ever more concentration, with the central state interjecting itself more often to defend the interests of entrenched industries.

Even so, as events of the last few years suggest, our energy system, indeed the entire economic system, is undergoing considerable strain and passing through a period of transformation. The shift of the large oil companies into fuels other than petroleum is one indication of that change. The rise of OPEC and the altered relationships with the big companies is another example. Pressures on American interests abroad may well lead to increased concentration, to a tightening of the ties between state and industry. But they may also result in different sorts of change. As we have illustrated in the previous chapter, there are political organizations struggling against the trends toward concentration. The Georgia Power Project, citizen campaigns against utilities in the West, the fierce struggle by ranchers against the coal operators on the northern prairies, are not isolated instances of environmental resistance. These attacks on business, which in the mid-1960s appeared in the narrow context of demand for consumer rights or liberal reform, now are beginning to take on serious ideological overtones.

Thus, within the Chesapeake region opportunities for serious systemic change present themselves day by day. Congestion in and around Washington already has led to the building of a major subway system. Partly because of the congestion, and admittedly for other political reasons, bureaus of the federal government are shifting their headquarters away from the central Washington city out into the surrounding countryside, leading to a population shift. Because of the increasing cost of energy, especially oil, it would seem realistic and shrewd for politicians in this urban strip to campaign for the development of new rail systems that can connect with the high-speed mainline service running from Washington to New York, on the one hand, and with Washington's ambitious subway scheme on the other.

Throughout this region, as in other parts of the country, environmental groups have fought against building nuclear



power plants, refineries, and liquefied gas shipping points. In 1974 the leaders of the fight against nuclear power shifted their attack against nuclear power to argue for alternative energy proposals, such as solar energy. It seems likely that within five years, if not before, solar energy and other energy conservation measures will become an accepted part of energy planning. In Davis, California, for instance, the city council actually drafted building codes to implement energy conservation principles and prepare for the introduction of solar energy into housing developments. Since people are faced with increasing energy costs for household uses, the Davis experiment seems likely to spread.

And while agriculture is more concentrated than ever with prices steadily mounting, there is already in the Chesapeake region the beginning of an alternative system. A system of retail food co-ops can spread to encompass trucking outfits, links with producer co-ops of small farmers, and so on.

So these are not such utopian ideas. The foundations for implementing them already exist, although piecemeal in actual design and operation. As the cost of energy grows, and availability is limited, these alternative schemes take firmer hold and gain in momentum.

Any energy system which might develop in the Chesapeake region would unavoidably be interconnected with other parts of the country and other parts of the world. Oil comes from Texas and Louisiana and Venezuela. Natural gas is transported from the Gulf of Mexico by pipeline and from Algeria by ship. Even under a system of self-sufficient agriculture, grain still would have to be imported from the Middle West. A surplus of fish would be traded abroad, and so on.

During 1974 a group at the Institute for Policy Studies sought to develop the outlines of an overall plan or system that would change the existing energy system throughout the country. In doing so, it obviously would affect other areas of the political economy. The resulting scheme calls for the

creation of a new kind of energy system—a network of democratically constituted local, regional, and national energy organizations. This system would have the authority to produce, transmit, and distribute energy in the nation.

The system would be based on several principles, including the following:

1. The nation's natural resources belong to all the people. (As Leonard Rodberg pointed out, "With the limits of growth clearly in sight, with less than 40-years' supply of oil and gas left in the United States, these mineral resources have become precious national treasures. Just like our national forests and our rivers and streams, they must be subjected to rigorous public control, so their use can be regulated, their consumption curtailed, and the public's interest placed first in the making of energy policy.")

2. Each citizen shall be assured a fair share of the energy made available to the American people.

3. Whatever system is developed, it must be firmly rooted in local popular control. Thus, regional and district agencies, created under the plan, should be involved in every stage of the preparation of the national energy plan.

4. All information regarding the activities of every energy agency, all reserve statistics, and data on energy consumption should be publicly available on a timely basis, to facilitate the fullest possible participation by the public in the preparation of the plan, and in its subsequent implementation.

5. The prices of energy products should be set as low as possible consistent with the costs of production and the ecologically sound use of the nation's resources, including not only energy resources but also air, water, land, and other natural resources.

6. There should be the minimum possible consumption of nonrenewable resources. Where possible, the energy plan should be coordinated with other national planning aimed at reducing the consumption of nonrenewable resources.

The heart of the plan involves creation of a new local governmental unit to establish and administer energy policy—the Public Energy District (PED). This would be a new sort of municipal corporation, a political subdivision within a state. The idea is taken in part from Lee Webb's work on a model energy scheme for Vermont. In part it is based on historical experience in the state of Washington. As David Whisnant recently described the Washington experience in the magazine *Peoples Appalachia:*



> In concept the public utility district is relatively simple. Normally a PUD law authorizes a publicly controlled body to issue revenue-producing bonds, receive and disburse funds, acquire real estate (by condemnation if necessary), construct dams and other power generation and distribution facilities, and sell electric power. Many PUDs in the northwest are distribution facilities only, buying their power from the Bonneville Power Administration. All PUDs pay a specified portion of their receipts into the general revenue funds of their counties. As non-profit enterprises, they are able to supply electricity to their customers at about half the rate charged by private utilities, while paying off their own indebtedness to bondholders.
>
> The public utility district mechanism quickly proved capable of achieving spectacular results in poor Washington counties. Tiny Lewis County, with a population of 35,000 farmers, loggers, and cattlemen and no industry, now operates a $2 million-a-year PUD which provides nearly a quarter of a million dollars a year in revenues for the county—including $125,000 per year to support its public schools. Chelan County, also quite small, started its PUD in 1936 and purchased its first transmission lines nine years later. Within the next few years it bought out some existing power systems, built a 249,000 KW generating facility at Rock Island, and financed construction of its own Rocky Reach dam by selling $263 million worth of revenue bonds. The 800,000 KW Rocky Reach project is a model of activity in a public interest; its powerhouse even includes a museum of artifacts excavated during construction of the dam. Power from Rocky Reach,

available by 1961, attracted manufacturing installations by Alcoa, Dow Chemical, the Vanadium Corporation, and others. By 1967, 22 Washington PUDs were supplying electric power to 280,000 customers.

Under the plan, voters within a proposed public energy district would request a referendum on the establishment of such a district in a general election.

Directors of the PED would be elected at the polls as part of regularly scheduled elections, with standards set for local geographic and worker representation.

A public energy district would have the power of eminent domain, but not the power to tax.

The public energy district is the basic unit within the proposed system of local, regional, and federal energy planning and administrative bodies. It would conduct planning; carry out research and development, produce oil, gas, coal, uranium, etc.; design and manufacture solar collectors; build oil refineries; lay pipelines; and operate and construct electric generation systems—all of the functions now carried on by the different energy industries or fragmented public or nonprofit bodies.

It is anticipated that the district would continuously debate energy policy and establish and administer policy for the region. It would set utility rates and priorities for the end use of fuels.

The district is meant to be a powerful political and economic organization. For example, if an automobile manufacturer sought to open a plant within a public energy district, it would first have to submit to a detailed plan of operations to the PED, whereupon the directors would initiate hearings on the advisability of building such a plant, initially taking into account the plan's impact on energy and the environment. But as the PED developed, it might also go further, inquiring into the energy efficiency and usefulness of the end product, i.e., car, truck, or bus; the effect of the plant on employment and transportation within the PED; its environmental impacts, its effect on economic growth policies;



and in other ways looking into the beneficial and adverse effects of constructing the factory.

Within the different operations of the district, workers would manage and operate the facilities, although the overall policies would be determined by the district board or council, which of course also would include workers.

## Regional Energy Boards

Each public energy district would send a representative of its board to a regional energy board. The federal government has developed 10 multistate regions for the purpose of administering its different programs; and while these regions are arbitrary, the plan uses them as a basis, at least tentatively.

(There are several different sorts of federal regions, including 6 large "depressed areas" defined by the Economic Development Administration; 25 metropolitan administrative areas, called Federal Executive Boards; and 10 overall administrative regions that cover the entire nation and its territories. Under Nixon the major emphasis was to develop the 10 regions, and the Departments of Labor, HUD, and HEW were all committed to similar regional concepts and often had offices in the same building in the same city. The cities that served as sort of regional capitals were: Boston, New York, Philadelphia, Atlanta, Dallas, Denver, Chicago, San Francisco, Seattle, and Kansas City. Nixon set up a regional council where representatives of each agency involved has a seat.)

While the public energy district would administer energy resources on a day-to-day basis, the regional board would allocate resources within the total area.

The Tennessee Valley Authority provides an idea of what a regional organization might be like. Since its origins in 1933, TVA has sought to mesh together different aspects of resource planning, electric power, agriculture, industry, fertilizer production, navigation, flood control, recreation, and conservation. It conceived of the immediate job as not

merely to build dams and reservoirs, but to put people to work. It did not contract for the workers but hired them directly, building them communities and attending to their health needs. It was an important force in reinforcing existing state and local governments by delegating tasks to these governments on a contractual basis. Its free technical services helped raise the level of state and local services.

Even though it was entirely surrounded by hostile corporations and a federal government that reinforced those corporations, TVA became an immensely important economic force, far more so than is often recognized. It should be remembered that TVA's electrical production program literally made possible the nuclear industry. Without the vast quantities of electricity produced by the combined coal and hydroelectric plants of the Valley Authority, the Atomic Energy Commission's uranium enrichment plants could never have operated. In providing that electricity, TVA literally reorganized the coal industry. It introduced the concept of long-term contracts, was an important factor in mechanizing the coal industry, and became the single largest purchaser of coal, a vital factor in the market. It also introduced a modicum of sanity into the electrical utility industry through its interlinks with other private systems in the South and the southeastern mountains, particularly the American Electric Power Company's operations. Despite the vitriolic attacks made upon TVA by private power, the Valley Authority, through these entities, made the private systems stronger and more stable.

The tragedy of TVA is that because it became so much an instrument of national economic policy, it has been placed in a position of turning against its own constituency on the strip-mine issue. Because of its policy of providing low-priced electricity, the Authority seeks out coal at the lowest prices, and hence trades heavily in strip-mined coal from Appalachia. Strip mining is ruinous to the entire region and in effect, by buying the stripped coal, TVA turns its own constituency against it.

A similar situation developed around nuclear power.



TVA reorganized the coal industry to provide the electricity to enrich the uranium necessary for hydrogen bombs and nuclear power plants. In doing so, it was answering the dictates of the national military, which was anxious to perpetuate nuclear technology.

Under this new proposal the possibility that national policy would dominate would be greatly lessened by grounding the policies of a TVA-like authority in the local districts, which in this instance would include the strip-mined areas, and it could not become an instrument of top-down federal policy.

## National Energy Organization

The purpose of this board or agency would be to coordinate the ideas and plans of the different regions. It would be an important organization, providing the point of contact with the federal governmental apparatus and the Congress.

It would have several principal functions. Perhaps its most important function would be to act as trustee of the nation's natural resources, allocating scarce resources to regions for distribution, according to plan, to localities.

In principle, all natural resources of the nation ought to be public, and not given solely to any corporation for exploitation on its own terms. But, as with all other aspects of this plan, there need to be transitional steps. Here is one good example.

The national agency could take over from the Interior Department administration of those territories already in the public domain, that is, areas specifically removed from commerce by the Congress for the purpose of the general public good. These federal resources include an extensive amount of mineral fuels. The estimates vary. According to a common estimate, over 50 percent of the fossil-fuel energy resources of the United States are in the public domain territories. Some estimates place the amounts as high as 80 percent. According to the Ford Foundation's Energy Policy Project report, about one-third of the remaining domestic oil and gas resources are

estimated as likely to be found in the Outer Continental Shelf, which is part of the public domain. In 1972 the Outer Continental Shelf lands produced 10 percent of the domestic oil and 16 percent of the domestic gas. Estimates are inadequate and need to be fully done. Oil shale is almost entirely controlled by the federal government. About one-half of the domestic coal in the West is under federal control. About 85 percent of the strippable low-sulphur deposits are in the public domain. About half of the nation's geothermal resources are on public land. An estimated 50 percent of the domestic uranium supply is in the public domain.

And of course these estimates do not include the huge areas of Alaska that have already been leased by the federal government to oil companies, or the state-controlled lands.

Under one concept a transitional scheme would be to place these important resources, already in the federal public domain (and in one sense "nationalized") within the control of the national agency, whose regional constituents could then make initial plans and coordinate national policy based on this resource base.

Eventually the basic idea would be to widen the concept of public lands so that all natural resources, including mineral fuel resources, would be considered public.

In principle, then, all energy sources would come under the public scheme.

In addition, the national organization should have a planning staff that functioned as a public research and development center serving the different regions. Probably this staff would conduct the mapping and resource estimates that are now carried out by private industry.

The national organization would take over the functions of the Federal Power Commission and the other regulatory agencies. For instance, it would establish all interstate rates and end-use priorities for energy, and arrange for international trade.

As the history of the modern energy industry instructs, again and again large corporate interests—the Standard Oil trust, its successor companies, the Morgans, Insulls,



Rockefellers—controlled different sectors of the industry through control of the transmission facilities. Rockefeller initially built his monopoly through control over transportation. In the 1930s the Morgans and the Rockefellers controlled the natural gas business by dominating the pipelines. In California today the major companies control the industry by ownership of pipelines. The inefficient electrical systems that cause brownouts and blackouts are due in large part to the refusal of private companies to transmit public power and interlock their systems with public power systems. Ownership of tanker fleets, the largest navies in the world, are controlled by seven major oil companies. Railroads refuse to haul coal from one market to another, thereby contributing to shortages.

Transportation of energy is absolutely crucial to its ultimate control. Therefore, under the plan the major interstate transportation facilities should be placed under direct control of the national energy board. This is a crucial part of our long-range plan.

The plan would have the national board in a staged process over 10 years acquire outright control (obtain 51% of securities) of the major interstate natural gas and oil pipelines and electrical transmission systems.

During this 10-year period, the national energy board would lease and operate those portions of oil, gas, and electrical transmission systems necessary to transmit energy from public domain territories to the different public energy districts. The terms of the leases would be negotiated between the board and the companies.

The lease period would provide an effective test of the systems, and the energy board could determine which parts of the transportation lines could be used in its developing interregional system.

In the case of interstate commerce in energy that is transported by water, rail, truck, or airplane, the energy board would establish rates and prescribe general policy.

While the national board would determine policy and establish rates, the actual work would be carried out at the

local level by the PEDs. Neither the national energy board nor the regional boards would maintain sizeable bureaucracies. All work, including planning, bookkeeping, hearings, and investigations, would be conducted by the PED staff.

The national energy board would regulate commerce in energy between regions. Commerce within a given region, among the public energy districts, would be governed by the regional board. Commerce within the public energy district would be regulated by that board.

## Planning

As the brief history of the oil and coal industries indicates, the crucial element in the industry's control of public resources and of federal governmental policy is planning. Systematically, since the early 1920s, the federal government has given over to industry access to natural resources and has refused to plan these resources.

The central, most important step in breaking apart big capital from the federal government is to remove planning from the industry. The representative federal board as envisioned in this plan would conduct routine, careful mapping of the nation's mineral energy resources, including geophysical assessments, shallow- and deep-core drilling, environmental tests, aerial and space surveys, mapping and testing of the nation's coal, etc.

As with other parts of the proposed system, the actual work would be carried out within the different energy districts under contract from the federal and regional boards.

Federal money designated for planning would be earmarked for use first by local energy districts, and secondly through contract with nonprofit groups within the localities.

Where the money was spent on private industry, it would go to locally owned and managed small business.

## Research and Development

History instructs that private industry cast off its obsolete appendages on the state. When Penn Central collapsed,



the banks and other creditors persuaded the federal government to take over the passenger service, while leaving the healthy, profitable part of the railroad to private enterprise. Lockheed received the same sort of special treatment.

Instead of involving itself with the most dynamic, socially beneficial aspects of industry and commerce, the government—state, federal, or local—acts as the passive agent for big capital.

This is now repeating itself in energy. Con Edison, that pathetic electric utility, after bilking New York consumers in 1973, blackjacked the state of New York for $500 million in loans under threat of going out of business and discontinuing service.

In solar energy the same ruinous pattern is occurring. Federal agencies—HUD, NASA, the NSF, the AEC—quarrel over who gets what in solar research. Whichever federal agency gains control then siphons the research money off to the parasites that surround it—big universities and big business. The funds are used to reinforce the very system that has produced the energy crisis.

The plan is to break this pattern in several different ways. As the government and industry experts freely admit, solar energy is a regional technology. It offers different prospects for different parts of the country: hot sun in the deserts; heavy, continuous winds on the coasts; and so on. Natural phenomena offer energy prospects to be carefully used.

Under the plan the national energy board, which would be truly representative of the regions, would make research and development policy. The actual work of effecting the policies by the board would be carried out within the public energy districts. Funds spent for the development of solar energy would first go to the district, and after that to small business within the region.

One scheme for a local, nonprofit solar company might look like this:

Each not-for-profit company would be owned by everyone living in its sales area—that is, by the potential customers of its locally sold products. Seed money to start these operations would come from local taxes—tax monies

collected in the sales area. Any federal monies supplementing or matching local funds would be seen as a portion of the locality's federal taxes and would exceed neither the amount of local funds nor $10 per person in the sales area. All funds would be no-interest loans.

Persons wishing to form a community-owned solar facility would present to everyone living in the "sales area" (neighborhood, community, municipality, county, state, region) a proposal stating:

1. The projected costs and sales income over the first five years (including number of employees, wages, price of product, loan payment schedule).
2. The amount of local tax monies needed and the amount of federal funds sought.
3. The projected number of sales of individual products per year for five years.
4. The geographic limits of and the number of people in the sales area.
5. The types and quantities of products to be made per year for five years.
6. The ecological impact on area citizens.

On the basis of this proposal, a referendum vote would be taken in the sales area to determine whether or not the facility would be established. The proposal and product designs would then be submitted to the National Bureau of Standards to determine that the proposal conformed to NBS-established guidelines of price, production costs, and product design.

The company would be owned in common by all individuals living in the sales area, and major decisions on company operations would be made on a one-person-one-vote basis at an annual owners' meeting. A board of trustees would be selected at this meeting. One-third of its members would be elected by the workers in the facility, one-third elected by the community, and one-third selected from the community at random (jury style). These people would meet monthly, would receive jury-duty fees for their once-a-month services, and could serve no more than three years.

The day-to-day working of the facility would be determined by the workers in the facility, within the production and price guidelines of the original proposal. Such facilities would have no "managers"; workers would determine issues of working conditions, health and safety, speed of production, hiring and firing, etc. When problems arose that workers could not solve within the workplace, or that might conflict with established production-price guidelines (i.e., ecological problems, complaints from surrounding residents, rise in cost of raw materials, revised budgeting for additional employees to meet higher production demands), the problem should be placed before the board of trustees at its monthly meeting. If major policy changes were called for—or if members of the board could not agree on policy changes—any member of the board might call a special meeting of community-owners to decide the question by a general vote.



This model of a community- and worker-owned solar production facility would be instituted immediately to produce most solar devices. In areas where additional solar research may be needed (solar-powered automobiles, municipal services, etc.), research funds should be available only to nonprofit groups, community-owned research organizations, or individual inventors, and not to private, profitmaking corporations. All designs or solar models resulting from such federally funded research would be the property of the American people, and construction designs would be openly available to any individual wishing to build a device for personal use and to any nonprofit, community-owned facility; but the devices could not be produced commercially by privately owned or profit-making companies—thus insuring that no profit or research costs would be attached to products that already partially "belong" to the American people as a result of their research and development financing.

## Private Enterprise

Under the proposed scheme private enterprise would have a tightly circumscribed role. The emphasis would be on public agencies and to a lesser extent on small business.

Under the principle that all natural resources are in effect within the public domain, the operations of the major energy industries—coal, oil, natural gas, uranium—would be brought under the control of the national and regional boards, whose members would determine how they were to operate and at what rates.

As indicated above, the transportation systems would be controlled (i.e., owned at least 51 percent) by the energy board, which would place a majority of its members on the board of directors.

While theoretically the operations of most of the big oil companies are now subject to control by the federal government because they operate within the public domain, in reality this is not the case. Since the 1920s the government has been intertwined with the companies, acting as a passive agent.

But an energy system as outlined above, grounded in a representative system and in control of the transportation linkages, ought to be a strong force in redirecting energy planning.

# Chapter Notes

PART ONE: The Roots of the Crisis:

A Brief History of the Energy Industry

## Chapter 1. The Standard Trust

See Ida M. Tarbell, *The History of the Standard Oil Company*, briefer version, ed. David M. Chalmers (New York: W. W. Norton, Norton Library ed., 1969). For a brief and excellent summary of Standard Oil's growth *vis-à-vis* Wall Street, see John Moody, *The Masters of Capital*, published as Part I of *Great Leaders in Business and Politics* (New Haven: Yale University Press, 1919).

## Chapter 2. The Modern Industry

See Temporary National Economic Committee, 76th Congress, 3rd session, "Survey of Shareholdings in 1,710 Corporations with Securities Listed on a National Securities Exchange," Monograph No. 39 (Washington, D.C.: Government Printing Office, 1941); also Gerald D. Nash, *United States Oil Policy* (Pittsburgh, Pa.: University of Pittsburgh Press, 1968), Chapters 4–6.

## Chapter 3. The International Petroleum Cartel

See 82nd Congress, 2nd session, Senate, Select Committee on Small Business, "The International Petroleum Cartel," a Staff Report to the Federal Trade Commission, August 22, 1952. Also George W. Stocking, *Middle East Oil* (Nashville, Tenn.: Vanderbilt University Press, 1970), Chapters 1 and 2.

## Chapter 4. World War II

See Leonard Mosley, *Power Play* (New York: Random House, 1973), Chapters 11 and 12. See also Gerald D. Nash, *op. cit.*,