

CHAPTER 13

**Patterns and Trends in
Ownership of Federal Coal
Leases and PRLAs 1950=80**

Contents

	Page
ownership by Business Activity Category.	372
Electric Utilities	376
Energy Companies.	377
Peabody Coal Co.	377
Steel Companies	377
Independent Coal Companies	378
Oil and Gas Companies (Minor).	378
Unincorporated Individuals	378
Natural Gas Pipeline Companies.	379
Nonresource-Related Diversified Companies .	379
Kemmerer Coal Co.	379
Metals and Mining Companies	379
Landholding Companies.	380
“Other” Lessees	380

Federal Coal Production by Business Category 4*** .***** .***.*** 380**

The Business Organization of Coal Lease and PRLA Owners. 381

Unincorporated Individuals	382
Independent Corporations.	382
Subsidiary Corporations.	382
Multicorporate Entities	383

Implications of Lease and PRLA Ownership Patterns and Trends. 384

Concentration.	384
Diversification.	384
Leasing Policies	386

List of Tables

Table No.	Page
107. Number of Acres and Percent of Total Leased Land Held by Business Activity Category	373

Table No.	Page
108. Changes in Federal Coal Lease Own&shin Because of Recent Major Corporate-Ownership Changes.	373
109. Number of Acres and Percent of Land Under PRLAs Held by Business Activity Category	375
110. Federal Leaseholdings and Production by Business Category.	376
111. Number of Acres Under Lease by Type of Business Organization 1950-1980 and Percent of Total Leased Land by Type of Business Organization.	381
112. Acres and Percent of Total Acres Under PRLAs Held by Business Organization Category	382

List of Figures

Figure No.	Page
56. Total Acres of Federal Coal Under Lease 1950-80.	371
57. Number of Federal Coal Acres Under Lease by Business Activity Category, 1950-80.	374
58. 1980 Coal Leaseholdings by Business Activity Category	375
59. 1980 PRLA Holdings by Business Activity Category	376
60. Number of Federal Coal Acres Under Lease by Type of Business Organization, 1950-80	382

Patterns and Trends in Ownership of Federal Coal Leases and PRLAs 1950-80¹

The Federal coal leasing program makes Federal coal land available for mining by the private sector. Hence, the amount and location of leased land helps define the extent of the coal reserve base of the industry. Figure 56 shows the total number of acres under Federal coal lease from 1950 to 1980. The regions with leased coal lands in the West are shown in figure 17 and discussed in chapter 4.

This chapter summarizes the results of a study of the ownership histories of each of the 538 Federal coal leases and 176 preference right lease applications (PRLAs) in existence as of September 30, 1979. * The chapter identifies the participants in the coal leasing program between 1950 and 1980 and examines the changing ownership patterns of Federal coal leased to the private sector. The ownership histories of companies, grouped according to similar business activities or business organizational structures, are considered separately.

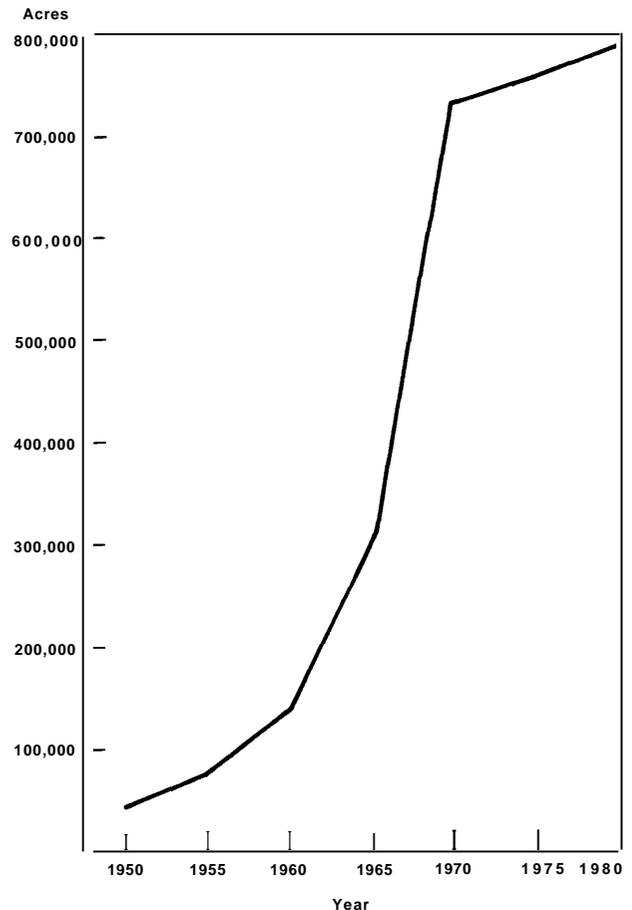
The principal data used for this chapter were case histories of the legal ownership of the titles to each Federal lease and PRLA. **

¹For further information on this subject, see the OTA Technical Memorandum, *Patterns and Trends in Federal Coal Lease Ownership 1950-80*. (OTA-TM-M-7, March 1981. The Technical Memorandum is available from the Superintendent of Documents, U. S. Government Printing office, Washington, D.C. 20052, at \$4.00 per copy. Its GPO stock number is 052-003-00799-1.

*In its ownership work, OTA did not analyze leases or PRLAs that were relinquished prior to Sept. 30, 1979 or the few leases issued in late 1979 or in 1980. Thus, the coal lease acreage totals in this chapter and the total number of leases considered in this chapter differ slightly from the totals in the rest of the report, which include a 11 leases in existence on Sept. 30, 1980. A complete presentation of the methodology and findings of the ownership study is contained in the OTA Technical Memorandum referenced above.

**OTA examined the owners of record of leases and PRLAs. It did not study companies participating in the leasing program in other capacities such as "designated operators" of mines working under contract to lessees or "sublessee" investors,

Figure 56.—Total Acres of Federal Coal Under Lease 1950-80



SOURCE Office of Technology Assessment

This information was collected from primary sources, principally serial books and case files maintained by State offices of the Bureau of Land Management. From this data, lists of all owners of leases and PRLAs at each of seven analysis dates were developed and the holdings of each owner tabulated. The analysis dates were January 2 of the years 1950, 1955, 1960, 1965, 1970, 1975, and 1980. Next, each present and past owner

of Federal coal during this period was classified according to its principal line of business activity (if an individual or an independent corporation) or by the business activity of its controlling interest or interests (if a wholly owned subsidiary or a joint venture). In addition, all present and past owners were categorized according to their type of business organization structures. Detailed and separate analyses were then done for any business activity category and business organization structure that controlled at least 5 percent of all land under lease or PRLA at one of the dates listed above. Individual analyses were also done for any company that did not clearly fall into an identifiable business category but nonetheless controlled 5 percent of leased land or land under PRLA at one of the dates selected for analysis. Remaining owners were grouped in an other category.

Thirteen categories of business activity groups holding leases and 10 categories of PRLA owners were identified and studied. Also, four types of business organization categories were identified for both lease and PRLA owners. The business activity cat-

egories for leaseowners and PRLA holders are as follows:

Business Activity Categories Defined by OTA

Leaseholders*	PRLA holders
Electric utilities	Unincorporated
Energy companies	individuals
Peabody Coal Co.	Energy companies
Steel companies	Natural gas pipeline
Independent coal companies	companies
Oil and gas (minor) companies	Kemmerer Coal Co.**
Unincorporated individuals	Metals and mining companies
Natural gas pipeline companies	Electric utilities
Nonresource-related diversified companies	Oil and gas (minor) companies
Kemmerer Coal Co.**	Landholding companies
Metals and mining companies	International
Landholding companies	Geomarine and Coal Conversion Co,
"Other" lessees	"Other" lessees

*The categories include 10 industries, two individual companies that were classified as distinct business categories for various reasons and an other category for the remaining lessees. Each of the 13 business categories controlled or controls at least 5 percent of all land under lease at some time between 1950 and 1980.

**In March, 1981 Kemmerer Coal Co. was purchased by Gulf Oil Corp.

Ownership by Business Activity Category

Tables 107 and 108 and figure 57 summarize data on the relative and absolute growth and decline in leaseholdings by the 13 business activities defined and studied by OTA. Table 109 provides similar information for the 10 categories of PRLA owners. These tables and the figure show that:

- The electric utilities, major energy companies, oil and gas (minor) companies, natural gas pipeline companies, and nonresource-related diversified companies have all increased their Federal coal landholdings significantly since 1965 both in absolute and relative terms.
- Independent coal companies and unincorporated individuals dominated coal leasing in the 1950's and the first half of

the 1960's but their leaseholdings, expressed as a fraction of the total land under lease, have steadily declined since 1950. Individuals are still the dominant class of PRLA holder.

- Peabody Coal Co. and Kemmerer Coal Co. have played important and long standing roles as large individual leasing parties.
- Steel and metals and mining companies were early leasing participants, but steel industry influence has declined steadily in relative terms since 1955, although the acreage held by the steel industry has steadily increased since 1950. Metals and mining company leaseholdings have varied widely, due in part

Table 107.—Number of Acres and Percent of Total Leased Land Held by Business Activity Category

	1950		1955		1960		1965		1970		1975		1980	
	Acres held (#)	Land leased (%)												
Electric utilities	0	0	2,000	3%	8,263	6%	45,363	15%	132,038	18%	142,077	19%	163,259	21%
Energy companies	0	0	0	0	0	0	9,491	3	132,274	18	138,409	18	155,024	20
Peabody Coal Co.	0	0	0	0	0	0	(6,251)	(2)	(59,121)	(8)	(68,923)	(9)	62,009	8
Steel companies	4,993	12	14,817	19	19,888	14	34,158	11	46,114	6	49,448	6	60,015	8
Independent coal companies	14,584	35	25,022	33	41,557	29	77,273	25	78,297	11	58,837	8	55,410	7
Oil and gas (minor) companies	0	0	0	0	0	0	2,080	1	26,911	4	42,193	6	45,926	6
Unincorporated individuals	11,129	27	17,618	23	25,678	18	41,475	13	78,995	11	66,515	9	43,215	5
Natural gas pipeline companies	0	0	0	0	0	0	0	0	0	0	32,522	4	36,317	5
Nonresource-related diversified companies	0	0	0	0	0	0	4,610	1	10,015	1	12,580	2	35,675	5
Kemmerer Coal Co. *	475	1	1,752	2	6,849	5	18,504	6	33,793	5	33,988	4	32,191	4
Metals and mining companies	5,009	12	5,009	7	9,266	6	17,708	6	107,504	15	118,300	15	17,620	2
Landholding companies	1,360	3	4,576	6	11,504	8	13,411	4	43,581	6	26,225	3	4,661	1
"Other" lessees	2,907	7	3,240	4	18,288	13	39,134	13	41,153	6	37,051	5	77,861	10

NOTE Uncategorized lessees hold less than 2 percent of land under lease at any analysis date

Numbers might not add to 100 percent because of the holdings of uncategorized lessees

Numbers in () tabulated in metals and mining category (1970 and 1975) or in independent coal company category (1965)	1950	1955	1960	1965	1970	1975	1980
Uncategorized Lessees	1035	1,915	2,453	5,147	2643	6,848	1845
	2%	3%	2%	2%	< 1%	1%	< 1%

*In March 1981, Kemmerer Coal Co was purchased by Gulf Oil Corp.

SOURCE Off Ice of Technology Assessment

Table 108.—Changes in Federal Coal Lease Ownership Because of Recent Major Corporate Ownership Changes

Corporate ownership change ^a	Number of leases involved	Number of acres involved	Change in business activity category	Change in business organization category
Kemmerer Coal Co. purchased by Gulf Oil Corp.	26	37,191	From Kemmerer Coal Co. to energy companies	No change
St. Joe Minerals Corp. purchased by Fluor Corp. ^b	1	280	From metals and mining companies to nonresource-related diversified companies	No change
Energy Fuels Corp. purchased by Getty Oil Corp. ^c	5	4,521	From independent coal companies to energy companies	From independent corporations to subsidiaries
Belden Enterprises purchased first by Grand Mesa Coal Co., which was bought by Eastern Gas and Fuel Associates jointly with Nicor, Inc.	1	42	From independent coal companies to "other" and natural gas pipeline companies	From independent corporations to multicorporate entities
CONOCO, Inc. purchased by E I du Pont de Nemours & Co	31	43,442	From energy companies to non-resource-related diversified companies	No change
Sum: (10% of total leased Federal coal acreage)		80,476		

^aThe table does not reflect lease ownership changes that have occurred because of the assignment of leases after Jan 1, 1980 and which, consequently, are not reflected in any tables, figures or text in this chapter

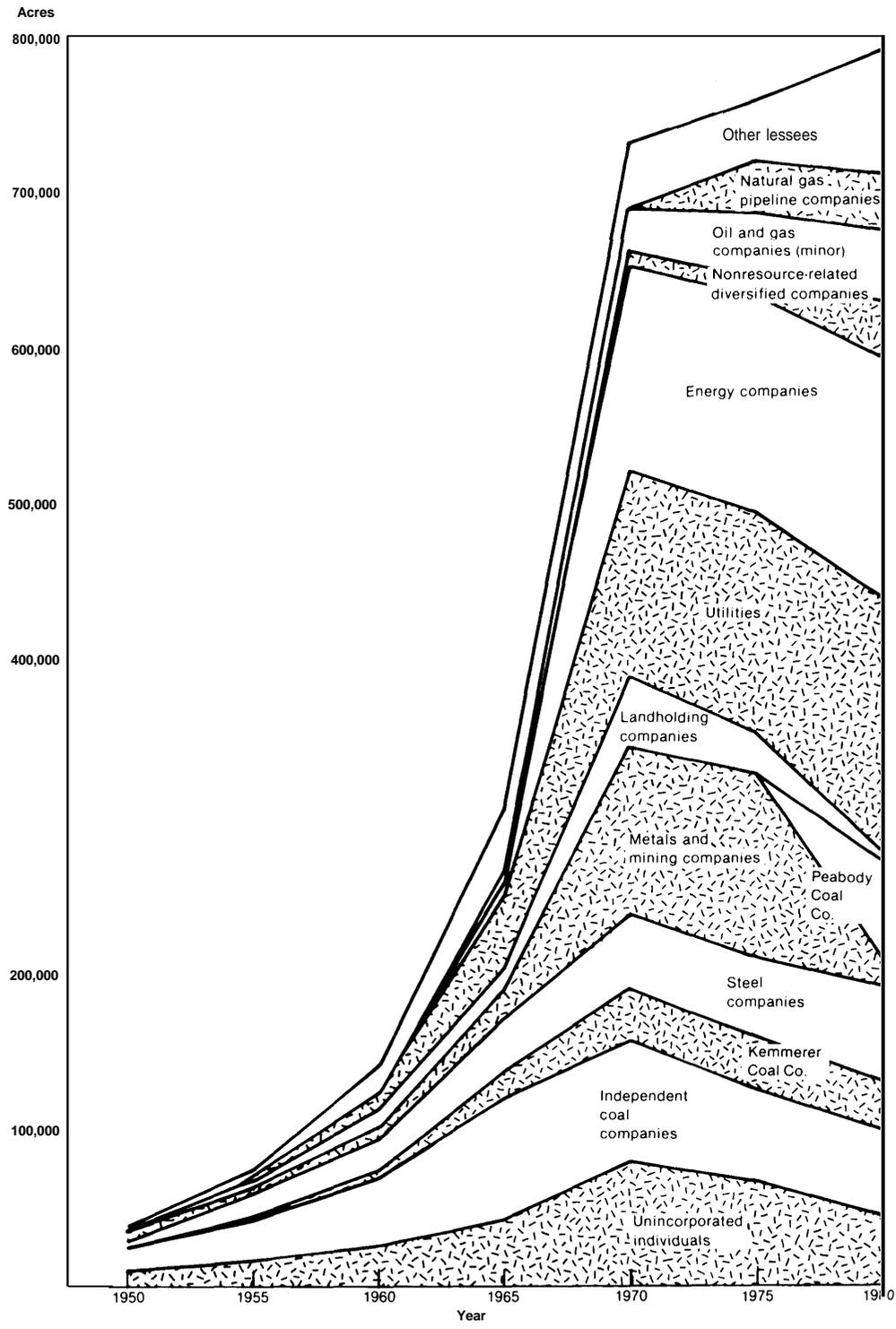
^bThe lease involved is held by a subsidiary, Anchor Coal Co

^cGetty now holds the leases by a subsidiary, Getty Mining Co.

^dThe leases involved are held by Consolidation Coal Co

SOURCE Off Ice of Technology Assessment

Figure 57.— Number of Federal Coal Acres Under Lease by Business Activity Category, 1950-80



SOURCE: Office of Technology Assessment

Table 109.—Number of Acres and Percent of Land Under PRLAs Held by Business Activity Category

	1955-65	1970	1975	1980
Unincorporated individuals	UP to 5,890 (100%)	147,022 (46%)	115,317 (28%)	80,559 (20%)
Energy companies	—	22,008 (7%)	30,738 (7%)	65,784 (16%)
Natural gas pipeline companies	—	0 (0%)	21,045 (5%)	46,867 (12%)
Kemmerer Coal Co. ^a	—	33,190 (10%)	39,160 (9%)	39,160 (10%)
Metals and mining companies	—	17,278 (5%)	39,461 (9%)	36,514 (9%)
Electric utilities	—	0 (0%)	3,113 (1%)	34,658 (9%)
Oil and gas companies (minor)	—	25,786 (8%)	34,375 (8%)	33,845 (8%)
Leasehold companies	—	23,519 (7%)	28,639 (7%)	5,120 (1%)
Int'l Geomarine and Coal Conversion	—	43,878 (14%)	46,084 (11%)	0 (0%)
Other lessees	—	9,874 (3%)	57,427 (14%)	58,216 (14%)
Unknown	—	260 (less than 1%)	260 (less than 1%)	3,077 (1%)

Total percentages might differ from 100 percent because of rounding.
a In March 1981, Kemmerer Coal Co. was purchased by Gulf Oil Corp.

SOURCE: Office of Technology Assessment

to the 1977 sale of Peabody Coal Co. by Kennecott Copper Corp.

- Independent land companies played a significant role in leasing in the 1950's and 1960's, but they have largely liquidated their holdings over the past decade.

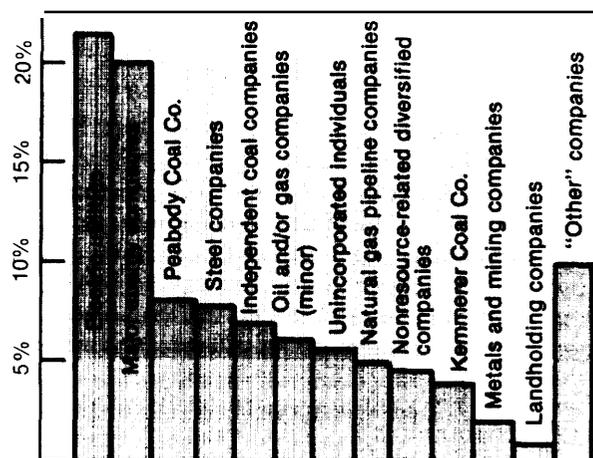
Table 107 and figure 57 also summarize the absolute changes in leaseholdings that have occurred over the past 30 years. They show the steady increase in acreage held by the steel companies, independent coal companies, and unincorporated individuals through 1970, followed by the slow decline in the holdings of the latter two groups since then. Table 107 and figure 57 also illustrate how the significant but relatively modest increases in the holdings of these three groups during the 1960's compare to the more substantial acquisitions of some new entrants to leasing in that period, (Table 108 summarizes the major changes in corporate ownership that have occurred since early 1980 that af-

fect the acreages held by the major coal leaseholding categories shown in table 107.)

Figure 58 shows that the leaseholdings of the 13 major business activities ranged, in 1980, from 21 percent of all land under held by the electric utilities, to less than 1 percent, held by independent land companies. The major energy companies hold 20 percent of leased acreage. With the exception of the utilities and the major energy companies, all the categories hold less than 10 percent of leased coal acreage.

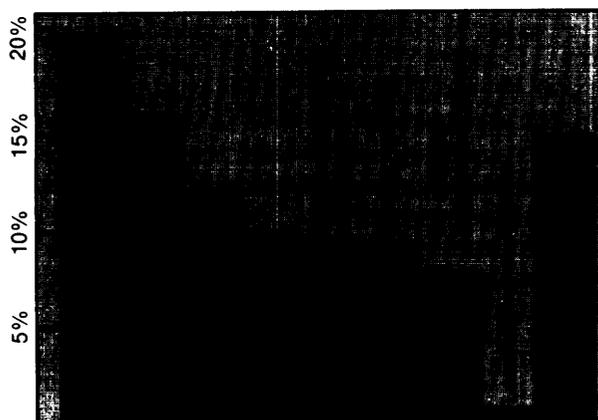
Eight business activity groups currently hold at least 5 percent of all land included in PRLAs. A ninth holds over 1 percent (see fig. 59). Each group also appears on the list of major leaseholding categories, although there are differences in the rank ordering of the groups in the two cases. Individuals hold a larger share of land under PRLAs (20 percent) than any other category. Individuals are followed by major energy companies and natural gas companies and then by four industries each of which holds between 8 and 10 percent of land under PRLAs.

Two companies, International Geomarine Corp. and Coal Conversion Corp. held, at different times, PRLAs covering more than 10 percent of all land under permit. (See table

Figure 58.—1980 Coal Leaseholdings by Business Activity Category (percent of total leased acreage)

SOURCE: Office of Technology Assessment,

Figure 59.—1980 PRLA Holdings by Business Activity Category (percent of total acres under permit)



SOURCE Office of Technology Assessment

109.) They do not appear on the list of current PRLA holding groups because they have assigned all of their PRLAs to other parties.

The future disposition of PRLAs has several uncertainties. * The current Department of the Interior leasing policy calls for the processing of PRLAs in sequence between 1981 and 1984, but it is unclear how many will be converted to leases or what restrictions on development will be included among the terms of leases that are granted. It would thus be speculative to add lease and PRLA holdings into grand totals, and OTA has not done so. The following pages discuss briefly both types of holdings by each business activity category in order of decreasing size of holdings.**

Electric Utilities

Electric utilities currently hold more Federal coal land under lease than any other business category identified by OTA; they rank sixth in PRLA holdings. Seventeen utilities and one utility fuel acquisition association now control 21 percent of leased acreage and 9 percent of land under PRLAs. These companies mined 30 percent of all coal produced

* see chs. 3, 6, 7, and 9 for more information about the status of PRLAs.

**The only exception is the other category that is discussed at the end.

from leased land in fiscal year 1979, more Federal coal than mined by any other business activity category (see table 110). (Nationwide, all utility coal production accounted for 11 percent of the coal industry's total production in 1979).

More than any other industry group examined in this survey, utilities have undergone complicated internal restructuring related to coal lease management. Several utilities now hold leases or PRLAs in the name of one or more subsidiaries, e.g., coal mining subsidiary, resource development subsidiary, landholding subsidiary, or legal entity without employees or business activities. Also,

Table 110.—Federal Leaseholdings and Production by Business Category

Business activity category	1970 leased acres	1972 coal production from Federal leases	1980 leased acres	Fiscal year 1979 coal production from Federal leases
Electric utilities	18% 132,038	47% 4.8	21% 163,259	30% 17.8
Energy companies	18% 132,274	5% 0.51	20% 155,024	16% 9.9
Metals and mining companies	12% 107,504	12% 1.2	2% 17,620	16% 9.3
Oil and gas companies (minor)	4% 26,911	2% 0.23	6% 45,926	9% 5.3
"Other" companies	6% 41,153	4% 0.46	10% 77,861	9% 5.2
Independent coal companies	11% 78,297	20% 2.0	7% 55,410	7% 4.4
Natural gas pipeline companies	0% 0	0% 0	5% 36,317	4% 2.4
Peabody Coal Co.	8% ^a	0% ^a	8% 62,009	4% 2.2
Steel companies	6% 46,114	7% 0.77	8% 60,015	2% 1.3
Nonresource-related diversified companies	1% 10,015	0% 0	5% 35,675	2% 1.0
Unincorporated individuals	11% 78,995	3% 0.27	6% 43,215	1% 0.72
Kemmerer Coal Co.	5% 33,793	0% 0	4% 32,191	below 1% 0.06
Total	94% 687,094	100% 10.3	99% 784,522	100% 59.5

NOTE: Percentage sums might not equal totals because of rounding. All land holdings listed as acres. All production listed in million tons of coal.

^a Peabody 1970 land holdings and 1972 productions totaled in metals and mining category.

^b In March 1981, Kemmerer Coal Co. was purchased by Gulf Oil Corp.

SOURCE: Office of Technology Assessment.

utilities have been active in several joint venture leasing and multicorporate development projects. One utility currently holds different leases in the name of five subsidiaries and is involved in three multicorporate lease development projects. The internal restructuring of utilities and their involvement in multicorporate leasing ventures appears to indicate a policy decision by some utility managements that coal leasing and mining activities should be separate from electrical generation activities because of the different management skills that these activities require. Furthermore, this division enables utilities, as a regulated industry, to clearly distinguish among totally regulated, partially regulated, and unregulated business activities.

Utilities made their most significant lease acquisition gains in the mid to late 1960's at the same time as the energy companies and the smaller oil and gas companies, but before the entry of the natural gas pipeline companies. Most utility-mined coal is used in powerplants owned by the leaseholding company (captive production), although increasing amounts of utility-mined coal are being sold on the open market. Utilities play a unique role in the coal industry as both an important producer of coal and the major consumer of coal. Utilities burned 77 percent of all domestically used coal in 1979.

Energy Companies

Energy companies in this survey include the 18 largest privately owned oil companies based on worldwide petroleum production. Eleven of these companies now own leases or PRLAs. They rank second in both categories, holding 20 percent of leased land and 16 percent of land under PRLAs. Energy companies produced 16 percent of the coal mined from leased land in fiscal year 1979.

The late 1960's marked the period of greatest growth in Federal coal landholdings by energy companies, well before the Arab oil embargo and the energy shortage conscious 1970's. Most of the leases obtained by these companies were acquired through lease as-

signments or by the purchase of a company that held leases among its assets. * Only 16 of 110 leases acquired by energy majors were obtained by de novo leasing directly from the Federal Government. Similarly, only 7 of 27 PRLAs now owned by energy majors were obtained de novo. Energy companies appear to be continuing to acquire land through assignment and corporate mergers. In 1980, three leaseholding companies were purchased by energy companies and several lease assignments to energy companies were made. (See also table 108.)

Peabody Coal Co.

Peabody Coal Co. owns leases covering more Federal coal land than any other company or individual. Its leases cover 8 percent of all land under lease. In addition, Peabody controls 17 PRLAs, all located in Wyoming. Peabody accounted for 4 percent of Federal coal production in fiscal year 1979.

Peabody operated as an independent coal company from its founding until 1968 when it was purchased by Kennecott Copper Corp. The acquisition was challenged by the Federal Trade Commission on anticompetition grounds and a divestiture order was issued in 1973. In 1977, Kennecott sold the company to the Peabody Holding Co., the ownership of which is shared by six companies with business interests as diverse as aerospace, mineral extraction, and life insurance. Because of its unique ownership structure and because of its large holdings, Peabody was treated in the OTA survey as a separate business activity after 1977.

Steel Companies

Steel companies were among the earliest participants in Federal coal leasing, owning 12 percent of all land under lease in 1950. The industry is still well represented (five companies control 8 percent of leased land) but its importance in Federal coal leaseholding has declined because of the entry of

*See chapter 3 for a discussion of methods used to acquire coal leases.

many companies from other industries. Steel companies currently do not own any PRLAs.

Steel companies produced 2 percent of all Federal coal mined in fiscal year 1979. Most of this production was for captive use as a raw material for coke ovens at steel mills. Hence, the industry has focused its attention on leasing in the coal fields of Oklahoma, Colorado, and Utah that contain metallurgical grade coal.

Independent Coal Companies

In 1950, 18 independents constituted the largest leaseholding business group, controlling 35 percent of all land under lease. Today they control just 7 percent. Only one PRLA is held by an independent coal company. Historically, changes in ownership patterns by independents have occurred at a rapid pace. Over 60 independents have held leases, but none of the current 21 independent lessees was among the original 18 in 1950. Rising mining costs, the preference of utilities for large supply contracts from single producers, and a slow growth in local domestic or industrial coal use restrict the business opportunities of independent coal companies. As a result, many leaseholding independents have assigned their leases to principally non-coal companies or have been acquired as subsidiaries. At least 10 leaseholding companies that are now wholly owned coal mining subsidiaries once operated as independent coal producers.

In spite of these trends, independents remain the fifth largest leaseholding business category. Furthermore, several present lessees, notably Garland Coal and Mining Co. and North American Coal Corp., have built substantial coal reserve bases through the leasing program. Also, several other independents have entered the Western coal fields for the first time in the last decade. Independent coal companies accounted for 7 percent of Federal coal production in fiscal year 1979.

Oil and Gas Companies (Minor)

Eight oil and gas companies (those companies not large enough to appear among the energy majors and which do not operate large natural gas pipelines) now control about 6 percent of all land under lease and 8 percent of land under PRLAs. They rank sixth and seventh in total holdings respectively. Oil and gas companies entered coal leasing in the mid-1960's and their holdings have grown slowly but steadily ever since.

Lessees and PRLA owners in this category range from small oil wildcatters to large companies such as Kerr-McGee Corp. and Quaker State Oil Refining Corp. These companies accounted for about 9 percent of the total production of Federal coal in fiscal year 1979.

Unincorporated Individuals

The role of unincorporated individuals in the leasing program, at one time second only to the independent coal companies, has greatly declined in relative importance. On the other hand, although their holdings of PRLAs have also declined, individuals still have the largest share of land under PRLAs of any business category.

In 1950, unincorporated individuals constituted the second largest leaseholding group and held 27 percent of all acreage under lease. Their share of leased acreage has declined to 5 percent today. Many leases held by individuals include mines that have been closed for years and exhibit little potential for reopening. One percent of fiscal year 1979 Federal coal production occurred on leased land held by individuals.

In 1970, unincorporated individuals held 46 percent of all land included in PRLAs. Over the past decade, many of these PRLAs have been assigned to corporations and the share held by individuals has dropped to 20 percent. Although unincorporated individuals are still the major PRLA owners, the decline in the number of PRLAs held by individuals is likely to continue.

The decline of lease and PRLA holdings by individuals reflects a decreasing use of the "sole proprietorship" business organization by small mining firms in favor of some form of incorporated business structure. Another reason for this decline is the abolition of the preference right leasing program, a popular and low cost lease acquisition route for individuals, including land agents operating under contract to corporations and individual land speculators. Finally, the leasing moratorium of the 1970's, which increased the assignment value of existing leases and PRLAs, and the diligent development requirements defined in the 1976 coal leasing regulations may have been incentives for individuals to sell leases that they could not mine.

Natural Gas Pipeline Companies

Natural gas pipeline companies are the eighth largest leaseholding business group and the third largest group holding PRLAs. Six of these companies hold 5 percent of leased land and 12 percent of land under PRLAs. They mined 4 percent of all Federal coal produced in fiscal year 1979.

All leases and PRLAs now owned by natural gas pipeline companies have been acquired since 1971 during a period when opportunities to acquire leases de novo were limited. Twenty-five of 27 leases and 27 of 29 PRLAs were obtained by assignment or segregation from existing leases or PRLAs rather than directly from the Government,

Nonresource-Related Diversified Companies

The nonresource-related diversified business category includes companies with principal lines of business activity that are not energy or mineral related, but which complement or could be integrated with resource development. It includes, for example, several chemical companies, which might use coal as a chemical feedstock or might develop synfuel technologies, and companies such as

General Electric and General Dynamics that sell electrical generation equipment.

The companies in this category are late-comers to Western leasing. Their leaseholdings have increased from 1 percent in 1965 to 5 percent in 1980. They form the ninth largest leaseholding category. In addition, such companies hold three PRLAs. They produced 2 percent of all Federal coal mined in fiscal year 1979. The most significant increase in holdings by companies in this category occurred in 1976 when General Electric purchased Utah International, which controlled nearly 25,000 acres of leased land. Utah International was an independent metals and mining company prior to its acquisition by General Electric.

Kemmerer Coal Co.

Kemmerer Coal Co. is one of the oldest Western coal producers, dating back to the late 19th century. Since 1926 Kemmerer has been owned by the Lincoln Corp., a holding company of Kemmerer family interests. * In September 1980, the family announced its intention to sell Kemmerer Coal. Its recent sale to Gulf Oil Corp. marks a major shift in lease and PRLA ownership.

Kemmerer now owns 4 percent of all land under lease and 10 percent of all land under PRLAs. Kemmerer produced less than 1 percent of Federal coal mined in fiscal year 1979. The company ranks as the 10th largest leaseholding category and the fourth largest holder of PRLAs,

Metals and Mining Companies

Metals and mining companies entered Western coal leasing early. Although recent corporate acquisitions have sharply reduced their leaseholdings, these companies continue to account for significant Federal coal production.

* Kemmerer was studied separately by OTA rather than as an independent coal company because of its ownership by Lincoln Corp., which includes noncoal business among its interests.

Metals and mining companies held 12 percent of all land under lease in 1950 and 15 percent in 1975. This total has dropped to 2 percent over the past 5 years, principally because of the divestiture of Peabody Coal by Kennecott Copper Corp. and the purchase of Utah International by General Electric. Both actions resulted in the removal of large acreages from the totals of the metals and mining category. In spite of these developments, metals and mining companies produced about 16 percent of all coal mined from Federal land in fiscal year 1979.

Amax, Inc., a company grouped in the metals and mining category, currently holds 9 percent of the land under PRLAs. These holdings alone rank fifth among the business categories studied by OTA. *

Landholding Companies

Independent land companies, like individual land agents, featured prominently in the early history of the leasing program. They acquired large blocks of coal bearing land for eventual resale to coal developers or other investors. Their role peaked in 1960 when they

*Amax has been placed in the metals and mining category instead of being listed separately because of its identifiable business activity and because prior to 1980 other companies in this category held PRLAs.

held 8 percent of all land under lease. In 1980, seven landholding companies owned leases covering less than 1 percent of the acreage under lease and PRLAs covering 1 percent of the land under PRLAs. They account for no Federal coal production.

The reasons for the liquidation of the holdings of most independent land companies are similar to those for individual land agents: the abolition of preference right leasing, the diligent production requirements, and the impact of the moratorium on the resale value of leases and PRLAs.

“Other” Lessees

This last category includes lessees that do not fit into one of the business categories established during the survey and which, on their own, do not control more than 5 percent of the land under lease or permit. Such companies presently hold about 10 percent of all leased land and about 15 percent of all land under PRLAs. This other category includes lessees with an amazing diversity of interests. For example, it includes a railroad holding company, a heavy construction company, a cement company, two banks, three conglomerates, and a religious institution. About 9 percent of all coal produced on Federal land comes from leases held by lessees in the other category.

Federal Coal Production by Business Category

Ownership of leases covering Federal land is only one measure of involvement of companies and individuals in the leasing program. The amount of coal production from leased land is another measure. Based on limited information available for past Federal coal production on a lease-by-lease basis, OTA has compared acreage holdings of business activity categories in 1970 and 1980 with Federal coal production by these categories in 1972 and fiscal year 1979. (See table 110.)

During the 1970's the total number of acres leased by the 12 business categories* that now mine coal increased 14 percent from 687,094 acres to 784,522 acres. Between 1972 and 1979, on the other hand, total coal production summed over all these categories jumped nearly sixfold, from 10.3 million tons to 59.5 million tons. In terms of percentage of total production, the share of production con-

*In fiscal year 1979 no production was contributed by independent land companies.

tributed by utilities decreased from 47 to 30 percent and the share of independent coal companies dropped from 20 to 7 percent. In both cases, absolute production increased substantially, by nearly a factor of four for the utilities and by over a factor of two for the independent coal companies. During the same period, the shares of production of the energy companies increased from 5 to 16 percent. Production by natural gas companies, metals and mining companies, and oil and gas companies also increased sharply. Production by unincorporated individuals also rose nearly threefold, although declining from 3 to 1 percent of total Federal coal production.

Electric utilities, metals and mining companies, and oil and gas companies are all producing Federal coal at levels greater than their share of leased acres would suggest. The level of production of the metals and mining companies is particularly high relative to their share of leased acres. Present production by energy companies, Peabody and Kemmerer Coal, steel companies, nonresource-related diversified companies, and individuals is below the share suggested by their current acreage holdings. *

*Many currently nonproducing leases are being actively developed. See ch. 6.

The Business Organization of Coal Lease and PRLA Owners

OTA also examined the changes in the organizational structures of coal lease and PRLA owners. Four types of business organization structures were defined and analyzed. They are:

- Unincorporated individuals — persons, including sole proprietorships, partnerships, and estates.
- Independent corporations — companies not wholly owned by one or more other companies.
- Subsidiary corporations — companies wholly owned by a single other company.
- Multicorporate entities — companies wholly owned by two or more companies (such as joint ventures) or two or more companies holding shares in leases or PRLAs.

Table 111 and figure 60 trace the history of lease ownership by the four organization categories. They show that the relative importance of unincorporated individuals in leasing has been sharply reduced since the 1950's. They reveal the dominant role of independent corporations in the 1950's and 1960's and their recent decline in relative importance. They show that the subsidiaries

category has grown in importance over the years. Finally, they show that multicorporate entities are the newest type of business organization to attain significance in Western leasing.

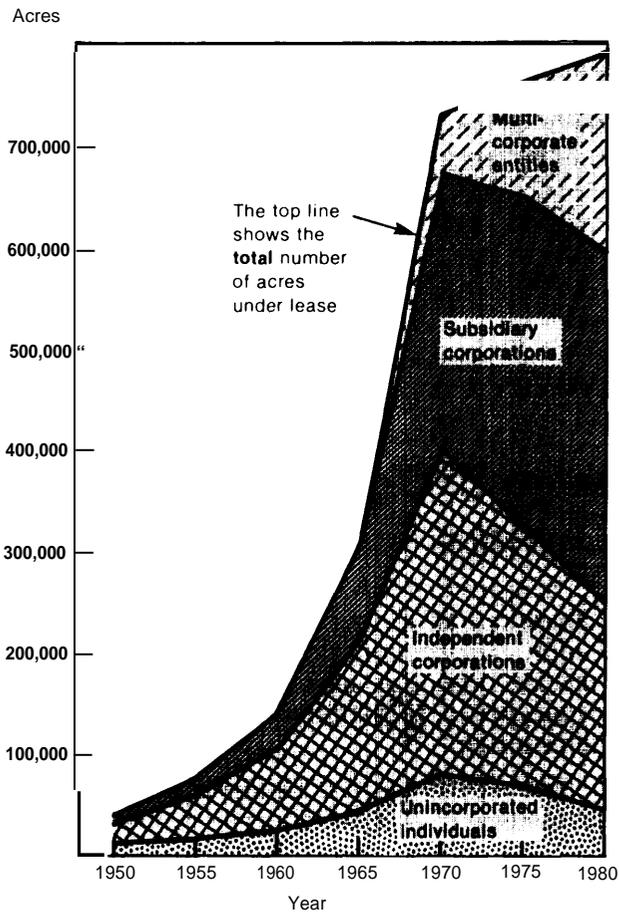
The role of the four business organizations as owners of PRLAs between 1970 and 1980

Table 111.—Number of Acres Under Lease by Type of Business Organization 1950-1980 and Percent of Total Leased Land by Type of Business Organization

	Unincorporated individuals	Independent corporations	Subsidiary corporations	Multicorporate entities	Uncategorized companies
1950 .	11,129 27 %	18,504 45 %	10,824 26 %	0 %	1,035 2 %
1955 .	17,618 23 %	40,495 53 %	15,921 21 %	0 %	1,915 3 %
1960 .	25,678 18 %	79,717 55 %	36,058 25 %	0 %	2,453 2 %
1965 .	41,475 13 %	169,402 55 %	91,690 30 %	640 <1 %	5,147 2 %
1970 .	78,995 11 %	319,847 44 %	271,329 37 %	60,504 8 %	2,643 <1 %
1975 .	66,515 9 %	257,637 34 %	321,576 42 %	112,418 15 %	6,848 1 %
1980 .	43,215 5 %	204,612 26 %	343,865 43 %	197,491 25 %	1,845 <1 %

SOURCE: Office of Technology Assessment

Figure 60.—Number of Federal Coal Acres Under Lease by Type of Business Organization, 1950-80



SOURCE: Office of Technology Assessment

is summarized in table 112. The patterns and trends are very similar to those observed for leaseholders with exceptions that unincorporated individuals play a larger role among holders of PRLAs and independent corporations have a smaller share of PRLA land than leased land.

Unincorporated Individuals

The relative importance of individuals in the leasing program has declined significantly both in terms of leases and PRLAs. Unincorporated individuals control just 5 percent of all land under lease, down from 27 percent in 1950; they hold 20 percent of all land under

Table 112.—Acres and Percent of Total Acres Under PRLAs Held by Business Organization Category

	1955 1960 & 1965	1970	1975	1980
Unincorporated individuals	160-5,890 100%	147,022 46%	115,317 28%	80,559 20%
Independent corporations	—	107,558 33%	89,345 22%	47,480 12%
Subsidiaries	—	68,145 21%	143,344 34%	177,783 44%
Multi-corporate entities	—	—	67,613 16%	95,002 24%
Unknown	—	260	260	3,077 1%
Total	160-5,890 100%	322,725 100%	415,619 100%	403,800 100%

PRLAs, down from 46 percent in 1970. Individuals today hold fewer leased acres than any of the four business organizations examined and rank third in PRLA holdings. Incorporation provides increased legal and financial protection over the sole proprietorship form of business. This advantage provides one of many reasons for the declining role of individuals. Other reasons were presented in the individuals "business activity category" earlier in this chapter.

Independent Corporations

From 1950 to 1970, independent corporations held the largest share of leased land of the four organizational categories. Since 1970, their role has declined and they now hold 26 percent of leased land and 12 percent of land under PRLAs. Independent corporations are the second largest leaseholding group and the smallest PRLA holding group among the four organizational categories.

Subsidiary Corporations

OTA has defined a subsidiary corporation as a company wholly owned by one other company. Subsidiary companies currently own more leases and PRLAs than the other three organizational groups. The leaseholdings of subsidiaries have grown steadily from 21 percent of all land under lease in 1955 to

43 percent in 1980. Their share of PRLAs increased from 21 percent in 1970 to 44 percent in 1980.

Subsidiaries have used four different methods to increase their lease and PRLA holdings. First, subsidiaries have acquired an increasing share of leases and permits issued de novo by the Government. Secondly, many leases and permits held by individuals or independent corporations have been obtained by subsidiary companies through assignment. Thirdly, some independent companies have undergone internal reorganization or formed new subsidiaries, resulting in the transfers of title to leases or PRLAs to a subsidiary within the corporation. Finally, dozens of independent corporations have been purchased by other companies thereby changing their status from independent to subsidiary companies. Title to leaseholdings was frequently retained by the formerly independent company rather than being transferred to the purchasing company,

The present large holdings of subsidiaries is particularly prevalent in two business activity categories examined by OTA, coal mining and landholding,

In 1950, 18 independent coal companies comprised the largest leaseholding category while only three coal subsidiaries of noncoal parent companies held leases. By 1980, 36 wholly owned coal mining subsidiaries held 36 percent of land under lease, while the share held by independent coal companies had dropped to 7 percent. Similarly, only one PRLA is held by an independent coal company today, while 33 are owned by coal subsidiaries.

In many cases, there is a direct link between the decline of independent coal companies and the growth of subsidiaries. At least 10 of the wholly owned coal mining subsidiaries holding leases today previously operated as independent companies. A larger number of independent coal companies went out of business after selling their assets—including coal leases—to noncoal companies

that subsequently organized coal mining subsidiaries to which the leases were assigned.

Landholding companies provide another example of the trend towards leasing by subsidiary rather than independent companies. In 1960, 8 percent of all land under lease was controlled by independent landholding companies that hoped to profit from the eventual assignment of their leases to coal development companies. Today the independent landholding companies hold less than 1 percent of all land under lease. On the other hand, starting in the early 1960's, leaseholdings by landholding companies that are subsidiaries of companies with principal business activities other than coal mining has increased steadily. Today nine landholding subsidiaries control more acreage than the independents ever did. Similarly, only two PRLAs are owned by independent land companies while 30 are owned by land subsidiaries.

The two leasing trends among landholding companies appear to be unrelated. Most independent landholding companies acquired leases as speculators and they have gradually liquidated their holdings over the past decade. Many of the companies now holding leases—most notably the energy companies and utilities—have formed landholding subsidiaries to which leases have been assigned. These subsidiary landholding companies are legal entities through which large corporations hold land, usually for future development.

Multicorporate Entities

OTA has defined multicorporate entities as companies wholly owned by two or more companies (such as joint ventures) or two or more companies sharing ownership of leases.

Over the past decade there has been a substantial increase in lease and PRLA holdings by various types of multicorporate business organizations. They represent the newest form of business organization to gain a significant share of the Federal coal leasing program. Since 1970, leaseholdings by such entities have increased from 8 to 25 percent and

PRLA holdings have increased from zero to 24 percent. Multicorporate entities are now the third largest leaseholding business organization studied by OTA and the second largest PRLA holding group.

Three types of business arrangements are included in the multicorporate entity category. The first includes two or more corporations holding shares in leases or PRLAs. For example, 10 leases are held jointly by Consolidation Coal Co. and Kemmerer Coal Co. and 10 PRLAs are co-owned by Fannin Square Corp. and Eastern Associated Properties Corp. Secondly, this category includes

companies that represent legal joint ventures of two or more companies formed to develop specific business interests. These include companies such as Colowyo Coal Co., a joint venture of W. R. Grace & Co. and Hanna Mining Co., and Cumberland Coal Co., a joint venture of subsidiaries of Peter Kiewit Sons and Union Pacific Corp. Finally, this category includes Peabody Coal Co., (which is owned by six companies through participation in the Peabody Holding Co.), and Ark Land Co. (which is owned by Ashland Oil and two Hunt business enterprises).

Implications of Lease and PRLA Ownership Patterns and Trends

The OTA analysis of the historical roles of different business activity and organizational structures in coal leasing suggests several observations.

Concentration

The data obtained in this study reveal little evidence of a concentration of lease or PRLA holdings among fewer companies. The number of participants in leasing nearly doubled from 1950 to 1980, from 84 to over 160. The four largest leaseholders in 1950 controlled 32 percent of all land under lease while the top eight controlled 34 percent in 1980. Hence the number of participants has increased and the concentration of ownership among the top companies has remained nearly unchanged. The number of PRLA holders has increased from 37 in 1970 to 47 in 1980.

Other evidence suggesting the absence of concentration is provided by the entry of lease and PRLA holders from an increasingly wide assortment of businesses. In 1950, only four business activity categories were identified in this survey as holding at least 5 percent of all land under lease. By 1980, nine such categories were identified. Also, while six business categories contributed 5 percent

or more of the total production from Federal land in 1972, seven categories provided at least that level of output in fiscal year 1979. In both 1970 and 1980, six business activity categories held at least 5 percent of all acreage under PRLAs.

While the above data suggest that concentration has not occurred, other data show that leaseholding entities typically hold larger blocks of Federal coal land and more Federal coal leases than in earlier years. During the 30-year period when the number of leasing participants nearly doubled, the total number of acres under lease increased 18 fold and the number of leases increased six-fold. On the average, a lessee held 3.38 leases and 4,975 acres under lease in 1980, 10 times more than the 493 acres held, on the average, and three times the 1.04 leases held, on the average, by lessees in 1950. Little change is noted for average number of acres held by PRLA holders. For PRLAs, the average number of acres held was 8,722 in 1970 and 8,591 in 1980.

Diversification

The increased involvement in the Federal coal leasing program by widely different

types of businesses is complemented by a trend toward increased diversification of business interests within the lease and PRLA holding companies. Three patterns within this trend are noteworthy.

First, there is a growing involvement in the leasing program of horizontally integrated companies. The energy companies, natural gas pipeline companies, and smaller oil and gas companies together hold 31 percent of the land under lease. In 1965, the companies in these three categories combined held only 4 percent of Federal coal acreage under lease. These companies also control 36 percent of all land under PRLAs, up from 15 percent in 1970. For these companies, involvement in coal leasing appears to be part of a strategy to branch into several energy resource fields.

Growing involvement of companies for which coal reserves acquisition represents a vertical integration of business activities is a second trend in lease ownership patterns. Steel companies and electric utilities—which together hold 29 percent of all land under lease today—are the two principal examples of leasing by vertically integrated companies. Steel companies have for decades mined significant quantities of coal and have participated in the leasing program since its inception. The growth of utility involvement in Western leasing since 1965 to its position as the largest leaseholding business activity category in 1980 represents a new and significant type of vertical integration among lessees. The Federal coal leasing program has provided an important avenue for utility entry into the coal industry. Utilities provided 11 percent of the Nation's coal output in 1979. They hold 21 percent of all Federal coal land under lease and produced 30 percent of all coal mined on Federal land. Approximately one-fourth of all utility "captive" coal production was mined from leased Federal reserves.

A third trend reflects the growing involvement of large, already diversified companies in coal leasing. These include metals and mining companies that are diversifying their

mineral extraction skills to include coal. They also include chemical and high-technology companies for which entry into the coal industry represents a diversification related to, but not integrated with, existing business activities.

The shift in leaseholdings to large, diversified and integrated companies in turn suggests several observations. First, lease development decisions are increasingly shaped by priorities that reflect business opportunities and capital availability unrelated to coal development. Secondly, these ownership changes can cause a relocation of final decisionmaking authority affecting coal development from local managers to those sometimes working hundreds or thousands of miles from lease sites. Thirdly, the internal business arrangements established by large companies to manage coal leases result in complex decisionmaking processes. While all three of these trends might contribute to increased efficiency in the coal industry, they make understanding coal industry priorities an increasingly difficult task.

Another result of ownership changes is the appearance of more lessees with the financial resources available for coal development that far exceed the resources available to the earlier, smaller coal leasing companies. Increasing participation by larger and more complex corporate entities is not surprising considering the large capital requirements posed by today's coal development.

Next, the increasing tendencies of the large, diversified companies holding leases to establish multicorporate development projects could raise competition concerns not posed when leasing was dominated by many small independent companies. Multicorporate lease development ventures provide a means for corporations to distribute the risks involved in undertaking large-scale coal development projects. They also increase the capital generating capacity of the project as a whole. At the same time, they increase the level of intercorporate information exchange and communication. Finally, joint venturing through subsidiaries far removed structur-

ally from the parent organization has recently provided indirect entry into coal leaseholding by railroads. * (Railroads are prohibited by the Mineral Leasing Act of 1920 from direct lease ownership.**)

Leasing Policies

Several recent studies have pointed to the potential importance of Federal coal leasing policies as a determining factor in the organization and development of the coal industry over the next several decades. The Harvard

*See ch. II, sec. 6 M, Other Leaseholders, of the OTA Technical Memorandum for further information. See reference on p. 371.

**A recent Justice Department report recommends striking from Federal law prohibitions against the issuance of Federal coal leases to railroads or their affiliates. (Competition in the Coal Industry. *Report of the U.S. Department of Justice, pursuant to section 8 of the Federal Coal Leasing Amendments Act of 1976 for Fiscal Year 1979*; U.S. Department of Justice Antitrust Division; November 1980.)

Business Study, Energy Future, for example, observes that: "competition can be protected by methods short of horizontal divestiture, such as existing antitrust laws, setting limits on the share of reserves any single firm can control, and innovative leasing policies. The last can be especially effective."***

The present study shows that over the past 30 years, ownership patterns on leased public coal land have generally been similar to the pattern of industry restructuring typical for private land. Indeed, some developments on Federal coal leases—such as the growing role of utilities as "captive" coal producers—seem to be leading indicators of the changing character of the American coal industry.

***R. Stobaugh and D. Yergin (ed.), *Energy Future: Report of the Energy Project of the Harvard Business School* (New York: Random House, 1979).