

COAL MINES

Note.—For information regarding the scope of the Census, instructions given to firms 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

This trade comprises firms that were engaged wholly or mainly in coal mining.

The following table shows the main results of the Censuses of 1930 and 1924 in respect of firms in Great Britain that employed an average of more than ten persons:—

Particulars	Unit	1930	1924
Value of products (Gross output)	£'000	166,770	251,337
Cost of materials used	"	28,124	41,608
Net output	"	138,646	209,729
Average number of persons employed	No.	932,434	1,197,164*
Net output per person employed	£	149	175
Power available:—			
Prime movers	H.P.	3,067,013	3,138,696
Electric motors driven by purchased electricity	"	536,573	474,176
Number of returns	No.	1,373	1,188
Number of mines	"	1,792	†

* Number employed in week ended October 18th. † Not available.

Deficiencies in 1930 aggregates.—The aggregate number of persons employed in 1930 by firms that stated that they employed not more than ten persons on the average was 1,419, the corresponding figure for 1924 being 1,304. The value of the gross output of the small firms in 1924 was £192,000, of which £180,000 consisted of coal (219,000 tons) and £12,000 of other products.

Returns for 1930 were received from all firms of importance, but about 20 firms to which schedules were sent in connection with the 1924 Census did not furnish any information; these firms only carried on production on a small scale or intermittently.

Collieries that were idle or in course of development during the censal year are excluded from the present report, but the effect of their omission is negligible, the total number of persons employed in 1930 at such collieries being only 722. The average number of persons employed in 1924 at collieries in course of development was 3,162 (including one colliery in Northern Ireland).

Size of firms.—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. It should be noted that in this trade many firms, in addition to being colliery proprietors, maintain coke ovens, blast furnaces, steel works, etc., particulars

of which were given on schedules for the appropriate trades, and that the qualifications referred to in paragraph 2 on page xi of the Introductory Notes are consequently of special importance.

Size of firm (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... ..	173	425	354	2,864	124
25–49... ..	133	761	625	4,528	138
50–99... ..	91	1,180	961	6,502	148
100–199	147	4,173	3,372	21,728	155
200–299	88	3,952	3,214	21,623	149
300–399	90	5,869	4,766	31,819	150
400–499	78	6,372	5,258	34,864	151
500–749	141	15,067	12,361	85,243	145
750–999	126	19,210	15,837	110,342	144
1,000–1,499	123	25,808	21,382	149,961	143
1,500 and over	183	83,953	70,516	462,960	152
TOTAL	1,373	166,770	138,646	932,434	149

Regional distribution.—In the following table the results recorded at the Censuses of 1930 and 1924 are grouped according to the principal areas* of Great Britain in which coal mines are situated:—

Area	Number of returns	Gross output	Net output	Average number of persons employed	Net output per person employed
	No.	£'000	£'000	No.	£
2 ... { 1930	135	12,223	10,015	77,052	130
... { 1924	164	31,411	26,350	160,095	165
3 ... { 1930	161	29,671	25,308	171,269	148
... { 1924	163	40,813	34,831	187,479	186
4 ... { 1930	211	30,706	25,424	178,429	142
... { 1924	152	45,683	37,980	222,050	171
5 ... { 1930	108	13,184	10,953	74,213	148
... { 1924	112	19,559	16,286	96,278	169
6 ... { 1930	188	25,175	21,484	147,450	146
... { 1924	113	26,700	22,969	124,779	184
7 ... { 1930	272	34,325	28,094	172,026	163
... { 1924	265	51,373	41,872	241,532	173
8 ... { 1930	25	2,313	1,923	14,778	130
... { 1924	33	4,178	3,406	24,450	139
9 ... { 1930	114	6,812	5,551	33,905	164
... { 1924	87	12,261	10,182	55,924	182
10 ... { 1930	159	12,361	9,894	63,312	156
... { 1924	99	19,359	15,853	84,577	187
TOTAL ... { 1930	1,373	166,770	138,646	932,434	149
... { 1924	1,188	251,337	209,729	1,197,164	175

* For particulars see page xviii.

Northern Ireland.—In the report published by the Government of Northern Ireland on the 1930 Census of Production, aggregate figures only are given in respect of the mining and quarrying industries. These aggregates are given in the report on Non-Metalliferous Mines and Quarries on pages 387-8. No production of coal, other than at a colliery in course of development, was recorded for Northern Ireland at the 1924 Census.

Production

Coal.—The quantity of saleable coal raised in 1930 by the firms to which this report relates was 243,480,000 tons, valued at £165,407,000 (1,373 entries) as compared with 265,316,200 tons, valued at £250,233,000 in 1924.

The values stated represent the aggregate amounts received as at pit-head, less discounts and commissions. Coal used for colliery purposes or supplied to other works under the same ownership or to colliery employees was, in 1930, valued at the average pit-head price of similar coal sold to customers. At the 1924 Census, coal used for colliery purposes or supplied to other works of the firm was valued at the average pit-head price but, in the case of coal supplied to colliery employees, the actual amounts charged were recorded.

At the 1924 Census particulars were obtained regarding the different kinds of coal raised, but corresponding information was not asked for at the Census of 1930. The information furnished for 1924 is summarised below:—

Kind of coal raised:—	Tons
Anthracite	5,566,800
Steam	140,346,000
Gas	30,510,600
Household	50,032,500
Other sorts... ..	38,740,800
Unclassified	119,500
TOTAL	265,316,200

Prices.—The average pit-head selling value of coal of all kinds in 1930, as shown by the returns, was 13·59 shillings per ton as compared with 18·86 shillings per ton in 1924, a decline of 27·9 per cent.

Volume of production in 1930 and 1924.—The quantity of saleable coal raised in 1930 was 8 per cent. less than in 1924, the recorded value of the output in that year (£250,233,000) representing, in terms of values ruling in 1930, a sum of £180,418,000.

Production, exports and imports.—The following table shows the production, exports and retained imports of coal in 1930 and 1924. The figures of production are those published in the Annual Report of the Secretary for Mines, and consequently cover the output of

all firms in Great Britain in the calendar years 1930 and 1924; the figures of overseas trade relate to the United Kingdom in both years.

Coal	1930	1924
Production	Th. tons 243,882	Th. tons 265,587
Exports*	54,874	61,651
Shipments of coal for the use of vessels engaged in the foreign trade and of fishing vessels	15,617	17,689
Retained imports	17	8
Available for use in the United Kingdom†	173,408	186,255
Exports as a percentage of production	Per cent. 22·5	Per cent. 23·2

* Exclusive of coal used in the production of exported coke and manufactured fuel.
† Including coal for Admiralty purposes and coastwise bunkers.

Other products.—The following particulars in respect of other minerals raised, etc., in 1930 and 1924 were recorded on returns for Coal Mines; these products are dealt with in the reports on those trades in which the principal output was recorded.

Kind of products	1930		1924	
	Quantity	Value	Quantity	Value
Iron ore and ironstone	Th. tons 352·8	£'000 232	Th. tons 452·7	£'000 346
Iron pyrites	5·5	5	6·4	5
Fireclay	1,333·2	476	1,365·5	475
Clay, other than fireclay	223·1	15	319·0	32
Sandstone and ganister	54·1	33	55·0	35
Shale	85·8	8	} 48·6	21
Other mining products	4·9	6		
Electricity sold	Mill. B.T. units 294·2	588	Mill. B.T. units 54·3	174
Other products	—	—	...	16
TOTAL	1,363	...	1,104

Employment and Wages

Employment.—The following table shows the average number of operatives and of administrative, technical and clerical staff employed in 1930. At the 1924 Census, information was obtained only in respect of the week ended October 18, and the figures given for 1924 relate to that week. It may be noted that the average number of persons employed in 1924, as ascertained by the Mines Department, corresponded closely with the figure returned to the Census of Production in respect of the October week referred to.

As mentioned on page 374 these figures are exclusive of persons employed at idle collieries and at those in course of development, the average number employed at mines in course of development being 249 in 1930 and 3,162 in 1924. The average number of persons at idle mines in 1930 was 473; corresponding information is not available for 1924.

Persons employed	Males		Females		Males and females	
	Under 16	All ages	Under 16	All ages	Under 16	All ages
1930						
Operatives (average for the year)	37,119	912,240	274	3,311	37,393	915,551
Administrative, technical and clerical staff (as at December 13)	287	16,171	17	712	304	16,883
TOTAL	37,406	928,411	291	4,023	37,697	932,434
1924						
Operatives (as at October 18)	71,898	1,170,203	476	4,987	72,374	1,175,190
Administrative, technical and clerical staff (as at October 18)	703	20,654	39	1,320	742	21,974
TOTAL	72,601	1,190,857	515	6,307	73,116	1,197,164

At the 1930 Census the numbers of employees recorded as being between the ages of 16 and 18 were as follows:—

	Males	Females	Total
Operatives	53,968	619	54,587
Administrative, etc., staff	551	66	617
TOTAL	54,519	685	55,204

Corresponding information was not obtained at the 1924 Census.

Wages.—The available information as to the amount of wages paid in 1930 and 1924 is given on pages 366 to 367.

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. As a result of comparisons between the returns for the two years, certain defects in the particulars furnished in the Final Report on the 1924 Census have been brought to light and the figures now given should be regarded as substituting those previously published.

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	1,899,782	296,307	2,196,089	2,103,506	256,406	2,359,912
Steam turbines	649,077	203,465	852,542	580,396	148,171	728,567
Internal combustion engines:—						
Gas	10,354	3,755	14,109	13,238	5,249	18,487
Petrol, kerosene, or other light oils ...	830	490	1,320	2,452	367	2,819
Heavy oils ...	207	14	221	157	73	230
Water engines... ..	1,369	177	1,546	37	—	37
Other prime movers	1,057	129	1,186	23,833	4,811	28,644
TOTAL	2,562,676	504,337	3,067,013	2,723,619	415,077	3,138,696
ELECTRIC GENERATORS	Kw.	Kw.	Kw.	Kw.	Kw.	Kw.
Driven by						
Reciprocating steam engines ...	121,361	90,172	211,533	161,001	94,933	255,934
Steam turbines	408,033	152,145	560,178	386,343	121,248	507,591
Internal combustion engines:—						
Gas	5,110	2,403	7,513	6,230	3,718	9,948
Petrol, kerosene, or other light oils ...	31	253	284	30	233	263
Heavy oils ...	82	—	82	8	30	38
Water engines	627	—	627	—	—	—
TOTAL	535,244	244,973	780,217	553,612	220,162	773,774
ELECTRIC MOTORS	H.P.	H.P.	H.P.	H.P.	H.P.	H.P.
Driven by						
Electricity generated in same works	885,979	127,806	1,013,785	906,324	149,097	1,055,421
Electricity generated in other works under same ownership... ..	323,789	38,764	362,553	104,727	10,234	114,961
Purchased electricity	460,857	75,716	536,573	417,627	56,549	474,176
TOTAL	1,670,625	242,286	1,912,911	1,428,678	215,880	1,644,558

Where collieries were operated in conjunction with blast furnaces and steel works or with coke ovens, the power requirements of the whole undertaking were sometimes supplied from a central power station. In such cases it was impracticable to apportion precisely the total capacity of the prime movers and the electric generators at the central station between the various works to which electricity was supplied, and the particulars were, therefore, returned for the unit as a whole on the schedule for one of the trades concerned. As a rule, however, firms were in a position to state for each works the capacity of the electric motors driven by electricity supplied from the central station.

The particulars given above should not, therefore, be regarded as expressing the capacity of the prime movers and electric generators actually used or available for colliery purposes either in 1930 or in 1924. As regards electric motors driven by electricity "generated in own works", the particulars given for 1930 probably approximate closely to the total capacity at collieries; but at the 1924 Census, firms were not required to state separately the capacity of motors which were driven by current generated at another of their works and in the case of the composite undertakings referred to above the method of recording such motors was not uniform, some being shown as driven by electricity generated in the same works and some as driven by purchased electricity. These factors considerably affect the comparability of the figures given for the two years in respect of the three specified categories of electric motors.

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 (so far as recorded)	For power and other purposes, not separately distinguished
	Tons	Tons	Tons
Coal	12,319,814	871,458*	129,595
Coke	218,673	15,265*	5,414
			B.T.U. (Kw.-hrs.) '000
Electricity used for all purposes:—			
Generated in same works			1,592,454
Generated in other works under same ownership			444,106
Purchased			643,693
			TOTAL—Electricity
			2,680,253

* These figures were recorded by firms representing 56.2 per cent. of the net output of the whole trade.

TABLES

I. Summary of results

Particulars	Unit	England and Wales	Scotland	Great Britain
Value of products (Gross output)	£'000	147,597	19,173	166,770
Cost of materials used	"	24,396	3,728	28,124
Net output	"	123,201	15,445	138,646
Average number of persons employed	No.	835,217	97,217	932,434
Net output per person employed	£	148	159	149
Power available:—				
Prime movers	H.P.	2,697,452	369,561	3,067,013
Electric motors driven by purchased electricity	"	471,538	65,035	536,573

II. Production

Kind of products	Unit	England and Wales	Scotland	Great Britain
Coal	<i>Th. tons</i>	211,851	31,629	243,480
	£'000	146,454	18,953	165,407
Iron ore and ironstone	<i>Th. tons</i>	331.5	21.3	352.8
	£'000	223	9	232
Iron pyrites	<i>Th. tons</i>	5.5	—	5.5
	£'000	5	—	5
Fireclay	<i>Th. tons</i>	1,005.7	327.5	1,333.2
	£'000	366	110	476
Clay, other than fireclay	<i>Th. tons</i>	71.6	151.5	223.1
	£'000	8	7	15
Sandstone and ganister	<i>Th. tons</i>	29.9	24.2	54.1
	£'000	21	12	33
Shale	<i>Th. tons</i>	*	*	85.8
	£'000	*	*	8
Other mining products	<i>Th. tons</i>	*	*	4.9
	£'000	*	*	6
Electricity sold	<i>B.T. units</i>	237.0	57.2	294.2
	£'000	511	77	588
TOTAL VALUE OF PRODUCTS (GROSS OUTPUT)	£'000	147,597	19,173	166,770

* Owing to the possible disclosure of information relating to individual firms, separate particulars for England and Wales and for Scotland cannot be given.

III. Employment

A.—NUMBERS EMPLOYED IN WEEK ENDED 13TH DECEMBER, 1930

Persons employed	Males		Females		Males and females	
	Under 16	All ages†	Under 16	All ages†	Under 16	All ages†
<i>England and Wales</i> :—						
Operatives	32,733	796,959	156	2,251	32,889	799,210
Administrative, etc.*	241	14,645	11	532	252	15,177
TOTAL	32,974	811,604	167	2,783	33,141	814,387
<i>Scotland</i> :—						
Operatives	3,458	92,466	111	977	3,569	93,443
Administrative, etc.*	46	1,526	6	180	52	1,706
TOTAL	3,504	93,992	117	1,157	3,621	95,149
<i>Great Britain</i> :—						
Operatives	36,191	889,425	267	3,228	36,458	892,653
Administrative, etc.*	287	16,171	17	712	304	16,883
TOTAL	36,478	905,596	284	3,940	36,762	909,536

* Administrative, technical and clerical staff.

† The numbers of persons between the ages of 16 and 18 included in these totals were as follows :—

	Males	Females	Males and females
<i>England and Wales</i> :—			
Operatives	47,261	335	47,596
Administrative, etc.	474	42	516
<i>Scotland</i> :—			
Operatives	5,357	268	5,625
Administrative, etc.	77	24	101
<i>Great Britain</i> :—			
Operatives	52,618	603	53,221
Administrative, etc.	551	66	617
TOTAL	53,169	669	53,838

B.—OPERATIVES EMPLOYED AT FOUR SPECIFIED DATES IN 1930

1930	Males and females		
	England and Wales	Scotland	Great Britain
15th March	856,604	102,013	958,617
14th June	826,380	94,777	921,157
13th September	797,968	91,811	889,779
13th December	799,210	93,443	892,653
AVERAGE	820,040	95,511	915,551

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	1,672,300	261,865	227,482	34,442	1,899,782	296,307
Steam turbines	570,529	175,807	78,548	27,658	649,077	203,465
Internal combustion engines :—						
Gas	10,289	3,755	65	—	10,354	3,755
Petrol, kerosene, or other light oils ...	781	210	49	280	830	490
Heavy oils	207	14	—	—	207	14
Water engines	455	177	914	—	1,369	177
Other	1,046	18	11	111	1,057	129
TOTAL	2,255,607	441,846	307,069	62,491	2,562,676	504,337
TOTAL OF PRIME MOVERS INSTALLED	2,697,453		369,560		3,067,013	
ELECTRIC GENERATORS Driven by	Kw.	Kw.	Kw.	Kw.	Kw.	Kw.
Reciprocating steam engines	99,753	76,941	21,608	13,231	121,361	90,172
Steam turbines	350,977	129,970	57,056	22,175	408,033	152,145
Internal combustion engines :—						
Gas	5,080	2,403	30	—	5,110	2,403
Petrol, kerosene, or other light oils ...	31	23	—	230	31	253
Heavy oils	82	—	—	—	82	—
Water engines	—	—	627	—	627	—
TOTAL	455,923	209,337	79,321	35,636	535,244	244,973
TOTAL OF ELECTRIC GENERATORS INSTALLED	665,260		114,957		780,217	
ELECTRIC MOTORS Driven by	H.P.	H.P.	H.P.	H.P.	H.P.	H.P.
Electricity generated in same works ...	726,113	101,938	159,866	25,868	885,979	127,806
Electricity generated in other works under same ownership	248,902	33,933	74,887	4,831	323,789	38,764
Purchased electricity	406,287	65,251	54,570	10,465	460,857	75,716
TOTAL	1,381,302	201,122	289,323	41,164	1,670,625	242,286
TOTAL OF ELECTRIC MOTORS INSTALLED	1,582,424		330,487		1,912,911	

V. Consumption of fuel

Kind of fuel used	England and Wales	Scotland	Great Britain
	Tons	Tons	Tons
Coal used for power*	10,037,395	2,282,419	12,319,814
Coke used for power*	217,619	1,054	218,673
	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 same works	1,354,686	237,768	1,592,454
Generated in other works under same ownership	333,303	110,803	444,106
Purchased	569,797	73,896	643,693
TOTAL—Electricity	2,257,786	422,467	2,680,253

* In addition, 129,595 tons of coal (105,232 tons in England and Wales and 24,363 tons in Scotland) and 5,414 tons of coke (all in England and Wales) were recorded as used for power and for other purposes, not separately distinguished.