

ENERGY AND UTILITIES

During these years King Coal not only found his realm rapidly shrinking but, by the end, had been effectively toppled from his throne altogether. Because of its prominence - economically, socially and politically - the coal industry had long been subjected to close assessment and measurement. Thus even as it dwindled towards invisibility it is accurately and carefully recorded (Table 6.1). For example, for Wales in 1993 another landmark can be clearly identified as the amount of coal derived from deep mining is overtaken by that obtained from open-cast sites: miners finally replaced by bull-dozers.

Making due allowance for the inherent difficulties involved (e.g. defining boundaries between categories of users etc. which inevitably over-lapped in parts), the data in this section are, for most of the period covered, of a high quality. The tables relate to major public services provided over most of the time by large public undertakings: the provision of detailed (some would say excessive) statistical information was largely

a matter of routine. There were still problems beyond the definitions of categories already mentioned: taking figures for Wales from a general UK public enterprise is not simply mechanical: in electricity, for example (Table 6.2) there was no single regional board which corresponded to Wales and, as footnotes to tables 6.5, 6.6 and 6.7 indicate, water and rivers untidily flow between the national borders between England and Wales. These problems naturally carried over to the era of the provision of these public services by private companies in the late 1980s and early 1990s and, in a statistical sense, were exacerbated by two considerations: where political Wales was not its natural administrative unit there was no obvious reason for a private concern to invest time and effort extracting information on this basis; and some of the more detailed material might be withheld for commercial reasons.

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6.1 Coal: availability and consumption, Wales (a)

Availability										Less coal for abroad, including foreign and coastwise bunkers	Total available for home consumption
Coal production			Recovered slurry, fines etc. (b)	Imported from abroad	Change in stocks						
Deep mined	Open cast	Total			Total	Colliery	Open cast	Total available			
1974	7.96	2.41	10.37	0.39	0.58	11.34	-1.14	-0.76	13.24	1.13	12.11
1975	8.57	2.04	10.91	0.34	2.34	13.59	0.52	-0.75	13.82	1.32	12.50
1976	8.58	2.19	10.77	0.63	1.78	13.18	0.21	-0.40	13.37	0.88	12.49
1977	8.32	2.44	10.76	0.59	0.82	12.17	-0.05	0.17	12.05	0.66	11.39
1978	8.64	2.84	11.48	0.75	0.61	12.84	0.47	0.86	11.51	0.50	11.01
1979	8.74	2.15	10.89	0.69	1.17	12.75	-0.17	-0.35	13.27	0.78	12.49
1980	8.75	2.31	11.06	0.75	1.50	13.31	0.70	0.79	11.82	0.91	10.91
1981	8.61	2.23	10.84	0.87	0.63	12.34	-1.02	-0.14	13.50	1.47	12.03
1982	8.22	2.30	10.52	1.31	1.19	13.02	-	0.13	12.89	1.09	11.80
1983	7.95	1.52	9.47	1.12	0.69	11.28	-0.32	-0.61	12.21	1.34	10.87
1984	1.76	1.68	3.44	0.16	2.06	5.66	-0.24	0.71	5.19	0.44	4.75
1985	6.02	2.07	8.08	1.28	2.20	11.56	-0.32	-0.90	12.78	0.46	12.33
1986	7.70	1.60	9.30	1.32	1.89	12.50	0.19	-0.71	13.01	0.45	12.56
1987	6.30	1.74	8.04	0.88	2.18	11.10	-0.26	-0.14	11.50	0.19	11.31
1988	5.66	1.72	7.37	0.75	0.50	8.63	-0.65	0.04	9.24	0.23	9.01
1989	4.71	2.08	6.79	0.26	3.11	10.16	-0.49	0.51	10.14	0.26	9.88
1990	4.60	1.80	6.40	0.34	3.59	10.33	-0.11	0.13	10.31	0.46	9.85
1991	3.05	2.14	5.19	0.51	3.68	9.38	0.98	0.47	7.93	0.59	8.29
1992	2.60	2.28	4.87	0.13	3.28	8.28	-0.27	-0.27	8.28	0.26	8.32
1993	1.98	2.52	4.50	0.15	3.58	8.23	-0.71	0.33	8.61	0.26	8.35

- (a) The figures relate to periods of 52 weeks unless otherwise stated.
- (b) Estimated figures which relate to slurry, etc. recovered and disposed of other than by British Coal from dumps, ponds, etc.
- (c) In railway and transport power stations.
- (d) The figures relate to colliery and open-cast disposals for the domestic market.
- (e) Including known consumption by defence departments, low temperature carbonised plants, coal other than at carbonised coke ovens, and estimates for industrial consumers other than iron and steel using less than 1,000 tonnes of coal a year, non-industrial establishments, docks and harbours and distribution losses

6.1 (continued) Coal: availability and consumption, Wales (a)

Thousand tonnes

Consumption in Wales										
Electricity supply industry (c)	Coke ovens	Manufacturing fuel plants	Collieries	Industry	Domestic (d)				Total home consumption	
					House coal	Anthracite and dry steam coal	Miners' coal	Miscellan- eous (e)		
3.41	4.90	0.81	0.05	0.22	0.63	0.58	0.32	0.16	11.08	1974
2.66	4.82	0.96	0.07	0.19	0.46	0.37	0.34	0.10	9.97	1975
2.38	5.50	0.92	0.07	0.31	0.64	0.30	0.36	0.10	10.59	1976
2.89	5.06	0.88	0.09	0.26	0.68	0.34	0.32	0.15	10.67	1977
3.23	4.29	0.87	0.11	0.22	0.62	0.36	0.34	0.11	10.15	1978
3.93	4.36	0.78	0.07	0.32	0.61	0.38	0.34	0.15	10.94	1979
3.54	2.88	0.75	0.06	0.33	0.48	0.38	0.32	0.23	8.97	1980
4.85	2.85	0.75	0.06	0.35	0.44	0.35	0.32	0.15	10.12	1981
4.06	2.69	0.67	0.06	0.41	0.44	0.39	0.33	0.09	9.14	1982
4.29	3.42	0.59	0.05	0.36	0.38	0.37	0.34	0.07	9.87	1983
1.62	2.94	0.12	0.02	0.18	0.21	0.16	0.14	0.08	5.46	1984
3.80	3.32	0.46	0.03	0.26	0.34	0.33	0.31	0.03	8.88	1985
4.43	3.40	0.64	0.02	0.18	0.21	0.74	0.27	0.17	10.6	1986
4.18	3.22	0.64	0.02	0.16	0.21	0.77	0.25	0.11	9.53	1987
4.58	3.30	0.74	0.01	0.19	0.15	0.46	0.16	0.17	9.77	1988
4.73	3.29	0.59	0.01	0.10	0.23	0.20	0.10	0.23	9.46	1989
..	3.31	0.25	-	0.10	0.24	0.16	0.07	0.46	..	1990
..	3.14	0.12	-	0.08	0.20	0.17	0.09	0.08	..	1991
..	3.08	0.10	-	0.06	0.16	0.14	0.08	0.04	..	1992
..	3.05	0.13	-	0.02	0.16	0.21	..	0.05	..	1993

Source: Digest of Welsh Statistics

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6.2 Electricity: generation and sales (a)

	Generation (Gwh) (b)						Sales		
	Electricity generated by			Less used on works (d)	Electricity supplied (net) (d)	Percent of United Kingdom total	Domestic	Farms	Public lighting
	Steam plant	Hydro plant (c)	Oil engines						
1973	21,969	541	40	2,502	20,048	7.7	3,730	258	86
1974	25,470	578	30	2,902	23,176	9.3	3,856	249	79
1975	20,404	451	19	2,290	18,604	7.4	3,704	253	95
1976	24,028	507	2	2,919	21,618	8.5	3,601	252	97
1977	25,330	556	17	2,953	22,950	9.9	3,710	272	99
1978	25,930	552	12	2,759	23,735	10.3	3,684	274	103
1979	27,985	553	13	3,070	25,481	9.8	3,868	292	107
1980	22,823	556	2	2,775	20,606	8.3	3,755	283	110
1981	26,465	609	2	3,102	23,974	9.9	3,656	274	111
1982	24,327	569	3	3,014	21,885	9.2	3,681	286	114
1983	23,599	1,312	1	3,850	21,063	8.7	3,636	288	115
1984	25,043	1,541	21	4,267	22,338	9.1	3,636	279	119
1985	25,933	2,295	26	5,322	22,931	8.9	3,880	291	119
1986	23,812	2,145	6	5,018	20,944	8.0	4,030	298	124
1987	20,820	1,966	6	4,601	18,192	..	4,034	297	123
1988	22,929	2,019	2	4,761	20,187	..	4,026	286	127
1989	25,458	1,725	2	4,598	22,587	..	4,060	292	129
1990	-----26,510-----			4,643	21,867	7.4	..	..	..
1991	-----23,058-----			3,735	19,322	6.4	..	..	..
1992	-----22,409-----			4,079	18,332	6.0	..	..	..
1993	-----20,028-----			4,283	15,745	5.2	..	..	..
1994	-----18,464-----			4,545	13,918	4.6	..	..	..

- (a) Figures from 1990 onwards were obtained directly from newly privatised companies and may not be comparable with those for earlier years. More detailed information cannot be published due to considerations of commercial confidentiality.
- (b) Gigawatt hour = million kilowatt hours.
- (c) Includes units generated at pumped storage station.
- (d) Including units used in pumping at pumped storage station. The difference between these figures and those shown for total sales is accounted for by transfers to England, direct sales (usually to industrial customers), and losses in transmission.
- (e) Industrial sales in Northern Ireland are included in the commercial category, thus Welsh sales for these sectors can only meaningfully be compared with Great Britain totals.
- (f) Direct sales by the CEGB cannot be allocated between regions in England and Wales without disclosure of figures relating to individual establishments: these sales are thus only included in United Kingdom or Great Britain totals.

6.2 (continued) Electricity: generation and sales (a)

Sales (continued)			Per cent of United Kingdom (or Great Britain) total sales						
Commercial	Industrial	Total	Domestic	Farms	Public lighting	Commercial (e)	Industrial (e) (f)	Total	
1,524	7,156	12,754	4.1	6.5	4.3	4.0	8.4	5.7	1973
1,441	6,790	12,415	4.2	6.3	4.2	4.2	8.4	5.7	1974
1,529	6,278	11,859	4.2	6.9	4.5	4.1	7.8	5.4	1975
1,598	7,044	12,592	4.2	7.0	4.4	4.1	8.2	5.7	1976
1,659	7,180	12,920	4.3	6.9	4.4	4.1	8.2	5.7	1977
1,711	7,457	13,229	4.3	6.8	4.6	4.0	8.3	5.7	1978
1,847	8,172	14,286	4.3	7.1	4.6	4.1	8.7	5.9	1979
1,850	6,709	12,707	4.4	7.1	4.5	4.0	7.8	5.5	1980
1,844	6,857	12,742	4.3	7.2	4.5	4.0	8.2	5.6	1981
1,881	6,882	12,844	4.4	7.5	4.7	4.0	8.5	5.6	1982
1,925	7,110	13,073	4.4	7.7	4.9	3.9	8.7	5.8	1983
1,993	6,961	12,988	4.3	7.5	5.0	3.9	8.4	5.7	1984
2,082	7,660	13,972	4.4	7.2	4.9	3.8	8.9	5.8	1985
2,186	8,110	14,748	4.4	7.4	5.2	3.8	9.4	5.9	1986
2,252	8,281	14,987	..	..	..	..	..	..	1987
2,365	8,639	15,443	..	..	..	..	..	..	1988
2,469	8,981	15,931	..	..	..	..	..	..	1989
..	..	16,228	..	..	..	..	..	6.0	1990
..	..	16,118	..	..	..	..	..	5.8	1991
..	..	16,363	..	..	..	..	..	5.8	1992
..	..	16,589	..	..	..	..	..	5.9	1993
..	..	15,869	..	..	..	..	..	5.6	1994

Source: Welsh Office and Department of Trade and Industry

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6.3 Gas sales (a)

Million therms

	Sales				Per cent of United Kingdom total sales			
	Domestic	Industrial (b)	Other sectors	Total	Domestic	Industrial (b)	Other sectors	Total
1973	131	259	52	442	2.7	5.4	4.8	4.1
1974	157	279	52	488	2.9	4.6	4.1	3.9
1975	175	260	65	500	3.0	4.4	4.8	3.8
1976	196	332	69	597	3.2	5.3	4.5	4.3
1977	215	361	74	650	3.3	5.6	4.7	4.5
1978	248	344	83	675	3.4	5.5	4.8	4.4
1979 (c)	302	357	95	754	3.7	5.5	4.6	4.5
1980	312	290	92	694	3.7	5.0	4.3	4.2
1981	343	276	101	720	3.8	4.8	4.5	4.3
1982	334	257	100	691	3.9	4.6	4.5	4.2
1983	356	356	106	818	3.9	6.2	4.4	4.7
1984	363	378	109	850	3.9	6.3	4.4	4.8
1985	414	382	119	915	4.1	6.5	4.3	4.9
1986	429	379	128	936				
1987	423	393	125	941	4.2	6.8	4.3	5.0
1988	421	957	116	894	4.2	6.8	4.0	5.0
1989	423	404	123	950	4.3	7.0	4.6	5.2
1990	483	394	145	1,022	4.5	7.0	4.6	5.2
1991 (d)	510	385	153	1,048	4.4	7.4	4.4	5.2
1992	518	..	..	..	4.6	..	..	..
1993	534	..	..	..	4.6	..	..	..
1994	515	..	..	..	4.6	..	..	..

Source: Welsh Trends and Digest of Welsh Statistics from information provided by Department of Energy and British Gas PLC

- (a) Town and natural gas.
- (b) Includes sales to public supply and railway and transport power stations
- (c) From 1979, refers to financial years ending following March.
- (d) From 1991, British Gas changed its accounting period to end in December.

6.4 Crude oil distillation capacity (a)*Thousand tonnes per annum*

	British Petroleum Co. Ltd. Llandarcy	Esso Petroleum Co. Ltd. Milford Haven	Texaco Refining Co. Ltd. Pembroke	Gulf Oil Refining Ltd. Milford Haven	Elf Oil Ltd./ Murco Petroleum Ltd. Milford Haven (b)	Total all refineries	Percent of total United Kingdom capacity
1970	8,130	6,095	5,945	4,470	-	24,640	21.5
1971	8,200	6,000	6,700	4,400	-	25,300	21.1
1972	8,330	6,300	7,245	5,150	-	27,025	21.8
1973	8,330	15,400	8,900	5,150	4,000	41,780	29.4
1974	8,300	15,400	8,900	5,150	4,000	41,750	28.0
1975	8,080	15,400	9,400	5,150	5,000	43,030	29.2
1976	5,400	15,400	9,400	5,150	5,000	40,350	27.7
1977	4,800	14,600	9,250	5,150	5,000	38,800	27.8
1978	4,800	8,500	9,250	5,150	5,000	32,700	24.6
1979	5,200	8,500	9,140	5,150	5,000	32,990	24.8
1980	5,500	8,500	9,140	5,150	5,000	33,290	25.6
1981	5,500	8,500	9,140	5,150	5,000	33,290	26.6
1982	5,500	8,500	9,140	5,285	5,000	33,425	29.5
1983	5,500	-	9,140	4,623	4,860	24,123	24.0
1984	5,500	-	9,140	4,620	4,860	24,120	25.3
1985	2,750	-	9,140	4,620	4,860	21,370	23.2
1986	-	-	9,140	4,620	4,720	18,480	20.6
1987	-	-	9,140	5,133	5,080	19,353	21.4
1988	-	-	9,140	5,133	5,298	19,571	21.7
1989	-	-	9,140	5,133	5,294	19,567	21.5
1990	-	-	9,140	5,355	5,082	19,577	21.3
1991	-	-	9,140	5,600	5,111	19,851	21.9
1992	-	-	9,140	5,600	5,111	19,851	21.6
1993	-	-	9,140	5,600	5,111	19,851	21.5
1994	-	-	9,140	5,600	5,500	20,240	21.8
1995	-	-	9,140	5,400	5,300	19,840	21.6
1996	-	-	9,140	5,400	5,300	19,840	21.2

Source: Department of Trade and Industry

- (a) At 31 December each year. Figures for years prior to 1977 purport to show the theoretical maximum sustained throughout with units in a clean condition; from 1977 a standardised definition has been adopted for all companies based on the rated design capacity per stream day, multiplied by the average number of days in operation per year.
- (b) This refinery was operated by Elf Oil Ltd. with effect from 1 August 1990. It was previously operated by Amoco (UK) Ltd.

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6.5 Water, average daily output

<i>Megalitres per day (a)</i>						
	Water Authority undertakings (b)		Water companies (c)		Water from Welsh sources supplied to England (d)	Total average daily output
	Unmetered supplies	Metered supplies	Unmetered supplies	Metered supplies		
1970	543	416	20	11	652	1,642
1971	557	410	20	11	641	1,639
1972	573	435	20	12	662	1,702
1973	605	438	22	13	661	1,739
1974	624	451	26	14	601	1,716
1975	636	423	26	14	620	1,719
1976	596	376	22	16	567	1,577
1977	618	382	23	17	585	1,625
1978	645	398	23	18	627	1,711
1979	712	437	24	19	1,103	2,295
1980	771	369	33	11	1,104	2,288
1981	789	357	27	17	1,101	2,291
1982	795	365	29	18	1,093	2,300
1983	777	362	28	18	1,060	2,245
1984	705	338	28	15	1,076	2,162
1985	738	327	27	17	1,154	2,263
1986	767	354	25	18	1,145	2,309
1987	788	362	27	17	960	2,154
1988	789	368	27	15	958	2,157
1989	783	374	23	19	1,070	2,269
1990	807	388	29	17	1,157	2,397
1991	815	383	31	14	1,168	2,411
1992	807	370	28	15	1,119	2,339
1993	800	368	27	16	1,106	2,317
1994	806	363	28	17	1,098	2,312
1995	851	374	29	18	1,133	2,405
1996	789	384	28	17	1,062	2,280

Source: Digest of Welsh Statistics

- (a) 1 megalitre = 0.22 million gallons.
 (b) Includes water supply of both the Welsh Water Authority and the Severn-Trent Water Authority within Wales.
 (c) Since 1970 only the Wrexham and East Denbighshire Water Company. The company has acted as agent for the Welsh Water Authority since 1 April 1974.
 (d) Figures from 1979 onwards include water supplied to England by regulation of the River Dee from Llyn Celyn, Llyn Tegid (Bala Lake) and the Brenig reservoir. From 1982 revised figures include abstractions from the River Dee by Chester waterworks company. Figures exclude water supplied to England by regulation of the Rivers Severn and Wye.

6.6 Summary of Dŵr Cymru Welsh Water operations

	Employees (b) (c)		Wages and Salaries		Distribution input (Thousand cubic metres)			Capital	Income
	(Number)		(c) (d) (£ million)					expenditure	(£ millions)
	Non-manual	Manual	Non-manual	Manual	Unmeasured (potable)	Metered (potable)	Industrial (non-potable)	(£ millions) (e)	(£ millions) (f)
1974-75	1,129	1,760	3.3	3.5	234,724	111,817	43,369	12.3	25.7
1975-76	2,446	2,930	9.9	8.8	241,731	107,362	40,791	13.1	35.3
1976-77	2,582	3,018	12.6	10.1	255,090	98,325	38,815	13.3	39.7
1977-78	2,651	2,950	14.4	10.9	244,847	98,205	41,363	15.1	45.2
1978-79	2,689	2,905	16.7	12.8	254,405	102,930	41,364	14.8	46.8
1979-80	2,913	2,743	19.8	15.8	265,335	103,400	41,975	14.3	52.3
1980-81	2,985	2,751	25.4	18.8	270,465	93,075	39,785	13.2	59.1
1981-82	2,918	2,759	29.5	21.3	274,115	90,520	41,245	14.7	66.7
1982-83	2,728	2,696	30.3	20.9	272,290	90,155	40,880	20.0	79.7
1983-84	2,624	2,555	30.5	24.2	278,526	91,500	42,090	24.7	82.7
1984-85	2,334	2,375	30.3	24.3	266,670	87,600	38,900	17.9	85.2
1985-86	2,380	2,365	25.7	21.6	276,000	83,950	39,055	23.5	90.9
1986-87	2,454	2,387	27.8	23.3	280,000	86,000	42,000	21.8	100.4
1987-88	2,428	2,191	29.4	23.4	285,000	83,000	47,500	25.0	112.6
1988-89	2,267	1,975	30.7	21.6	283,200	84,200	49,700	28.5	119.6
1989-90	2,155	842	31.6	24.9	287,900	83,800	55,200	44.5	134.7
1990-91	2,303	1,909	33.6	27.1	294,630	87,640	54,000	65.9	162.5
1991-92 (g)	4,314	..	79.2	..	297,800	88,100	51,500	82.5	192.9
1992-93 (g)	3,481	..	71.4	..	294,600	84,500	50,400	79.3	207.2
1993-94 (g)	3,386	..	73.2	..	292,100	82,600	51,600	94.1	226.6
1994-95 (g)	3,282	..	65.1	..	294,200	82,640	49,950	103.0	219.6

Source: Dŵr Cymru Welsh Water and National Rivers Authority

- (a) Data relates to the whole of the Dŵr Cymru Water area, which in case of the water supply service includes parts of Hereford, Worcester and Gloucestershire (and additionally in the case of sewage services, parts of Merseyside, Cheshire and Shropshire).
- (b) The number of employees is the average number of full time and the full time equivalents of part time employees through the year.
- (c) Figures for 1990-91 and 1991-92 are for both Dŵr Cymru Welsh Water and National Rivers Authority (Welsh Region). Prior to this figures are for the Welsh Water Authority and subsequent figures are for Dŵr Cymru Welsh Water alone. From 1991-92 there is no distinction made between manual and non-manual employees and the figures shown are totals.
- (d) Employee costs include cost of employees working on revenue capital and rechargeable jobs and include Employers charges.
- (e) Capital expenditure is shown net of infrastructure adjustment.
- (f) Water income relates solely to the water supply service and excludes water resources, recreation and amenity, and reservoir fishing income.
- (g) These figures previously included the functions now undertaken by the National Rivers Authority.

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6.7 Average daily quantity of water abstracted

	Water supply (b)	Spray irrigation	Agriculture	Electricity supply (c)	Industrial	Other	Severn Trent (d)	North West (e)	Total from Welsh sources
1979	2,148	2	8	4,513	1,375	-	12	211	8,269
1980	2,060	2	4	5,581	849	33	12	211	8,752
1981	2,074	1	4	6,961	744	98	13	212	10,107
1982	2,126	2	5	6,791	660	88	14	196	9,882
1983	2,050	2	5	7,427	575	88	14	202	10,363
1984	2,039	4	7	9,801	561	86	12	195	12,705
1985	2,130	2	14	7,784	356	76	13	198	10,573
1986	2,095	2	15	9,226	571	96	13	216	12,234
1987	2,149	2	15	9,026	544	89	15	255	12,095
1988	2,449	14	15	8,326	600	116	15	260	11,795
1989	2,352	6	12	9,214	566	102	15	246	12,513
1990	2,671	7	11	10,022	623	217	15	246	13,812
1991	2,574	9	18	8,307	592	500	15	240	12,255
1992	2,544	15	18	14,931	708	510	17	242	18,985
1993	2,023	3	5	5,925	507	253	17	246	8,979
1994	1,778	7	8	4,697	686	254	16	242	7,698
1995	1,587	11	7	4,583	601	303	17	240	7,349
1996	2,054	10	6	6,826	608	359	16	231	10,110

Source: Digest of Welsh Statistics

- (a) 1 megalitre = 0.22 million gallons.
- (b) In September 1989 drinking water responsibilities passed from the Welsh Water Authority, Severn Trent Authority and North West Water Authority to Dŵr Cymru Cyfyngedig, Severn Trent Water Ltd and North West Water Ltd. respectively. Figures include all abstractions by Dŵr Cymru Cyfyngedig and abstractions by Severn Trent and North West companies from within the area of Dŵr Cymru Cyfyngedig.
- (c) Detail supplied by the National Rivers Authority. The large increase in 1992 arises because water that was defined as a transfer is now deemed at abstraction.
- (d) Figures include only those abstractions by Severn Water Ltd from that part of its area which lies within Wales.
- (e) Figures include only those abstractions by North West Water Ltd from that part of its area which lies within Wales.