

24 Coke ovens and manufactured fuel

This Report on the Coke Ovens and Manufactured Fuel Industry relates to Coke Ovens (other than those forming part of the gas industry) producing hard coke and associated by-products, and establishments producing low temperature coke and other manufactured solid fuels whether carbonised or not. Coke ovens forming part of the gas industry are included in the Report on the Gas Industry (Part 152).

This industry corresponds to minimum list heading 261 in the Standard Industrial Classification (Revised 1968) which has been used for the first time as a basis of classification in the 1968 census.

The industry corresponds to the Coke Ovens and Manufactured Fuel Industry (Part 22) in the Reports on the last detailed Census of Production for 1963 except that creosote/pitch mixtures (whether or not for use as fuel) were shown in the Report on General Chemicals (Part 27).

Throughout this Report, the figures given for 1963 have been reclassified, as far as possible, according to the Standard Industrial Classification (Revised 1968) so that data for 1963 and 1968 are on the same industrial basis. However the reclassification of small firms, which provided limited information only, has been arbitrary.

There were no larger establishments in this industry in Northern Ireland in 1963 or 1968.

In interpreting the data in the tables it is essential to bear in mind the notes and definitions which appear on pages (i) to (iv).

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(b) The following information relates to small establishments (employing fewer than 25 persons) in this industry. It includes an estimate for small establishments not making satisfactory returns.

	1963	1968
Number of establishments	12	16
Average number employed		
Working proprietors	29	14
Other persons employed	132	168

(c) The decrease in the number of enterprises in 1968 is largely accounted for by the nationalisation of undertakings that were previously recorded as independent.

(d) Including services rendered to other organisations (amounts charged for hiring out plant, machinery or other goods, for providing transport, or for technical or other services rendered).

(e) Administrative, technical and clerical employees.

(f) Excluding expenditure for establishments not yet in production.

(g) Acquisitions less disposals.

TABLE 1 Industry summary, 1963 and 1968
United Kingdom (a) (b)

	Unit	All establishments	
		1963	1968
Number of enterprises (c)	No.	36	22
Number of establishments	"	69	67
Gross output	£'000	190,723	232,496
Net output	"	28,121	46,252
Net output per head	£	1,533	2,663
Sales and work done	£'000	199,973	234,778
		merchanted goods and canteen takings	293
Customs and Excise duty (net)	"	1,056	154
Purchases	"	155,182	176,214
		materials for use in production and packaging and fuel	282
		goods for merchandising and canteen purchases	83
Payments to other organisations	"	83	190
		for work done on materials given out for transport	
		by road	5,468
		by rail and other means excluding postal services	2,169
Stocks and work in progress	"		5,322
Total stocks and work in progress	"	- 10,074	- 4,503
		change during year	23,399
		at end of year	23,147
Goods on hand for sale	"	- 9,391	- 3,778
		change during year	13,833
		at end of year	9,425
Work in progress	"	- 151	+ 60
		change during year	608
		at end of year	1,200
Materials, stores and fuel	"	- 532	- 786
		change during year	8,958
		at end of year	12,522
Number employed on average during the year	Th.	18.3	17.4
		total, including working proprietors	15.4
		operatives	2.9
		other employees (e)	2.9
Wages and salaries	£'000	12,200	15,350
		of operatives	2,825
		of other employees (e)	3,608
Capital expenditure (f)	"		
Total	"	3,604	4,111
New building work	"	319	464
Land and existing buildings (g)	"	11	- 28
Plant and machinery (g)	"	3,196	3,599
Vehicles (g)	"	78	76

(a) For 1968, estimates for establishments not making satisfactory returns and for small establishments, from which only employment data were collected, accounted for about 1 per cent. of the total figures in which they were incorporated; of this, unsatisfactory returns accounted for a negligible amount. A similar situation existed for 1963.

Footnotes continued on page 24/2.

TABLE 2 Analysis by size of establishment within the industry, 1968

(i) Output and employment

All establishments: United Kingdom

Number employed on average during the year by the establishment(a)	Estab-lish-ments	Enter-prises (b)	Total number employed on average during the year(a)	Gross output	Net output	Net output per head
	Number	Number	Number	£'000	£'000	£
1-10	6	5	32	..	..	..
11-24	9	7	148	..	..	..
25-199	12	5	1,398	19,616	2,558	1,830
200-299	15	5	3,563	49,169	9,437	2,649
300-399	9	3	3,049	47,888	7,801	2,558
400 and over	15	4	9,174	113,386	25,972	2,831
Unsatisfactory returns	1	1	2	..	..	..
Total	67	22	17,366	232,496(c)	46,252(c)	2,663(c)

(ii) Employees, wages and salaries

All establishments: United Kingdom

Number employed on average during the year by the establishment(a)	Employees		Wages and salaries		Wages and salaries per head	
	Operatives	Others(d)	Operatives	Others(d)	Operatives	Others(d)
	Number	Number	£'000	£'000	£	£
1-10	..	..	..	..	..	..
11-24	..	..	..	..	..	..
25-199	1,193	205	1,417	241	1,188	1,176
200-299	3,035	527	3,370	650	1,110	1,234
300-399	2,592	457	2,905	630	1,121	1,379
400 and over	7,501	1,673	7,509	2,051	1,001	1,226
Unsatisfactory returns	..	..	..	..	..	..
Total	14,461(c)	2,890(c)	15,350(c)	3,608(c)	1,061(c)	1,248(c)

(a) Including working proprietors.

(b) The sum of the figures for the size groups exceeds the total for the industry to the extent that enterprises made returns for establishments in more than one size group.

(c) Including estimates for establishments employing fewer than 25 persons and for establishments not making satisfactory returns.

(d) Administrative, technical and clerical employees.

TABLE 3 Percentage analysis of employees, by age and sex, 1969 (a)

All establishments: United Kingdom

Ages	Males	Females	All employees
	Per cent.	Per cent.	Per cent.
Under 18	1	-	1
18 and over	95	4	99
All ages	96	4	100

Source: Department of Employment

(a) The percentages relate to the numbers employed (excluding working proprietors) at June 1969, the earliest date for which the information is available on the basis of the Standard Industrial Classification (Revised 1968).

Footnotes to Table 4.

- (a) The method of classifying returns to sub-divisions of the industry is explained in the notes; the characteristic products of each sub-division are identified in Table 5.
- (b) The sum of the figures for the sub-divisions exceeds the total for the industry to the extent that enterprises made returns for more than one sub-division.
- (c) The decrease in the number of enterprises in 1968 is largely accounted for by the nationalisation of undertakings that were previously recorded as independent.
- (d) Including services rendered to other organisations (amounts charged for hiring out plant, machinery or other goods, for providing transport, or for technical or other services rendered).
- (e) Direct sales of goods (excluding canteen takings) made to, and work done for, the general public by larger establishments are included. These amounted to £524,000 in 1968. Similar information is not available for 1963.
- (f) Characteristic products relate only to sub-divisions of the industry.
- (g) For sub-divisions of the industry, this is the ratio of sales of characteristic products to total sales of goods produced and work done. For the industry as a whole, this is the ratio of total sales of principal products by the industry to total sales of goods produced and work done.
- (h) The total amount of drawbacks and allowances receivable in respect of goods exported, deposited etc was £59,000 in 1963 and £4,000 in 1968.
- (i) Administrative, technical and clerical employees.
- (j) Excluding expenditure for establishments not yet in production.
- (k) Acquisitions less disposals.

TABLE 4 Analysis of larger establishments, 1963 and 1968
Establishments employing 25 or more persons: Analysis of returns received, United Kingdom

	Unit	Sub-divisions of the industry (a)				Total	
		Coke ovens		Manufactured fuel and low temperature carbonisation products		1963	1968
		10	1968	20	1968		
Number of enterprises (b) (c)	No.	20	8	6	4	25	1968
Number of establishments	"	45	39	12	12	57	5
Gross output	£'000	162,812	196,324	26,237	33,735	189,049	230,058
Net output	"	23,727	37,091	4,147	8,677	27,874	45,755
Net output per head	£	1,548	2,704	1,451	2,501	1,533	2,666
Sales and work done	£'000	169,418	198,236	28,800	34,082	198,218	232,317
		goods produced and work done (d)(e)					
		merchanted goods and canteen takings					
Sales of characteristic products	"	263	1,369	27	52	290	1,421
Index of specialisation (g)	Per cent.	80	85	66	95	82	(f)
Customs and Excise duty (net) (h)	£'000	1,007	133	40	19	1,046	158
Purchases	"	131,632	150,758	22,188	23,609	153,820	174,367
		materials for use in production and packaging, and fuel					
		goods for merchandising and canteen purchases					
Payments to other organisations	"	254	1,348	26	46	279	1,394
		for work done on materials given out					
		for transport					
		by road					
		by rail and other means excluding postal services					
Stocks and work in progress	"	5,364	4,652	56	654	5,420	2,146
Goods on hand for sale	"	6,719	3,340	2,590	398	9,309	3,738
		change during year					
		at end of year					
Work in progress	"	10,230	7,950	3,481	1,376	13,711	9,328
		change during year					
		at end of year					
Materials, stores and fuel	"	601	1,186	2	1	603	1,187
		change during year					
		at end of year					
Number employed on average during the year	No.	7,653	11,248	1,226	1,144	8,880	12,391
		total including working proprietors					
		operatives					
		other employees (i)					
Wages and salaries	£'000	15,324	13,715	2,858	3,469	18,182	17,184
		of operatives					
		of other employees (i)					
Wages and salaries per head	£	12,772	11,353	2,540	2,968	15,312	14,321
		operatives					
		other employees (i)					
Capital expenditure (j)	"	2,552	2,361	316	501	2,868	2,862
New building work	"	10,108	12,195	2,002	3,006	12,110	15,201
Land and existing buildings	£'000	2,528	2,954	277	619	2,806	3,573
		acquisitions					
		disposals					
Plant and machinery	"	791	1,074	788	1,013	791	1,061
		acquisitions					
		disposals					
Vehicles	"	991	1,251	878	1,235	978	1,248
		acquisitions					
		disposals					
		11	38 (k)	2	38 (k)	13	8

For notes to this table see page 24/5.

TABLE 5 Sales of principal products of the industry by larger establishments, including sales by establishments classified to other industries, 1963 and 1968
Establishments employing 25 or more persons: Analysis of returns received, United Kingdom

Industry sub-division (a)		1963		1968		Enterprises	Entries
		Quantity	Value	Quantity	Value		
		Th. tons	£'000	Th. tons	£'000	Number	Number
10	Coke (b)	15,572	131,503	15,817	157,635	8	40
10	Coke breeze (b)	1,037	3,714	1,573	5,383	8	38
10	Crude benzole (including light oils distilling not less than 90 per cent. at 200°C)	Th. gal.		Th. gal.			
		34,574	2,933	47,087	1,624	14	40
10	Crude coal tar (c)	Th. tons		Th. tons			
		2,094	14,256	1,540	10,008	10	43
10	Ammoniacal liquor	..	291	66.6	126	5	10
20	Manufactured fuels and low temperature carbonisation products						
	Solid smokeless fuels	1,588	14,892	2,991	31,940	*	11
	Other solid fuels	609	4,159	111	421	*	*
	Other products, including coal tar fuels (eg crude tar fuels and creosote/pitch mixtures) and cyclic hydrocarbons used as fuels (d)	..	6,550	..	3,881	14	21
	Other products	..	52	..	284	*	5
	Waste products	..	49	..	97	5	11
	Total		178,398		211,400	..	..
	Sales in other industries (see Table 6)		15,298		7,663	..	..
	Principal products of this industry sold by establishments in the industry		163,101		203,737	11	50(e)

(a) The number given is that of the sub-division of which the item is a characteristic product. The sales shown are total sales by larger establishments, not merely sales by establishments classified to the sub-division.

(b) Mainly metallurgical coke. Sales of coke and coke breeze produced at gas works are included in the report on the Gas Industry (Part 152).

(c) Revised figures for 1963.

(d) For 1963 may include some products not for use as fuels.

(e) This figure represents the total number of returns made for larger establishments in this industry which is less than the total number of establishments shown in Table 4 on account of combined returns covering more than one establishment.

TABLE 6 Sales of principal products of the industry by larger establishments classified to other industries, 1963 and 1968

Establishments employing 25 or more persons:
Analysis of returns received, United Kingdom

	1963		1968			
	Quantity	Value	Quantity	Value	Entries	Principal industries in which produced (a)
Coke (b)	-	-	6.7	67	*	44
Crude benzole (including light oils distilling not less than 90 per cent. at 200°C)	Th.gal. 11,124	£'000 748	Th.gal. 5,992	£'000 154	7	28, 152
Crude coal tar	Th.tons 1,278	8,873	Th.tons 656	4,728	*	152
Ammoniacal liquor	..	219	20.3	67	*	152
Manufactured fuels and low temperature carbonisation products excluding solid smokeless fuels (c)	..	5,458	..	2,647	12	28, 152
Total		15,298		7,663		

(a) The references given are to the list of industries at the front of this report.

(b) Mainly metallurgical coke, sales of coke and coke breeze produced at gas works are included in the report on the Gas Industry (Part 152).

(c) Excluding solid fuels other than smokeless fuels for 1963.

TABLE 7 Sales of other than principal products by larger establishments in the industry, 1963 and 1968

Establishments employing 25 or more persons: Analysis of returns received,
United Kingdom

	1963		1968	
	Quantity	Value	Quantity	Value
Ammonium sulphate (in terms of N)	Th.tons 186	£'000 2,186	Th.tons 169	£'000 2,118
Products of tar distillation and benzole refining (excluding fuel uses) (a)				
Refined coal tar	} 68.9	} 888	15.0	150
Creosote oils (including anthracene oils)			25.9	293
Pitch			66.3	903
Crude tar acids (dry basis) (b)			9.1	274
Unrefined coal tar derivatives not elsewhere specified				

TABLE 7 (continued)

	1963		1968	
	Quantity	Value	Quantity	Value
	Th.tons	£'000	Th.tons	£'000
Cyclic hydrocarbons (excluding sales for use as fuel)				
Anthracene (40 to 50 per cent.)		(c)	1.6	66
Benzene (pure grades) (d)	117	5,281	52.1	970
Coal tar naphthas, solvents and heavy	4.3	182	3.9	78
Naphthalene (crystallising point 77.5°C or over)	11.7	257	11.1	381
Toluene (pure grades) (d)	19.6	1,104	5.8	146
Xylenes (pure grades - separate isomers and mixed isomers) (d)	4.3	263	1.6	39
Other (including benzole 90's, toluole 90's)		(e)	10.3	126
Sulphuric acid including oleum (in terms of 100 per cent. acid)		(e)	19.3	183
Coumarone-indene resins		-	..	231
Other chemicals and chemical products		(c)	..	114
Gas	Th.therms 914,017	23,408	Th.therms 735,094	19,847
Steam and waste heat sold	..	358	..	2,030
Other products including electricity sold	..	1,153	..	237
Services rendered to other organisations (f)		38		266
Total value of goods sold without having been subjected to any manufacturing process (merchanted or factored)	..	204	..	46
Canteen takings		86		1,287
Total		35,407		133
				30,001

(a) For 1963 described as Coal carbonisation products.

(b) Including cresylic acid for 1963.

(c) Not recorded separately for 1963.

(d) For 1963 described as refined (all grades).

(e) Included with Other products for 1963.

(f) Amounts charged for hiring out plant, machinery or other goods, for providing transport, or for technical or other services rendered to other organisations.

TABLE 8 Production of certain principal products of the industry by larger establishments, 1963 and 1968

This table is not applicable to this industry.

TABLE 9 Purchases by larger establishments of selected principal products of the industry, 1968

This table is not applicable to this industry.

TABLE 10 Purchases by larger establishments in the industry, 1963 and 1968

Establishments employing 25 or more persons:
Analysis of returns received, United Kingdom

	1963		1968	
	Quantity	Cost £'000	Quantity	Cost £'000
Materials for use in production				
Coal for carbonisation or for manufactured fuel	..	133,657	..	152,205
Inorganic chemicals (including inorganic gases) (a)				
Sulphuric acid and oleum (b)	..	1,313	..	1,393
Other	..	640	..	824
Crude coal tar for distillation	..	832	..	848
Crude benzole for refining	..	1,202	..	187
Crude tar acids and other unrefined derivatives of coal tar (including pitch) (c)	..	412	..	1,158
Lubricating oils and greases	Th.gal.		Th.gal.	
	535	63	103	30
	Th.cwt.		Th.cwt.	
	{ 9.6	33	0.8	4
	..	46	..	144
Replacement parts for firms' own machinery, plant and vehicles, and accessories and consumable tools bought as replacement				
Tyres and other spare parts for firms' own road goods vehicles	..	2,030	..	20
Other	..	2,030	..	2,920
All other materials for use in production	..	3,778	..	3,528
Packaging materials	..	38	..	25
Fuel and electricity (d)				
Coal	Th.tons		Th.tons	
	330	1,437	187	939
Coke (including screenings) and manufactured fuel				
	139	697	..	213
	Th.gal.		Th.gal.	
Derv fuel and motor spirit for use in road vehicles	192	32	87.1	16
			..	8
Other liquid fuels (including creosote/pitch mixtures, etc and liquefied petroleum gases)	7,026	263	10,103	422
			..	76
Gas	Th.therms		Th.therms	
Blast furnace gas	168,697	3,843	157,971	3,379
Coke oven gas	57,770	1,125	137,941	3,111
Other (including town gas)	15,051	313	12,355	275
	..	240	..	..
	Th.kWh.		Th.kWh.	
Electricity	380,305	1,826	406,025	2,236
All other fuels	..	(e)	..	404
Total cost of materials and fuel		153,820		174,367
Goods purchased for merchanting		196		1,258
Canteen purchases		84		136
Total cost of purchases		154,100		175,761

(a) For 1963 described as Heavy chemicals.

(b) For 1963 described as Sulphuric acid (in terms of 100 per cent. acid).

(c) Pitch was not specifically included for 1963.

(d) The total quantity of electricity generated in establishments employing 25 or more persons in this industry was 68,904 Th.kWh in 1968 and 84,265 Th.kWh in 1963.

(e) Not recorded separately for 1963.

TABLE 11 Transport costs and employment of larger establishments, 1963 and 1968

Establishments employing 25 or more persons: Analysis of returns received, United Kingdom

	Unit	1963	1968
Average number mainly employed on transport	No.	87	51
Transport costs	£'000		
Wages and salaries	"	66	51
Derv fuel and motor spirit	"	32	24
Tyres and other spare parts for road goods vehicles	"	..	20
Payments to other organisations for transport	"	5,420	2,146
			5,267
Costs of operating road goods vehicles			
Insurance	"	2	2
Vehicle licences	"	4	5
Depreciation	"	19	13
Payments to other organisations for repairs and maintenance	"	12	3
Total	"	5,554 (a)	7,530

(a) Excluding tyres and other spare parts for road goods vehicles, not collected separately for 1963.

TABLE 12 Payments for certain services, etc by larger establishments, 1963 and 1968 (a)

Establishments employing 25 or more persons: Analysis of returns received, United Kingdom

	Amounts payable	
	1963	1968
Repairs and maintenance to	£'000	£'000
Buildings	208	135
Road goods vehicles	12	3
Plant, machinery and other capital equipment	1,195	2,525
Insurance, licensing and depreciation of road goods vehicles (b)	24	19
Rates, excluding water rates	1,442	2,413
Hire of plant and machinery	343	511
Postage, telephone, telegrams, cables and telex (c)	51	109
Total	3,276	5,714

(a) No deduction is made for these payments to arrive at the figures of net output given in this report.

(b) For details see Table 11.

(c) Excluding Telex for 1963.

TABLE 13 Percentage analysis of twelve-month periods covered by returns from larger establishments, 1968

Establishments employing 25 or more persons:
Analysis of returns received, United Kingdom

Year ended	Percentage of total returns received	Percentage of total number employed
	Per cent.	Per cent.
1968		
April (a)	0.0	0.0
May	0.0	0.0
June	2.0	2.2
July	0.0	0.0
August	0.0	0.0
September	36.0	43.2
October	0.0	0.0
November	0.0	0.0
December	16.0	16.3
1969		
January	0.0	0.0
February	0.0	0.0
March	46.0	38.3
April (b)	0.0	0.0
	100	100

(a) From 6 April.

(b) To 5 April.