal gas	150,908	772,459	195
Water gas and other producer gas ...	33,819	155,209	222
Other gases	86	213	
Coal gas and water gas, not separately distinguished	657	3,368	195
Local Authorities :—			
Coal gas	97,092	463,256	210
Water gas and other producer gas ...	5,147	24,990	206
Coal gas and water gas, not separately distinguished	1,538	7,079	217
1924			
Companies :—			
Coal gas	129,421	668,325	194
Other gases	30,496	129,766	235
Coal gas and water gas, not separately distinguished	44	188	234
Local Authorities :—			
Coal gas	47,162	221,807	213
Other gases	3,276	12,798	256

Including an estimate for the small proportion of the output for which this information was not supplied, the calorific value of all gas made in 1930 was 1,451·5 million therms, of which coal gas represented about 1,260·5 million therms. The output of Company undertakings represented about 954·4 million therms, or 65·8 per cent. of the total output of gas; the corresponding proportion in 1924 was estimated at 66·3 per cent.

Gas sold.—The following table shows the value and, where available, the quantity of the different kinds of gas sold in 1930 and 1924. The values shown are exclusive of receipts for repairs and for the lighting of public lamps. Meter rents, where charged separately, are also excluded.

Kind of gas	1930						1924		
	Companies		Local Authorities		Total		Com-panies	Local Authorities	Total
	Quan-tity	Value	Quan-tity	Value	Quan-tity	Value	Value	Value	Value
	Mill. cub. ft.	£'000	Mill. cub. ft.	£'000	Mill. cub. ft.	£'000	£'000	£'000	£'000
Coal gas, water gas and other producer gas ...	186,943	32,920	100,281	16,290	287,224	49,210	30,163	14,836	44,999
Other gases produced for distribution ...	3,642	77	1,085	124	4,727	201			
TOTAL ...	190,585	32,997	101,366	16,414	291,951	49,411	30,163	14,836	44,999

In 1930 owners of coke ovens produced for sale 35,598 million cubic feet of gas, valued at £721,000, and a further output valued at £52,000 for which the quantity was not stated. The output of coke oven gas in 1924 was valued at £415,000, particulars of quantity (11,765 million cubic feet) being given in respect of £283,000. Coke oven gas was returned as "Sold to other undertakings of the firm or to outside consumers"; of the total output in 1930 (approximately 38,000 million cubic feet) the amount purchased by authorised gas undertakings was returned as 13,119 million cubic feet, or rather more than one-third. Gas produced at undertakings maintained by railway companies for purposes connected with the railway services amounted in 1930 to 781 million cubic feet, valued at £234,000.

Gas purchased.—The following table shows the quantities of gas purchased by supply undertakings in 1930 :—

Gas purchased	Quantity in million cubic feet	
	From authorised undertakings	From other sources
By producing Companies	793	7,297
By producing Local Authorities... ..	10	4,355
By distributors only (Companies and Local Authorities)	252	1,467
TOTAL	1,055	13,119

The total of 1,055 million cubic feet represents the maximum amount of duplication in the Census results arising from inter-sales of gas between authorised undertakings; the value of those purchases may be estimated as approximately £180,000. In so far as those purchases may have been made from the small undertakings excluded from the scope of the Census there is no duplication. Corresponding information was not obtained at the 1924 Census, but according to the Annual Return relating to Gas Undertakings the amount was about 623 million cubic feet, the value of which was estimated at about £100,000.

Coke and breeze.—Particulars of the output of coke and breeze at gas undertakings in 1930 and 1924 are shown below :—

Coke and breeze produced for sale by	1930		1924	
	Quantity	Value	Quantity	Value
Companies	Th. tons 5,097	£'000 5,771	Th. tons 4,804	£'000 7,312
Local Authorities	2,832	2,638	2,947	3,699
Total	7,929	8,409	7,751	11,011

These figures are exclusive of coke and breeze used in the works in which they were made. From the particulars supplied in the Annual Return relating to Authorised Gas Undertakings it appears that about 34 per cent. of the total quantity of coke and breeze produced was consumed in the gas works in both years.

Prices.—The average selling values of gas and of gas coke and breeze in 1930 and 1924, as calculated from the Census returns, are shown in the following table.

The quantity of gas sold was not ascertained at the 1924 Census and it was, therefore, necessary to estimate a quantity in order to arrive at a price factor for that year. It will be noted that in 1930 the quantity of gas sold was within 2 per cent. of the total quantity made. It is improbable that the proportion sold in 1924 differed widely from that sold in 1930 and in calculating the price per thousand cubic feet of gas sold in 1924 it has been assumed that the quantity of gas sold in that year formed the same proportion of the total quantity made by Companies and Local Authorities as in 1930.

Kind of product	Average value				1930 as a percentage of 1924	
	1930		1924		Companies	Local Authorities
	Companies	Local Authorities	Companies	Local Authorities		
	d. per 1,000 cub. ft.	d. per 1,000 cub. ft.	d. per 1,000 cub. ft.	d. per 1,000 cub. ft.	Per cent.	Per cent.
Coal gas, water gas and other producer gas	42·3	39·0	41·7	37·7	100·0	103·2
Other gases produced for distribution ...	5·0	27·5				
Gas coke and breeze ...	s. per ton	s. per ton	s. per ton	s. per ton	74·4	74·2
	22·64	18·63	30·44	25·11		

Volume of production.—The value of gas sold by authorised undertakings in 1924 was £44,999,000 and that of gas coke and breeze produced for sale was £11,011,000, a total of £56,010,000. Adding in the estimated value of the work done in fitting and repairing meters, etc. for consumers, the total for 1924 would be equivalent to a sum of about £54,850,000 in terms of average values in 1930, the corresponding total for 1930 being £59,594,000. It may, therefore, be estimated that, excluding tar and other residual products of gas works, the volume of production by authorised undertakings in 1930 was greater by about 9 per cent. than in 1924. Between these two years the output of coke oven gas increased from £415,000 in 1924 to £773,000 in 1930, an increase of 121 per cent. if the 1924 figure is expressed at 1930 prices (£350,000).

Other residual products.—The following table shows the values and, where available, the quantities of tar, sulphate of ammonia, etc., made for sale in 1930 and 1924 :—

Kind of product	1930		1924	
	Quantity	Value	Quantity	Value
	Th. tons	£'000	Th. tons	£'000
Tar :—				
Crude :—				
Returned in tons	1,377	1,159		
Returned in gallons	8,313	79	639	1,938
Refined :—				
Returned in tons	160	482	22,304	458
Returned in gallons	8,854	137		
Sulphate of ammonia	105·1	585	128	1,327
Ammoniacal liquors	499	12	1,193	132
Tar and ammoniacal liquors, not separately distinguished	—	—	—	39
Tar distillation products :—				
Benzol :—				
Crude	361	14	1,903	115
Refined	4,357	320		
Naphtha	569	28	570	25
Pitch	91	196	121	324
Tar oil, creosote oil and other heavy coal tar oils	16,182	284	21,312	617
Naphthalene	91	26	—	365
Other tar distillation products	—	108	—	283
Waste and other products	—	307	—	—
TOTAL	—	3,737	—	5,623

The above particulars are confined to production at gas undertakings. For particulars of the total production at all manufacturing establishments reference should be made, for crude and refined tar, to the report on the Coke and By-Products Trade (page 267), and for sulphate of ammonia and other tar distillation products to the reports on the Fertiliser, etc., Trade and the Chemicals, Dye-stuffs and Drugs Trades, which form part of a separate volume (Part III).

Work of construction and repair by employees of gas undertakings.—The following table shows the value of the chief kinds of constructional and maintenance work done by employees of gas undertakings in 1930 and 1924. The figures shown for the first item in the table represent the amounts received for work done for consumers, but the remaining classes of work were valued at cost, i.e., at a sum calculated to cover the cost of materials used in the work, the wages of the employees concerned and the proportion of the general establishment charges attributable to the work. All work of the kinds specified is included, whether charged to revenue or capital account. As explained on page 462, these sums should

not (except for the first item) be regarded as constituting an addition to the gross output of gas undertakings.

Kind of work done	1930	1924
	Amount received	Amount received
	£'000	£'000
Fitting and repairing meters, stoves and other appliances for consumers (exclusive of the cost of meters, stoves, etc.)... ..	1,774	1,213
	Cost	Cost
	£'000	£'000
Work of construction, alteration, repair and renewal :—		
On depots, workshops, offices and other buildings connected with gas undertakings :—		
New construction (including enlargement of existing buildings)	176	6,034
Repairs and renewals	812	
New constructional and repair work, not separately distinguished	209	
On machinery and plant	3,880	
On depots, workshops, etc., and on machinery and plant, not separately distinguished	832	
On street gas mains and services and fitting and repairing gas meters, stoves and other appliances (excluding amounts shown above)	8,090	8,263
TOTAL—Work of construction, alteration, etc. ...	13,999	14,297

Employment

The following table shows the average numbers of persons employed in 1930 and 1924 :—

Persons employed	Males		Females		Total	
	Under 18	All ages	Under 18	All ages	Under 18	All ages
1930						
Operatives (average for the year)	3,360	91,642	45	1,068	3,405	92,710
Administrative, technical and clerical staff (as at 18th October)	718	17,195	144	2,262	862	19,457
TOTAL	4,078	108,837	189	3,330	4,267	112,167
1924						
Operatives (average for the year)	2,985	88,560	26	842	3,011	89,402
Administrative, technical and clerical staff (as at 18th October)	779	15,136	144	1,744	923	16,880
TOTAL	3,764	103,696	170	2,586	3,934	106,282

Power

The following table shows the capacity of prime movers, electric generators and electric motors ordinarily in use and in reserve or idle in 1930 and 1924 :—

Power equipment	1930			1924		
	Ordinarily in use	In reserve or idle	Total	Ordinarily in use	In reserve or idle	Total
PRIME MOVERS	H.P.	H.P.	H.P.	H.P.	H.P.	H.P.
Reciprocating steam engines	73,589	34,230	107,819	67,997	22,443	90,440
Steam turbines	29,545	17,881	47,426	13,728	7,445	21,173
Internal combustion engines :—						
Gas	37,101	18,265	55,366	40,884	12,756	53,640
Petrol, kerosene, or other light oils	740	147	887	1,509	97	1,606
Heavy oils	540	5	545	3	—	3
Water engines	78	18	96	—	—	—
Other prime movers	—	22	22	—	—	—
TOTAL	141,593	70,568	212,161	124,121	42,741	166,862
ELECTRIC GENERATORS	Kw.	Kw.	Kw.	Kw.	Kw.	Kw.
Driven by						
Reciprocating steam engines	10,101	5,440	15,541	4,876	2,381	7,257
Steam turbines	7,462	4,400	11,862	1,331	505	1,836
Internal combustion engines :—						
Gas	10,821	7,825	18,646	11,313	3,962	15,275
Petrol, kerosene, or other light oils	2	11	13	52	33	85
Heavy oils	375	—	375	—	—	—
TOTAL	28,761	17,676	46,437	17,572	6,881	24,453
ELECTRIC MOTORS	H.P.	H.P.	H.P.	H.P.	H.P.	H.P.
Driven by						
Electricity generated in own works	51,389	12,186	63,575	32,139	5,771	37,910
Purchased electricity	22,256	5,482	27,738	14,139	3,074	17,213
TOTAL	73,645	17,668	91,313	46,278	8,845	55,123

Consumption of fuel

The following table shows the quantities of coal, coke and electricity recorded as used in 1930 :—

Kind of fuel used	For power (driving engines)	For other purposes
	Tons	Tons
Coal... ..	83,399	17,767,897
Coke	1,009,197	3,483,030
Electricity used for all purposes :—		B.T.U. (Kw.-hrs.) '000
Generated in own works		48,183
Purchased		16,354
TOTAL—Electricity		64,537

The following statement gives detailed particulars of the uses to which the coal and coke recorded as used " for other purposes " was put :—

	Coal Tons	Coke Tons
Carbonised in retorts	17,673,642	25,479
Used under retorts in the production of coal gas	6,655	2,482,324
Used in generators in the production of water gas	16,237	760,393
Used for other purposes	71,363	214,834
TOTAL	17,767,897	3,483,030

TABLES

COMPANIES

I. Summary of results

Particulars	Unit	England and Wales	Scotland	Great Britain
Value of products and work done (Gross output)	£'000	42,231	577	42,808
Cost of materials used	"	19,080	249	19,329
Net output	"	23,151	328	23,479
Average number of persons employed...	No.	77,980	722	78,702
Net output per person employed ...	£	297	454	298
Power available :—				
Prime movers	H.P.	148,601	1,543	150,144
Electric motors driven by purchased electricity	"	7,797	243	8,040

II. Production

A.—TOTAL QUANTITY OF GAS MADE IN THE YEAR 1930 (INCLUDING THAT USED IN GAS WORKS) AS RETURNED BY GAS COMPANIES

Kind of gas	Unit	England and Wales	Scotland	Great Britain
Coal gas :—				
Returned in cubic feet and therms	Mill. cub. ft.	149,625	1,283	150,908
	Th. therms	766,512	5,947	772,459
Returned in cubic feet only ...	Mill. cub. ft.	1,778	846	2,624
Water gas and other producer gas :—				
Returned in cubic feet and therms	Mill. cub. ft.	33,635	184	33,819
	Th. therms	151,583	626	152,209
Returned in cubic feet only ...	Mill. cub. ft.	172	157	329
Other gases produced for distribution :—				
Returned in cubic feet and therms	Mill. cub. ft.	66	20	86
	Th. therms	141	72	213
Returned in cubic feet only ...	Mill. cub. ft.	4,223	—	4,223
Coal gas and water gas, not separately distinguished :—				
Returned in cubic feet and therms	Mill. cub. ft.	657	—	657
	Th. therms	3,368	—	3,368
Returned in cubic feet only ...	Mill. cub. ft.	37	103	140
TOTAL				
Returned in cubic feet and therms	Mill. cub. ft.	183,983	1,487	185,470
	Th. therms	921,604	6,645	928,249
Returned in cubic feet only	Mill. cub. ft.	6,210	1,106	7,316

B.—OUTPUT SOLD OR ADDED TO STOCK AND WORK DONE

Kind of products sold and work done	Unit	England and Wales	Scotland	Great Britain
Coal gas, water gas and other producer gas	Mill. cub. ft.	183,951	2,992	186,943
	£'000	32,430	490	32,920
Other gases	Mill. cub. ft.	3,642	—	3,642
	£'000	77	—	77
Coke and breeze	Th. tons	5,046	51	5,097
	£'000	5,716	55	5,771
Tar :—				
Crude :—				
Returned in tons	Th. tons	1,027	10	1,037
	£'000	608	16	624
Returned in gallons	Th. galls.	7,002	258	7,260
	£'000	69	1	70
Refined :—				
Returned in tons	Th. tons	125	1	126
	£'000	387	2	389
Returned in gallons	Th. galls.	8,693	24	8,717
	£'000	133	1	134
Sulphate of ammonia	Th. tons	70.4	0.7	71.1
	£'000	420	5	425
Ammoniacal liquors	Th. butts	116	4	120
	£'000	3	1	4
Tar distillation products :—				
Benzol, crude and refined	Th. galls.	4,290	—	4,290
	£'000	312	—	312
Naphtha	Th. galls.	320	—	320
	£'000	18	—	18
Naphthalene	Th. cwts.	85	—	85
	£'000	25	—	25
Pitch	Th. tons	73	—	73
	£'000	155	—	155
Tar oil, creosote oil and other heavy coal tar oils	Th. galls.	11,442	20	11,462
	£'000	215	*	215
Other tar distillation products ...	£'000	71	—	71
Waste and other products	£'000	175	—	175
Fitting and repairing meters, stoves and other appliances for consumers	£'000	1,417†	6†	1,423†
TOTAL VALUE OF PRODUCTS AND OF WORK DONE (GROSS OUTPUT) ...	£'000	42,231	577	42,808

* Less than £500.

† Amount received for work done.

C.—VALUE OF CONSTRUCTION AND REPAIR WORK CARRIED OUT BY EMPLOYEES OF GAS COMPANIES

Construction and repair work	England and Wales	Scotland	Great Britain
	£'000	£'000	£'000
Work of construction, alteration, repair and renewal :—			
On depots, workshops, offices and other buildings connected with gas undertakings :—			
New construction (including enlargement of existing buildings)	120	2	122
Repairs and renewals	612	7	619
New constructional and repair work, not separately distinguished	146	—	146
On machinery and plant	2,730	12	2,742
On depots, workshops, etc., and on machinery and plant, not separately distinguished ...	626	1	627
On street gas mains and services and fitting and repairing gas meters, stoves and other appliances (excluding amount shown in preceding table)	5,522	28	5,550
TOTAL—Work of construction, alteration, etc. ...	9,756	50	9,806

III. Employment

A.—NUMBERS EMPLOYED IN WEEK ENDED 18TH OCTOBER, 1930

Persons employed	Males		Females		Males and females	
	Under 18	All ages	Under 18	All ages	Under 18	All ages
<i>England and Wales :—</i>						
Operatives	2,752	63,358	37	768	2,789	64,126
Administrative, etc.*	486	12,421	113	1,744	599	14,165
TOTAL	3,238	75,779	150	2,512	3,388	78,291
<i>Scotland :—</i>						
Operatives	13	560	2	7	15	567
Administrative, etc.*	11	124	6	48	17	172
TOTAL	24	684	8	55	32	739
<i>Great Britain :—</i>						
Operatives	2,765	63,918	39	775	2,804	64,693
Administrative, etc.*	497	12,545	119	1,792	616	14,337
TOTAL	3,262	76,463	158	2,567	3,420	79,030

* Administrative, technical and clerical staff.

B.—OPERATIVES EMPLOYED IN ONE WEEK IN EACH MONTH OF 1930

Week ended	Males and females			Week ended	Males and females		
	England and Wales	Scotland	Great Britain		England and Wales	Scotland	Great Britain
Jan. 18 ...	64,988	572	65,560	July 19 ...	62,648	527	63,175
Feb. 15 ...	64,415	555	64,970	Aug. 16 ...	62,544	538	63,082
Mar. 15 ...	64,094	543	64,637	Sept. 13 ...	63,270	550	63,820
April 12 ...	63,664	551	64,215	Oct. 18 ...	64,126	567	64,693
May 17 ...	63,021	521	63,542	Nov. 15 ...	64,758	566	65,324
June 21 ...	62,789	523	63,312	Dec. 13 ...	65,461	591	66,052
AVERAGE FOR THE TWELVE MONTHS					63,815	550	64,365

IV. Power

PARTICULARS OF PRIME MOVERS, ELECTRIC GENERATORS AND ELECTRIC MOTORS

Power equipment	England and Wales		Scotland		Great Britain	
	Ordinarily in use	In reserve or idle	Ordinarily in use	In reserve or idle	Ordinarily in use	In reserve or idle
PRIME MOVERS	H.P.	H.P.	H.P.	H.P.	H.P.	H.P.
Reciprocating steam engines	47,567	23,306	749	210	48,316	23,516
Steam turbines	22,481	12,697	103	56	22,584	12,753
Internal combustion engines :—						
Gas	27,540	14,091	373	52	27,913	14,143
Petrol, kerosene, or other light oils ...	585	95	—	—	585	95
Heavy oils	180	5	—	—	180	5
Water engines	21	11	—	—	21	11
Other	—	22	—	—	—	22
TOTAL	98,374	50,227	1,225	318	99,599	50,545
TOTAL OF PRIME MOVERS INSTALLED	148,601		1,543		150,144	

Power equipment	England and Wales		Scotland		Great Britain	
	Ordinarily in use	In reserve or idle	Ordinarily in use	In reserve or idle	Ordinarily in use	In reserve or idle
	Kw.	Kw.	Kw.	Kw.	Kw.	Kw.
ELECTRIC GENERATORS						
Driven by—						
Reciprocating steam engines	6,893	4,908	—	—	6,893	4,908
Steam turbines	6,997	3,870	—	—	6,997	3,870
Internal combustion engines :—						
Gas	8,231	6,509	142	2	8,373	6,511
Petrol, kerosene, or other light oils	—	11	—	—	—	11
Heavy oils	100	—	—	—	100	—
TOTAL	22,221	15,298	142	2	22,363	15,300
TOTAL OF ELECTRIC GENERATORS INSTALLED	37,519		144		37,663	
	H.P.	H.P.	H.P.	H.P.	H.P.	H.P.
ELECTRIC MOTORS						
Driven by						
Electricity generated in own works	37,805	9,939	203	12	38,008	9,951
Purchased electricity	6,339	1,458	194	49	6,533	1,507
TOTAL	44,144	11,397	397	61	44,541	11,458
TOTAL OF ELECTRIC MOTORS INSTALLED	55,541		458		55,999	

V. Consumption of fuel

Kind of fuel used	England and Wales	Scotland	Great Britain
	Tons	Tons	Tons
Coal used for power	41,059	4,710	45,769
Coke used for power	612,165	8,162	620,327
	B.T.U. (Kw.-hrs.) '000	B.T.U. (Kw.-hrs.) '000	B.T.U. (Kw.-hrs.) '000
Electricity used for all purposes :—			
Generated in own works	35,042	146	35,188
Purchased	5,629	15	5,644
TOTAL—Electricity	40,671	161	40,832

TABLES

LOCAL AUTHORITIES

I. Summary of results

Particulars	Unit	England and Wales	Scotland	Great Britain
Value of products and work done (Gross output)	£'000	16,225	4,298	20,523
Cost of materials used	„	7,410	1,699	9,109
Net output	„	8,815	2,599	11,414
Average number of persons employed... ..	No.	27,374	6,091	33,465
Net output per person employed	£	322	427	341
Power available :—				
Prime movers	H.P.	49,551	12,466	62,017
Electric motors driven by purchased electricity	„	12,411	7,287	19,698

II. Production

A.—TOTAL QUANTITY OF GAS MADE IN THE YEAR 1930 (INCLUDING THAT USED IN GAS WORKS) AS RETURNED BY LOCAL AUTHORITIES

Kind of gas	Unit	England and Wales	Scotland	Great Britain
Coal gas :—				
Returned in cubic feet and therms	Mill. cub. ft. Th. therms	75,193	21,899	97,092
Returned in cubic feet only	Mill. cub. ft.	360,968	102,288	463,256
Water gas and other producer gas :—				
Returned in cubic feet and therms	Mill. cub. ft. Th. therms	132	145	277
Returned in cubic feet only	Mill. cub. ft.	4,006	1,141	5,147
Coal gas and water gas, not separately distinguished :—				
Returned in cubic feet and therms	Mill. cub. ft. Th. therms	20,087	4,903	24,990
Returned in cubic feet only	Mill. cub. ft.	—	102	102
Returned in cubic feet and therms	Mill. cub. ft. Th. therms	1,538	—	1,538
Returned in cubic feet only	Mill. cub. ft.	7,079	—	7,079
TOTAL				
Returned in cubic feet and therms	Mill. cub. ft. Th. therms	80,737	23,040	103,777
Returned in cubic feet only	Mill. cub. ft.	388,134	107,191	495,325
Returned in cubic feet only	Mill. cub. ft.	132	247	379

B.—OUTPUT SOLD OR ADDED TO STOCK AND WORK DONE

Kind of products sold and work done	Unit	England and Wales	Scotland	Great Britain
Coal gas, water gas and other producer gas	<i>Mill. cub. ft.</i>	78,995	21,286	100,281
	£'000	12,825	3,465	16,290
Other gases	<i>Mill. cub. ft.</i>	1,085	—	1,085
	£'000	124	—	124
Coke and breeze	<i>Th. tons</i>	2,229	603	2,832
	£'000	2,177	461	2,638
Tar :—				
Crude :—				
Returned in tons	<i>Th. tons</i>	276	64	340
	£'000	434	101	535
Returned in gallons	<i>Th. galls.</i>	841	212	1,053
	£'000	7	2	9
Refined :—				
Returned in tons	<i>Th. tons</i>	17	17	34
	£'000	51	42	93
Returned in gallons	<i>Th. galls.</i>	—	137	137
	£'000	—	3	3
Sulphate of ammonia	<i>Th. tons</i>	21·5	12·5	34·0
	£'000	103	57	160
Ammoniacal liquors	<i>Th. butts</i>	*	*	379
	£'000	*	*	8
Tar distillation products :—				
Benzol, crude and refined	<i>Th. galls.</i>	*	*	428
	£'000	*	*	22
Naphtha	<i>Th. galls.</i>	*	*	249
	£'000	*	*	10
Naphthalene	<i>Th. cuts.</i>	*	*	6
	£'000	*	*	1
Pitch	<i>Th. tons</i>	*	*	18
	£'000	*	*	41
Tar oil, creosote oil and other heavy coal tar oils	<i>Th. galls.</i>	4,173	547	4,720
	£'000	61	8	69
Other tar distillation products	£'000	9	28	37
Waste and other products	£'000	51	81	132
Fitting and repairing meters, stoves and other appliances for consumers	£'000	320†	31†	351†
TOTAL VALUE OF PRODUCTS AND WORK DONE (GROSS OUTPUT) ...	£'000	16,225	4,298	20,523

* Owing to the possible disclosure of information relating to individual undertakings figures can be given only for Great Britain as a whole.

† Amount received for work done.

C.—VALUE OF CONSTRUCTION AND REPAIR WORK CARRIED OUT BY EMPLOYEES OF LOCAL AUTHORITIES

Construction and repair work	England and Wales	Scotland	Great Britain
	£'000	£'000	£'000
Work of construction, alteration, repair and renewal :—			
On depots, workshops, offices and other buildings connected with gas undertakings :—			
New construction (including enlargement of existing buildings)	48	6	54
Repairs and renewals	158	35	193
New constructional and repair work, not separately distinguished	63	—	63
On machinery and plant	918	220	1,138
On depots, workshops, etc., and on machinery and plant, not separately distinguished ...	172	33	205
On street gas mains and services, and fitting and repairing gas meters, stoves and other appliances (excluding amount shown in preceding table)	2,108	432	2,540
TOTAL—Work of construction, alteration, etc.	3,467	726	4,193

III. Employment

A.—NUMBERS EMPLOYED IN WEEK ENDED 18TH OCTOBER, 1930

Persons employed	Males		Females		Males and females	
	Under 18	All ages	Under 18	All ages	Under 18	All ages
<i>England and Wales :—</i>						
Operatives	556	22,938	5	249	561	23,187
Administrative, etc.*	174	3,854	17	295	191	4,149
TOTAL	730	26,792	22	544	752	27,336
<i>Scotland :—</i>						
Operatives	51	5,022	1	47	52	5,069
Administrative, etc.*	47	796	8	175	55	971
TOTAL	98	5,818	9	222	107	6,040
<i>Great Britain :—</i>						
Operatives	607	27,960	6	296	613	28,256
Administrative, etc.*	221	4,650	25	470	246	5,120
TOTAL	828	32,610	31	766	859	33,376

* Administrative, technical and clerical staff.

B.—OPERATIVES EMPLOYED IN ONE WEEK IN EACH MONTH OF 1930

Week ended	Males and females			Week ended	Males and females		
	England and Wales	Scotland	Great Britain		England and Wales	Scotland	Great Britain
Jan. 18 ...	23,224	5,197	28,421	July 19 ...	23,031	5,185	28,216
Feb. 15 ...	23,361	5,189	28,550	Aug. 16...	23,032	5,065	28,097
Mar. 15 ...	23,282	5,078	28,360	Sept. 13...	23,388	5,026	28,414
April 12 ...	23,261	5,012	28,273	Oct. 18 ...	23,187	5,069	28,256
May 17 ...	23,072	5,034	28,106	Nov. 15...	23,314	5,148	28,462
June 21 ...	23,063	5,193	28,256	Dec. 13...	23,485	5,239	28,724
AVERAGE FOR THE TWELVE MONTHS	23,225	5,120	28,345

IV. Power

PARTICULARS OF PRIME MOVERS, ELECTRIC GENERATORS AND ELECTRIC MOTORS

Power equipment	England and Wales		Scotland		Great Britain	
	Ordinarily in use	In reserve or idle	Ordinarily in use	In reserve or idle	Ordinarily in use	In reserve or idle
PRIME MOVERS						
Reciprocating steam engines	H.P.	H.P.	H.P.	H.P.	H.P.	H.P.
20,241	7,743	5,032	2,971	25,273	10,714	
Steam turbines ...	5,698	4,337	1,263	791	6,961	5,128
Internal combustion engines :—						
Gas	7,888	3,024	1,300	1,098	9,188	4,122
Petrol, kerosene, or other light oils ...	144	52	11	—	155	52
Heavy oils	360	—	—	—	360	—
Water engines ...	57	7	—	—	57	7
TOTAL	34,388	15,163	7,606	4,860	41,994	20,023
TOTAL OF PRIME MOVERS INSTALLED						
	49,551		12,466		62,017	
ELECTRIC GENERATORS						
Driven by	Kw.	Kw.	Kw.	Kw.	Kw.	Kw.
Reciprocating steam engines	3,045	532	163	—	3,208	532
Steam turbines ...	465	530	—	—	465	530
Internal combustion engines :—						
Gas	2,035	1,116	413	198	2,448	1,314
Petrol, kerosene, or other light oils	2	—	—	—	2	—
Heavy oils	275	—	—	—	275	—
TOTAL	5,822	2,178	576	198	6,398	2,376
TOTAL OF ELECTRIC GENERATORS INSTALLED						
	8,000		774		8,774	

Power equipment	England and Wales		Scotland		Great Britain	
	Ordinarily in use	In reserve or idle	Ordinarily in use	In reserve or idle	Ordinarily in use	In reserve or idle
ELECTRIC MOTORS	H.P.	H.P.	H.P.	H.P.	H.P.	H.P.
Driven by						
Electricity generated in own works ...	12,438	1,992	943	243	13,381	2,235
Purchased electricity	10,139	2,272	5,584	1,703	15,723	3,975
TOTAL	22,577	4,264	6,527	1,946	29,104	6,210
TOTAL OF ELECTRIC MOTORS INSTALLED						
	26,841		8,473		35,314	

V. Consumption of fuel

Kind of fuel used	England and Wales	Scotland	Great Britain
	Tons	Tons	Tons
Coal used for power	23,604	14,026	37,630
Coke used for power	280,333	108,537	388,870
Electricity used for all purposes :—			
	B.T.U. (Kw.-hrs.) '000	B.T.U. (Kw.-hrs.) '000	B.T.U. (Kw.-hrs.) '000
Generated in own works	12,185	810	12,995
Purchased	6,522	4,188	10,710
TOTAL—Electricity	18,707	4,998	23,705