

ELECTRICITY UNDERTAKINGS.

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Introductory.*

The tables on pages 343 to 352, relating to the year 1924, are based on returns received from Companies and Local Authorities in Great Britain and Northern Ireland in respect of authorised electricity undertakings operated for general supply (i.e. those working under statutory powers) and from certain railway companies†. The number of such returns was 663.

The particulars ascertained as the result of the voluntary enquiry relating to electricity generated by industrial firms are shown in the tables relating to the generation and consumption of electricity in the various General Reports.

Generating stations maintained by Government Departments are dealt with separately in the report on pages 403 to 439.

* See also the Notes on pages vii to xv.

† Returns were also received from a certain number of undertakings that did not operate under statutory powers; particulars regarding such undertakings have been included with those relating to authorised undertakings throughout this report.

Summary of results.—The following table shows the main results of the Censuses of 1924, 1912 and 1907, comparisons between the figures for the three years being subject to the qualifications mentioned in the next paragraph. It should be noted that the accounting period normally used by Local Authorities is the financial year ending on the 31st March in England and Wales and in Northern Ireland and, for Authorities in Scotland, on the 15th May; the returns received from Electricity Undertakings operated by Local Authorities, therefore, usually covered periods of twelve months to those dates in the years 1925, 1913 and 1908.

Particulars.	Unit.	1924.			1912.	1907.
		Companies.*	Local Authorities.	Total.	Total.	Total.
Value of electricity supplied and work done. (Gross output)	£'000	17,210	26,300	43,510	11,848	9,052
Cost of materials used	"	6,869	10,521	17,390	4,353	3,325
Net output	"	10,341	15,779	26,120	7,495	5,727
Average number of persons employed	No.	17,991	32,902	50,893	27,531	22,618
Net output per person employed	£	575	479	513	272	253
Mechanical power available :—						
Prime movers	H.P.	1,838,148	3,771,463	5,609,611	2,110,995	1,560,074
Electric motors driven by purchased electricity	"	2,697	6,758	9,455	55,721	(not recorded)

* Including certain railway companies.

Qualifications affecting comparisons.—In considering the above table and the other tables in this report which show figures for different censal years, it should be borne in mind that :—

(1) The comparability of figures relating to the value or cost is affected by the changes which have taken place in the general purchasing power of money.

(2) The Census of 1907 covered Great Britain and the whole of Ireland, but that of 1924 applied only to Great Britain and Northern Ireland. The exclusion of Southern Ireland does not seriously affect the comparability of the figures, since, according to the Census of Production taken by the Government of the Irish Free State in respect of the year 1926, the gross output of Electricity Undertakings in that year was valued at £740,000, and the number of persons employed was 1,196.

Further, the total value of electricity supplied in the whole of Ireland in 1907 was £178,000, and the numbers of persons employed was 626.

(3) The Censuses of 1907 and 1924 extended to all undertakings, however small, but in 1912 undertakings employing not more than five persons (excluding the proprietors) were required to state only the average number of persons employed by them in the year. According to the information so furnished, the average number of persons employed in the establishments thus excluded was 409, or 1·5 per cent. of the number employed by the remaining undertakings, as shown in the above table. Moreover, correspondence on defective returns for 1912 had not been completed when the war compelled suspension of this work, and in these circumstances detailed information for 1912 is not given in the remainder of this report except in the section relating to Mechanical Power. The defects in the aggregate figures given above are, it is believed, not important.

(4) Returns received from certain railway companies in respect of undertakings maintained by them mainly for their own traction purposes are included in the figures for 1924 (see page 339), whereas in the Census of 1907, all transport companies operating electricity undertakings included the necessary particulars relating to the latter in the schedule for Railway Companies or Tramway and Light Railway Undertakings. On the other hand, the 1907 figures include the output of supply stations operated by certain Government Departments.

Valuation of output and cost of materials.—The figures of gross output represent the selling value of electricity supplied in each year plus the total amount charged for work done on consumers' premises beyond the meter and on public lamps. Most electricity undertakings employ a staff to carry out work of construction, alteration and repair of buildings, machinery, mains, etc., but the cost of such work, whether defrayed out of capital or revenue, has, like similar work carried out for electricity undertakings by contracting firms, been treated as a charge on the current sold and the value of such work returned to the Census is, therefore, not included in the gross output shown above. Such work, in its entirety, is, however, not necessarily a charge on the value of the current sold in the year in which the work is carried out. Particulars of such work of construction, alteration and repair were obtained in order to complete the survey of building and contracting work and, in the report on the Building and Contracting Trades*, its value is included in the general aggregates, together with that of work of similar kinds carried out by builders and contractors.

* See pages 273 to 288.

The figures of cost of materials are inclusive of materials used in all work of construction, alteration and repair whether chargeable to revenue or to capital account, and may therefore be somewhat overstated in relation to those for gross output, since work done on capital account, excluded from the latter, may be included in the former. There may also be some similar overstatement in the figures shown for numbers of persons employed in relation to the gross output figures. These factors should be borne in mind in considering the net output and net output per head for electricity undertakings taken by themselves, and also in relation to corresponding figures for other industries.

It should, further, be noted that the value of the output of, and the cost of materials used by, Electricity Undertakings as a whole are overstated also in respect of any electricity purchased by one authorised undertaking from another and included by both in the Census returns. This matter is discussed on page 337, where it is estimated that the total amount of duplication involved amounted to nearly £2,900,000.

Production.

Detailed information as to the output of Electricity Undertakings in 1924 will be found, for Companies, in Table II on pages 343 to 345, and, for Local Authorities, in Table II on pages 348 and 349.

Authorised Undertakings.

The particulars given below relate to electricity undertakings other than transport companies, i.e. to all undertakings producing electricity for general supply and operated under statutory authority.

Total quantities of electricity generated and purchased.—The total quantities of electricity generated by authorised undertakings in the United Kingdom producing for general supply in 1924 and 1907 were returned as follows:—

Electricity generated.	1924.	1907.
	Th. B.T. units.	Th. B.T. units.
By Companies	2,244,935	545,055
By Local Authorities	4,191,014	887,046
TOTAL	6,435,949	1,432,101

Local Authority undertakings generated 61·9 per cent. of the total supply in 1907 and 65·1 per cent. in 1924.

The undertakings that generated the electricity shown in the above table also purchased, in the aggregate, 388,751,000 units in 1924 and 46,629,000 units in 1907. The total amount recorded as

supplied by them in the year 1924 was 5,618,017,000 units, or 1,206,683,000 units (17.7 per cent.) less than the total amount generated and purchased. The difference is due to the exclusion of electricity used in their own works* (about 6 per cent.) and to transmission and other losses (about 12 per cent.). The differences due to these causes in 1907 amounted to 6 per cent. and 9 per cent. respectively.

Undertakings at which no electricity was generated in 1924 recorded that they purchased for distribution a total of 564,091,000 Board of Trade units and supplied 533,584,000 Board of Trade units. In these cases the losses in distribution, etc., amounted to somewhat less than 6 per cent.

Electricity supplied.—In the following statement particulars are given of the quantity and value of the electricity supplied in 1924 by authorised undertakings in the United Kingdom. The particulars were required to be classified according to the principal uses for which the current was supplied, but, as will be seen from the table, a substantial proportion of the total supplies could not be so classified.

Electricity supplied in 1924 for:	By Companies.		By Local Authorities.		Total.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	Th. B.T.U.	£'000	Th. B.T.U.	£'000	Th. B.T.U.	£'000
Public lighting ..	10,934	124	70,637	665	81,571	789
Traction ..	61,342	318	593,039	2,829	654,381	3,147
Power and manufacturing purposes	590,673	3,164	1,450,991	6,745	2,041,664	9,909
Private lighting, heating and cooking	280,488	6,135	610,083	10,066	890,571	16,201
General supply at uniform charges ..	543,936	1,889	171,776	884	715,712	2,773
Bulk supplies to authorised distributors ..	715,167	2,381	159,292	498	874,459	2,879
Purposes not separately distinguished	284,933	1,698	608,310	3,738	893,243	5,436
TOTAL—ELECTRICITY SUPPLIED ..	2,487,473	15,709	3,664,128	25,425	6,151,601	41,134

The figures given above cover all undertakings supplying electricity for general purposes, including those that were engaged solely in distribution and purchased the whole of their supplies from other authorised undertakings or from industrial establishments.

The following table shows the average revenue per Board of Trade Unit of electricity supplied in 1924 of each of the classes specified in the foregoing statement:—

Electricity supplied in 1924 for:—	Average revenue per unit.	
	Companies.	Local Authorities.
Public lighting	d. 2.7	d. 2.3
Traction	1.2	1.1
Power and manufacturing purposes	1.3	1.1
Private lighting, heating and cooking	5.3	4.0
General supply at uniform charges	0.8	1.2
Bulk supplies to authorised distributors	0.8	0.7
Purposes not separately distinguished	1.4	1.5

Corresponding particulars were not furnished in connection with the 1907 Census, but Companies and Local Authorities that generated 1,253,366,000 Board of Trade units and purchased 43,536,000 Board of Trade units (out of the totals recorded for that year of 1,432,101,000 units generated and 46,629,000 units purchased) furnished the following information:—

Electricity supplied in 1907 for:—	Companies.	Local Authorities.	Total.
	Th. B.T. units	Th. B.T. units	Th. B.T. units
Public lighting	7,679	51,709	59,388
Traction	123,511	318,877	442,388
Power	70,609	169,529	240,138
Private lighting	87,974	209,761	297,735
Bulk supplies to authorised distributors	42,986	5,307	48,293
Purposes not separately distinguished ..	12,243	5,066	17,309
TOTAL QUANTITY SUPPLIED ..	345,002	760,249	1,105,251

It will be noted that the proportion of the total supplied that was not classified according to the purpose for which it was used was much greater in 1924 than in 1907, and that the total recorded as supplied for public lamps and for traction showed relatively little increase. The proportion distinguished as for private purposes and for manufacturing uses (including power) was a little less than one-half the total supplied in 1924 and also in 1907, as far as the information received can be taken as representative in this matter.

Sales of electricity between undertakings.—The gross value of electricity supplied in 1924, shown as £41,134,000 in the table on page 336, is overstated to the extent of the value of current supplied by one undertaking and distributed to consumers by another, and included by both in their output statements. A rough measure of the extent of this duplicated output is provided by the figure of £2,879,000, the aggregate value of *bulk supplies to authorised distributors*. Deducting this sum from the gross figure, the total value of electricity supplied in the period covered by the 1924 Census, excluding that produced by industrial firms, transport companies and other concerns for special purposes, may be stated as about £38½ millions.

* See page 311.

Work of construction, alteration and repair by undertakings operating for general supply.—The following statement shows the value of the principal classes of work of construction, alteration and repair carried out in 1924 and 1907 by employees of Companies and of Local Authorities. Such work was valued at cost, i.e., at a sum made up of wages paid to the employees and the cost of materials used in the work, with the proportion of the general establishment charges fairly applicable thereto.

Kind of work done.	By Companies.		By Local Authorities.		Total.	
	1924.	1907.	1924.	1907.	1924.	1907.
	Value. £'000	Value. £'000	Value. £'000	Value. £'000	Value. £'000	Value. £'000
Generation of electricity :						
Work on buildings ..	230	50	281	63	511	113
Work on engines and boilers ..	528	115	655	158	1,183	273
Work on dynamos, switchboards, instru- ments, other machin- ery and tools ..	171	113	367	282	538	395
Work not separately distinguished (mainly on engines and machinery ..	572	4	635	25	1,207	29
Distribution of electricity :						
Work on mains and apparatus at distri- buting stations ..	1,678	330	3,757	658	5,435	988
Work on all apparatus on consumers' pre- mises up to and in- cluding meters ..	321	127	803	131	1,124	258
Work not separately distinguished ..	23	28	525	99	548	127
Work on consuming de- vices beyond the meter (current consuming apparatus, fittings and wiring on consumers' premises ..	431	*	577	*	1,008	*
Work on public lamps ..	47	24	298	115	345	139
TOTAL COST OF WORK CARRIED OUT ..	4,001	791	7,898	1,531	11,899	2,322

* Included above under heading "Work on all apparatus on consumers' premises."

These figures cover all work of the specified kinds, whether charged to revenue or capital account, carried out by employees of electricity supply undertakings in the two years, but for the reasons explained on pages 334 and 335, only the amounts shown against the last two headings have been regarded as forming part of the value of the output of these undertakings. Unlike the other work done, such work on consumers' premises and on public lamps is wholly charged for within the year of account.

Railway Companies.

Electricity supplied.—Railway companies followed different methods in regard to the treatment of their electric power stations for the purpose of the Census return; some incorporated the particulars in the return for their general productive operations (see pages 367 to 378), while others preferred to furnish separate particulars for the power stations as independent concerns. The latter information furnished for 1924 on schedules for Electricity Undertakings is included in the tables on pages 343 to 347.

The total quantity of electricity supplied from power stations of railway companies, and included in the tables referred to, amounted to 321,882,000 Board of Trade units, of which 305,187,000 units were supplied for traction and 9,250,000 units were supplied in bulk to authorised distributors.

Of the electricity generated in 1924 by railway companies and included in their general returns, 243,221,000 units were returned as used for traction and 50,466,000 units as used for miscellaneous purposes in railway workshops.

The total quantity of electricity returned as generated at undertakings operated by railway companies in 1924 was thus 615,569,000 Board of Trade units, the aggregate for 1907 being 229,819,000 Board of Trade units.

Cost of materials.

The cost of materials used by Electricity Supply Companies (including those railway companies that made returns on the schedule for Electricity Undertakings) was returned as £6,869,000 and by Local Authorities as £10,521,000 in 1924, or £17,390,000 in all, a sum which, by the exclusion of purchases of electricity by one undertaking from another and included by both in their Census returns, is reduced to about £14,510,000; the corresponding net figure for 1907 was about £3,000,000. Thus the cost of materials in 1924 was, in the aggregate, nearly 8 per cent. greater than in 1907 for equal quantities of electricity generated.

Net output.

The net output in 1924 of Companies (including those railway companies that made returns on the schedule for Electricity Undertakings) was £10,341,000 and of Local Authorities, £15,779,000, or £26,120,000 in all, that sum representing, without duplication, the amount by which the total value of the gross output exceeded the cost, as purchased, of the materials used.

The net output per head of persons employed in the censal year 1924 was £575 for Companies and £479 for Local Authorities, as compared with £238 and £263, respectively, in 1907.

Employment.

The detailed information relating to employment in 1924 is summarised, for Companies, in Table III on pages 345 and 346, and, for

Local Authorities, in Table III on pages 350 and 351. The following table sets out certain particulars for that year together with those relating to the 1907 Census. For the purpose of this comparison, the average numbers of operatives of each sex returned for 1924 have been divided between the two age-groups in the proportions shown by the data relating to the week ended 18th October:—

Average number.	Males.		Females.		Males and females.	
	Under 18.	All ages.	Under 18.	All ages.	Under 18.	All ages.
1924.			Companies.*			
Operatives	510	14,100	3	101	513	14,201
Administrative, etc. ..	194	3,093	53	697	247	3,790
TOTAL	704	17,193	56	798	760	17,991
1907.						
Wage earners	324	6,800	1	32	325	6,832
Salaried	133	1,611	3	56	136	1,667
TOTAL	457	8,411	4	88	461	8,499
			Local Authorities.			
Operatives	598	27,111	2	158	600	27,269
Administrative, etc. ..	271	5,077	40	556	311	5,633
TOTAL	869	32,188	42	714	911	32,902
1907.						
Wage earners	310	11,917	—	75	310	11,992
Salaried	147	2,099	2	28	149	2,127
TOTAL	457	14,016	2	103	459	14,119
			Companies and Local Authorities.			
Operatives	1,108	41,211	5	259	1,113	41,470
Administrative, etc. ..	465	8,170	93	1,253	558	9,423
TOTAL	1,573	49,381	98	1,512	1,671	50,893
1907.						
Wage earners	634	18,717	1	107	635	18,824
Salaried	280	3,710	5	84	285	3,794
TOTAL	914	22,427	6	191	920	22,618

* Including certain railway companies in 1924.

It will be seen that there was a relative increase in administrative, etc., staff in both groups.

The numbers of operatives recorded month by month by Companies in 1924 ranged from 862 below the average, in January, to 673 above the average, in October (see Table III.B, page 346). Those recorded by Local Authorities ranged from 1,234 below the average, in February, to 1,161 above the average, in October (see Table III.B on page 351). The numbers in December exceeded those in January by about 11.5 per cent. in the case of Companies and by about 8.3 per cent. in the case of Local Authorities.

Mechanical Power.

The detailed information relating to mechanical power in 1924 is summarised, for Companies, in Table IV on page 347, and, for Local Authorities, in Table IV on page 352. The following table sets out the particulars for 1924, 1912 and 1907 relating to the capacity and kinds of *prime movers* and the capacity of *electric generators* installed.

Power equipment.	1924.			1912.	1907.
	Companies.*	Local Authorities.	Total.	Total.	Total.
	H.P.	H.P.	H.P.	H.P.	H.P.
PRIME MOVERS:—					
Reciprocating					
steam engines	156,781	355,790	512,571	1,055,350	1,113,741
Steam turbines	1,603,649	3,374,571	4,978,220	1,015,691	422,131
Gas engines ..	23,448	9,087	32,535	13,170	
Petrol and light oil engines ..	3,126	79	3,205	17,280	14,528
Heavy oil engines	38,658	29,272	67,930		
Water power ..	12,486	2,664	15,150	9,504	9,664
Other	—	—	—	—	10
TOTAL	1,838,148	3,771,463	5,609,611	2,110,995	1,560,074
	Kw.	Kw.	Kw.	Kw.	Kw.
ELECTRIC GENERATORS:—					
Driven by—					
Reciprocating steam engines ..	107,659	240,828	348,487	706,342	709,252
Steam turbines	1,177,987	2,436,507	3,614,494	726,550	294,245
Gas engines ..	15,244	6,035	21,279		
Petrol and light oil engines ..	1,685	41	1,726	48,383	
Heavy oil engines ..	26,159	19,329	45,488		16,815
Water power ..	7,911	1,941	9,852		
Other prime movers ..	—	—	—	—	
TOTAL	1,336,645	2,704,681	4,041,326	1,481,275	1,020,312

* Including certain railway companies in 1924.

The replacement of reciprocating steam engines by steam turbines, especially by Local Authorities, has, it would appear, been a major influence in bringing about a relative increase of generating capacity in excess of the relative increase of prime movers.

The proportion of the capacity of the prime movers reported as *in reserve or idle* in 1924 was 21.6 per cent. for Companies and 21.3 per cent. for Local Authorities: the proportion of generating capacity similarly described was 21.2 per cent. for Companies and 21.3 per cent. for Local Authorities.

The capacity of *electric motors* recorded in 1924 and 1912 was as shown below:—

Electric motors.	1924.			1912.
	Companies.*	Local Authorities.	Total.	Total.
Driven by—	H.P.	H.P.	H.P.	H.P.
Electricity generated in own works	80,469	189,715	270,184	154,950
Purchased electricity	2,697	6,758	9,455	55,721

* Including certain railway companies.

Corresponding information was not required for 1907. The total number of Board of Trade units of electricity used in the works, so far as recorded, in that year was returned as 78,580,000, of which 22,169,000 was reported by Companies and 56,411,000 by Local Authorities.

TABLES.

COMPANIES.*

I.—Summary of results.

Particulars.	Unit.	England and Wales.	Scotland.	Great Britain.	Northern Ireland.
Value of electricity supplied and work done (Gross output)	£'000	15,907	1,273	17,180	30
Cost of materials used	"	6,266	592	6,858	11
Net output	"	9,641	681	10,322	19
Average number of persons employed	No.	16,476	1,438	17,914	77
Net output per person employed	£	585	474	576	247
Mechanical power available:—					
Prime movers	H.P.	1,669,196	165,855	1,835,051	3,097
Electric motors driven by purchased electricity	"	2,697	—	2,697	—

II.—Production.

A.—QUANTITIES OF ELECTRICITY GENERATED AND PURCHASED IN BULK IN 1924 BY ELECTRICITY COMPANIES.

Country.	Electricity generated.	Electricity purchased in bulk.
England and Wales	Th. B.T. units. 2,323,876	Th. B.T. units. 663,115
Scotland	254,342	30,936
Great Britain	2,578,218	694,051
Northern Ireland	1,243	—

* Including certain railway companies.

B.—ELECTRICITY SUPPLIED AND WORK DONE IN 1924.

Electricity supplied for:	Unit.	England and Wales.	Scotland.	Great Britain.	Northern Ireland.
		Quantity	and selling	value.	
Public lighting ..	<i>Th. B.T. units</i>	11,131	404	11,535	94
	£'000	118	6	124	3
Traction ..	<i>Th. B.T. units</i>	355,428	11,035	366,463	66
	£'000	1,183	63	1,246	*
Power and manufacturing purposes.	<i>Th. B.T. units</i>	439,493	154,230	593,723	178
	£'000	2,490	689	3,179	2
Private lighting, heating and cooking.	<i>Th. B.T. units</i>	268,964	13,270	282,234	607
	£'000	5,917	244	6,161	20
General supply at uniform charges	<i>Th. B.T. units</i>	510,920	34,118	545,038	66
	£'000	1,744	152	1,896	2
Bulk supplies to authorised distributors.	<i>Th. B.T. units</i>	693,074	31,343	724,417	—
	£'000	2,298	105	2,403	—
Purposes not separately distinguished.	<i>Th. B.T. units</i>	284,922	12	284,934	—
	£'000	1,696	*	1,696	—
TOTAL—Electricity supplied ..	<i>Th. B.T. units</i>	2,563,932	244,412	2,808,344	1,011
	£'000	15,446	1,259	16,705	27
Work on consuming devices beyond the meter (current consuming apparatus, fittings, and wiring on consumers' premises)	£'000	416	13	429	2
Work on public lamps	"	45	1	46	1
TOTAL VALUE OF ELECTRICITY SUPPLIED AND WORK DONE (GROSS OUTPUT) ..	£'000	15,907	1,273	17,180	30

* Less than £500.

C.—WORK OF CONSTRUCTION, ALTERATION AND REPAIR CARRIED OUT BY EMPLOYEES OF ELECTRICITY COMPANIES.

Kind of work done.	England and Wales.	Scotland.	Great Britain.	Northern Ireland.
	Value. £'000	Value. £'000	Value. £'000	Value. £'000
Generation of electricity :—				
Work on buildings ..	202	32	234	*
Work on engines and boilers ..	601	13	614	*
Work on dynamos, switchboards, instruments, other machinery and tools ..	178	10	188	*
Work not separately distinguished (mainly on engines and machinery) ..	298	278	576	2
Distribution of electricity :—				
Work on mains and apparatus at distributing stations ..	1,483	244	1,727	1
Work on all apparatus on consumers' premises up to and including meters ..	310	12	322	1
Work not separately distinguished	23	—	23	—
TOTAL COST OF WORK CARRIED OUT	3,095	589	3,684	4

* Less than £500.

III.—Employment.

A.—NUMBERS EMPLOYED IN WEEK ENDED 18TH OCTOBER, 1924.

Kind of staff.	Males.		Females.		Males and females.	
	Under 18.	All ages.	Under 18.	All ages.	Under 18.	All ages.
<i>England and Wales :—</i>						
Operatives ..	484	13,430	3	74	487	13,504
Administrative, etc.*	185	2,912	47	619	232	3,531
TOTAL ..	669	16,342	50	693	719	17,035
<i>Scotland :—</i>						
Operatives ..	42	1,286	—	28	42	1,314
Administrative, etc.*	9	161	6	77	15	238
TOTAL ..	51	1,447	6	105	57	1,552
<i>Great Britain :—</i>						
Operatives ..	526	14,716	3	102	529	14,818
Administrative, etc.*	194	3,073	53	696	247	3,769
TOTAL ..	720	17,789	56	798	776	18,587
<i>Northern Ireland :—</i>						
Operatives ..	8	56	—	—	8	56
Administrative, etc.*	—	20	—	1	—	21
TOTAL ..	8	76	—	1	8	77
<i>United Kingdom :—</i>						
TOTAL ..	728	17,865	56	799	784	18,664

* Administrative, technical and clerical staff.

B.—OPERATIVES EMPLOYED IN ONE WEEK IN EACH MONTH OF 1924.

England and Wales. (Annual average : Males, 12,872 ; Females, 73 ; Total, 12,945.)

Week ended	Males.	Females.	Total.	Week ended	Males.	Females.	Total.
Jan. 12th ..	12,132	70	12,202	July 19th ..	13,106	75	13,181
Feb. 16th ..	12,137	69	12,206	Aug. 16th ..	13,154	73	13,227
March 15th ..	12,388	69	12,457	Sept. 13th ..	13,245	78	13,323
April 12th ..	12,536	70	12,606	Oct. 18th ..	13,430	74	13,504
May 17th ..	12,655	74	12,729	Nov. 15th ..	13,376	74	13,450
June 21st ..	12,971	72	13,043	Dec. 13th ..	13,334	73	13,407

Scotland. (Annual average : Males, 1,172 ; Females, 28 ; Total, 1,200.)

Week ended	Males.	Females.	Total.	Week ended	Males.	Females.	Total.
Jan. 12th ..	1,057	29	1,086	July 19th ..	1,157	28	1,185
Feb. 16th ..	1,111	29	1,140	Aug. 16th ..	1,271	28	1,299
March 15th ..	1,068	29	1,097	Sept. 13th ..	1,225	28	1,253
April 12th ..	1,100	29	1,129	Oct. 18th ..	1,286	28	1,314
May 17th ..	1,076	29	1,105	Nov. 15th ..	1,300	28	1,328
June 21st ..	1,159	29	1,188	Dec. 13th ..	1,254	28	1,282

Great Britain. (Annual average : Males, 14,044 ; Females, 101 ; Total, 14,145.)

Week ended	Males.	Females.	Total.	Week ended	Males.	Females.	Total.
Jan. 12th ..	13,189	99	13,288	July 19th ..	14,263	103	14,366
Feb. 16th ..	13,248	98	13,346	Aug. 16th ..	14,425	101	14,526
March 15th ..	13,456	98	13,554	Sept. 13th ..	14,470	106	14,576
April 12th ..	13,636	99	13,735	Oct. 18th ..	14,716	102	14,818
May 17th ..	13,731	103	13,834	Nov. 15th ..	14,676	102	14,778
June 21st ..	14,130	101	14,231	Dec. 13th ..	14,588	101	14,689

Northern Ireland. (Annual average : Males, 56 ; Females, — ; Total, 56.)

Week ended	Males.	Females.	Total.	Week ended	Males.	Females.	Total.
Jan. 12th ..	51	—	51	July 19th ..	58	—	58
Feb. 16th ..	51	—	51	Aug. 16th ..	58	—	58
March 15th ..	53	—	53	Sept. 13th ..	55	—	55
April 12th ..	56	—	56	Oct. 18th ..	56	—	56
May 17th ..	54	—	54	Nov. 15th ..	62	—	62
June 21st ..	55	—	55	Dec. 13th ..	67	—	67

IV.—Mechanical Power.

PARTICULARS OF PRIME MOVERS, ELECTRIC GENERATORS AND ELECTRIC MOTORS.

(a) Ordinarily in use. (b) In reserve or idle.	England and Wales.	Scotland.	Great Britain.	Northern Ireland.
	H.P.	H.P.	H.P.	H.P.
PRIME MOVERS :—				
Reciprocating steam engines	{ (a) 77,900 (b) 67,181	9,113 2,587	87,013 69,768	—
Steam turbines	{ (a) 1,191,060 (b) 261,706	98,583 52,300	1,289,643 314,006	—
Gas engines	{ (a) 17,409 (b) 3,898	1,468 150	18,877 4,048	513 10
Petrol and light oil engines	{ (a) 1,488 (b) 449	28 87	1,516 536	672 402
Heavy oil engines	{ (a) 52,053 (b) 4,320	623 287	32,676 4,607	975 400
Water power	{ (a) 8,975 (b) 2,757	579 50	9,554 2,807	125 —
TOTAL	{ (a) 1,328,885 (b) 340,311	110,394 55,461	1,439,279 395,772	2,285 812
TOTAL OF PRIME MOVERS INSTALLED				
	1,669,196	165,855	1,835,051	3,097
ELECTRIC GENERATORS :—				
Driven by—				
Reciprocating steam engines	{ (a) 53,669 (b) 45,816	6,368 1,806	60,037 47,662	—
Steam turbines	{ (a) 880,480 (b) 189,700	69,807 38,000	950,287 227,700	—
Gas engines	{ (a) 11,086 (b) 2,752	963 112	12,049 2,864	321 10
Petrol and light oil engines	{ (a) 742 (b) 103	12 59	754 162	494 275
Heavy oil engines	{ (a) 21,816 (b) 2,913	389 171	22,205 3,084	634 236
Water power	{ (a) 5,892 (b) 1,510	401 28	6,293 1,538	80 —
TOTAL	{ (a) 973,685 (b) 242,794	77,940 40,176	1,051,625 282,970	1,529 521
TOTAL OF ELECTRIC GENERATORS INSTALLED				
	1,216,479	118,116	1,334,595	2,050
ELECTRIC MOTORS :—				
Driven by—				
Electricity generated in own works	{ (a) 65,213 (b) 7,824	6,559 791	71,772 8,615	22 60
Purchased electricity	{ (a) 2,697 (b) —	—	2,697	—

LOCAL AUTHORITIES.

I.—Summary of results.

Particulars.	Unit.	England and Wales.	Scotland.	Great Britain.	Northern Ireland.
Value of electricity supplied and work done (Gross output)	£'000	23,110	2,799	25,909	391
Cost of materials used	"	9,572	851	10,423	98
Net output	"	13,538	1,948	15,486	293
Average number of persons employed	No.	28,643	3,578	32,221	681
Net output per person employed	£	473	544	481	430
Mechanical power available:—					
Prime movers	H.P.	3,251,378	455,299	3,706,677	64,786
Electric motors driven by purchased electricity	"	6,758	—	6,758	—

II.—Production.

A.—QUANTITIES OF ELECTRICITY GENERATED AND PURCHASED IN BULK IN 1924 BY LOCAL AUTHORITIES.

Country.	Electricity generated.		Electricity purchased in bulk.	
	Th. B.T. units.	Th. B.T. units.	Th. B.T. units.	Th. B.T. units.
England and Wales	3,671,657	255,212	468,035	5,859
Scotland	4,139,692	261,071	—	—
Great Britain	7,811,349	516,283	468,035	5,859
Northern Ireland	51,322	—	—	—

B.—ELECTRICITY SUPPLIED AND WORK DONE IN 1924.

Electricity supplied for:	Unit.	England and Wales.	Scotland.	Great Britain.	Northern Ireland.
Quantity and selling value.					
Public lighting	Th. B.T. units	61,521	8,827	70,348	289
	£'000	576	84	660	5
Traction	Th. B.T. units	553,433	26,809	580,242	12,797
	£'000	2,610	147	2,757	72
Power and manufacturing purposes	Th. B.T. units	1,272,085	158,413	1,430,498	20,493
	£'000	5,702	920	6,622	123
Private lighting, heating & cooking	Th. B.T. units	506,812	95,587	602,399	7,684
	£'000	8,708	1,190	9,898	169
General supply at uniform charges	Th. B.T. units	104,196	67,580	171,776	—
	£'000	657	226	883	—
Bulk supplies to authorised distributors	Th. B.T. units	155,646	3,646	159,292	—
	£'000	490	8	498	—
Purposes not separately distinguished	Th. B.T. units	581,858	24,676	606,534	1,776
	£'000	3,559	159	3,718	20
TOTAL—Electricity supplied	Th. B.T. units	3,235,551	385,538	3,621,089	43,039
	£'000	22,302	2,734	25,036	389
Work on consuming devices beyond the meter (current consuming apparatus, fittings and wiring on consumers' premises)	£'000	539	38	577	—
Work on public lamps	"	269	27	296	2
TOTAL VALUE OF ELECTRICITY SUPPLIED AND WORK DONE (GROSS OUTPUT)	£'000	23,110	2,799	25,909	391

C.—WORK OF CONSTRUCTION, ALTERATION AND REPAIR CARRIED OUT BY EMPLOYEES OF LOCAL AUTHORITY ELECTRICITY UNDERTAKINGS.

Kind of work done.	England and Wales.	Scotland.	Great Britain.	Northern Ireland.
	Value. £'000	Value. £'000	Value. £'000	Value. £'000
Generation of electricity:—				
Work on buildings	240	33	273	8
Work on engines and boilers	595	54	649	6
Work on dynamos, switchboards, instruments, other machinery and tools	325	32	357	10
Work not separately distinguished, mainly on engines and machinery	569	66	635	—
Distribution of electricity:—				
Work on mains and apparatus at distributing stations	3,194	497	3,691	66
Work on all apparatus on consumers' premises up to and including meters	743	55	798	5
Work not separately distinguished	500	16	516	9
TOTAL COST OF WORK CARRIED OUT	6,166	753	6,919	104

III.—Employment.

A.—NUMBERS EMPLOYED IN WEEK ENDED 18TH OCTOBER, 1924.

Kind of staff.	Males.		Females.		Males and females.	
	Under 18.	All ages.	Under 18.	All ages.	Under 18.	All ages.
<i>England and Wales</i> :—						
Operatives	586	24,522	2	140	588	24,662
Administrative, etc.*	252	4,459	33	451	285	4,910
TOTAL	838	28,981	35	591	873	29,572
<i>Scotland</i> :—						
Operatives	30	2,980	—	18	30	2,998
Administrative, etc.*	19	540	7	93	26	633
TOTAL	49	3,520	7	111	56	3,631
<i>Great Britain</i> :—						
Operatives	616	27,502	2	158	618	27,660
Administrative, etc.*	271	4,999	40	544	311	5,543
TOTAL	887	32,501	42	702	929	33,203
<i>Northern Ireland</i> :—						
Operatives	7	770	—	—	7	770
Administrative, etc.*	—	78	—	12	—	90
TOTAL	7	848	—	12	7	860
<i>United Kingdom</i> :—						
TOTAL	894	33,349	42	714	936	34,063

* Administrative, technical and clerical staff.

B.—OPERATIVES EMPLOYED IN ONE WEEK IN EACH MONTH OF 1924.

England and Wales. (Annual average : Males, 23,592 ; Females, 141 ; Total, 23,733.)

Week ended	Males.	Females.	Total.	Week ended	Males.	Females.	Total.
Jan. 12th ..	22,766	139	22,905	July 19th ..	23,704	139	23,843
Feb. 16th ..	22,597	140	22,737	Aug. 16th ..	23,483	140	23,623
Mar. 15th ..	23,002	143	23,145	Sept. 13th ..	24,247	141	24,388
April 12th ..	22,837	140	22,977	Oct. 18th ..	24,522	140	24,662
May 17th ..	23,204	138	23,342	Nov. 15th ..	24,576	142	24,718
June 21st ..	23,481	140	23,621	Dec. 13th ..	24,687	144	24,831

Scotland. (Annual average : Males, 2,928 ; Females, 17 ; Total, 2,945.)

Jan. 12th ..	2,890	17	2,907	July 19th ..	2,972	18	2,990
Feb. 16th ..	2,834	17	2,851	Aug. 16th ..	2,953	17	2,970
Mar. 15th ..	2,893	17	2,910	Sept. 13th ..	3,001	17	3,018
April 12th ..	2,909	17	2,926	Oct. 18th ..	2,980	18	2,998
May 17th ..	2,988	18	3,006	Nov. 15th ..	2,859	19	2,878
June 21st ..	2,931	18	2,949	Dec. 13th ..	2,919	18	2,937

Great Britain. (Annual average : Males, 22,520 ; Females, 158 ; Total, 26,678.)

Jan. 12th ..	25,656	156	25,812	July 19th ..	26,676	157	26,833
Feb. 16th ..	25,431	157	25,588	Aug. 16th ..	26,436	157	26,593
Mar. 15th ..	25,895	160	26,055	Sept. 13th ..	27,248	158	27,406
April 12th ..	25,746	157	25,903	Oct. 18th ..	27,502	158	27,660
May 17th ..	26,192	156	26,348	Nov. 15th ..	27,435	161	27,596
June 21st ..	26,412	158	26,570	Dec. 13th ..	27,606	162	27,768

Northern Ireland. (Annual average : Males, 591 ; Females, — ; Total, 591.)

Jan. 12th ..	454	—	454	July 19th ..	630	—	630
Feb. 16th ..	447	—	447	Aug. 16th ..	735	—	735
Mar. 15th ..	531	—	531	Sept. 13th ..	728	—	728
April 12th ..	571	—	571	Oct. 18th ..	770	—	770
May 17th ..	591	—	591	Nov. 15th ..	602	—	602
June 21st ..	520	—	520	Dec. 13th ..	518	—	518

IV.—Mechanical Power.

PARTICULARS OF PRIME MOVERS, ELECTRIC GENERATORS AND ELECTRIC MOTORS.

(a) Ordinarily in use. (b) In reserve or idle.	England and Wales.	Scotland.	Great Britain.	Northern Ireland.
	H.P.	H.P.	H.P.	H.P.
PRIME MOVERS :—				
Reciprocating steam engines	{ (a) 191,878 (b) 130,195	7,784 20,617	199,658 150,812	350 4,970
Steam turbines	{ (a) 2,327,692 (b) 564,265	359,412 64,102	2,687,104 628,367	43,700 15,400
Gas engines	{ (a) 6,017 (b) 750	736 1,448	6,753 2,198	— 136
Petrol and light oil engines ..	{ (a) 79 (b) 25,322	— 1,050	79 26,372	— 138
Heavy oil engines	{ (a) 2,570 (b) 2,614	100 50	2,670 2,664	92 —
Water power	{ (a) 2,614 (b) 2,553,598	50 369,032	2,664 2,922,630	— 44,188
TOTAL	{ (a) 2,553,598 (b) 697,780	369,032 86,267	2,922,630 784,047	44,188 20,598
TOTAL OF PRIME MOVERS INSTALLED	3,251,378	455,299	3,706,677	64,786
	Kw.	Kw.	Kw.	Kw.
ELECTRIC GENERATORS :—				
Driven by—				
Reciprocating steam engines	{ (a) 130,570 (b) 87,011	5,630 14,017	136,200 101,028	250 3,350
Steam turbines	{ (a) 1,687,605 (b) 412,152	250,750 46,500	1,938,355 458,652	29,500 10,000
Gas engines	{ (a) 3,977 (b) 510	484 996	4,461 1,506	— 68
Petrol and light oil engines	{ (a) 41 (b) 16,762	— 691	41 17,453	— 75
Heavy oil engines	{ (a) 1,685 (b) 1,901	66 40	1,751 1,941	50 —
Water power	{ (a) 1,901 (b) 1,840,856	40 257,595	1,941 2,098,451	— 29,825
TOTAL	{ (a) 1,840,856 (b) 501,358	257,595 61,579	2,098,451 562,937	29,825 13,468
TOTAL OF ELECTRIC GENERATORS INSTALLED	2,342,214	319,174	2,661,388	43,293
	H.P.	H.P.	H.P.	H.P.
ELECTRIC MOTORS :—				
Driven by—				
Electricity generated in same works	{ (a) 138,690 (b) 26,867	18,401 2,172	157,091 29,039	2,224 1,361
Purchased electricity	{ (a) 5,576 (b) 1,182	— —	5,576 1,182	— —