13. Department of Energy

Congress should

- eliminate the U.S. Department of Energy;
- create a national nuclear weapons agency (NNWA), under the direction of a civilian official in the Department of Defense, to supervise the nuclear weapons program, civilian radioactive waste, and weapons cleanup undertakings; the new agency should operate under the budget and weapons program review of the Department of Defense;
- renegotiate nuclear weapons cleanup programs assumed by the NNWA to reflect prioritization of containment and neutralization of risk rather than removal and return of sites to pristine conditions;
- privatize all laboratories managed by the DOE except two of the three weapons laboratories;
- eliminate all research and development programs overseen by the DOE;
- eliminate all energy conservation and renewable fuel subsidies; sell the assets held by the power marketing administrations to the highest bidders;
- sell the Strategic Petroleum Reserve, the Naval Petroleum Reserve, and all oil shale reserves; and
- eliminate the Energy Information Administration, the Energy Regulatory Administration, the Home Weatherization Program, and all university and science education programs managed by the DOE.

The Department of Energy is a large department by any measure. It has 20,000 employees and an annual budget of $16.5 billion. Another 150,000 workers are employed at the DOE's national laboratories, cleanup

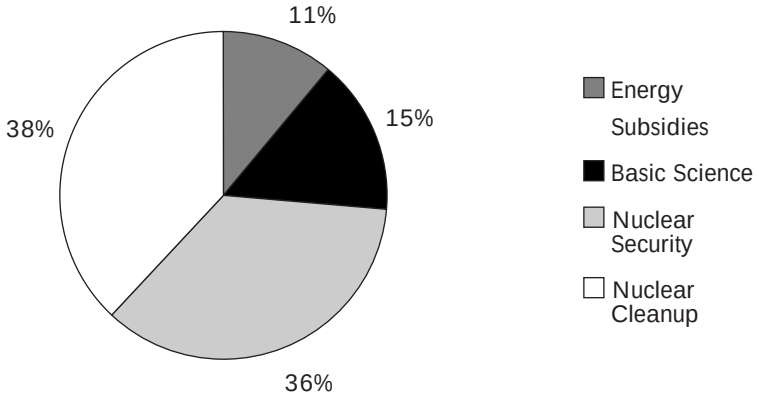
sites, and other facilities. Notwithstanding its name, the DOE's primary role is that of caretaker of America's nuclear-industrial complex. Fully three-quarters of the department's budget is devoted to nuclear weapons safety and nuclear cleanup activities (Figure 13.1). If all of the DOE's nondefense programs were privatized, the resulting private corporation would rank in the top half of the *Fortune* list of the 500 largest corporations in America.

The DOE is a 1970s' dinosaur that has outlived its usefulness. Energy production, distribution, and consumption are better directed by market forces than by government planners and bureaucrats. Likewise, weapons maintenance and related nuclear activities are better directed by Defense than by Energy personnel. There is no more reason for a department of energy than for a department of automobiles.

First, Eliminate the Department

Even if few of the actual functions of the DOE were eliminated, eliminating the department and transferring its programs to other agencies would be a worthwhile undertaking. Maintaining a cabinet-level energy department is risky because it provides a ready structure for the reintroduction of direct federal energy market interventions—a perfect command post from which some future ''Energy Czar'' could once again punish energy producers and consumers in the event of some temporary energy ''emergency.'' Elimination of the DOE would make it difficult for government to launch any future interventions in the energy marketplace.

Figure 13.1
$16.5 Billion DOE Budget (FY 1997)



In the event of a new energy crisis, Congress would be best advised to ensure energy supplies and fuel diversity by allowing markets to work unimpeded by bureaucratic second-guessing. The existence of an energy department presents too strong a temptation for intervention, which is widely acknowledged to have been disastrous in the past.

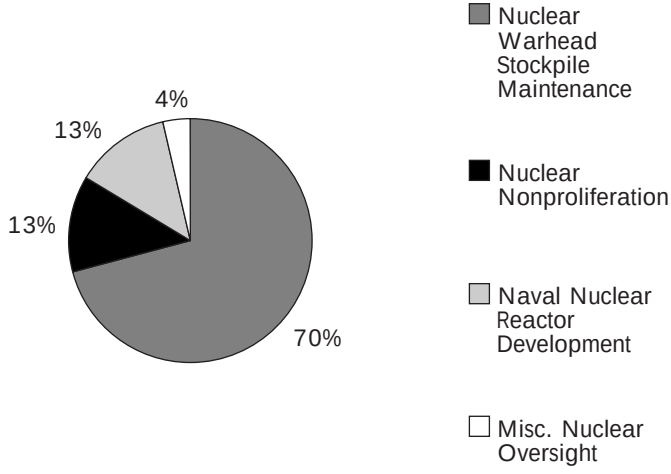
Reorganize the Nuclear-Industrial Complex

As Figure 13.2 indicates, the Department of Energy might be better named the ''Department of Nuclear Weaponry and Science.''

Although stockpile maintenance and cleanup operations certainly need to be continued, the agency responsible for those activities hardly needs to be represented at the president's cabinet table. There is no compelling reason for those activities to be under the administrative umbrella of an ''energy'' department, since ''energy'' has virtually nothing to do with either administrative function.

It makes administrative sense for those activities to be assumed by the Department of Defense. As the National Defense Research Institute of the RAND Corporation recently pointed out, ''It is questionable whether there remains any reason to continue the separation of nuclear responsibilities between DoD and DoE.'' Likewise, a 1995 General Accounting Office survey of 37 academic experts and former DOE officials found

Figure 13.2
$5.5 Billion DOE Nuclear-Industrial Budget (FY 1997)



overwhelming support for removing the DOE from the business of nuclear weapons development, stockpile maintenance, and arms control verification.

A national nuclear weapons agency (NNWA) should be established to supervise the nuclear weapons program and related cleanup undertakings. The weapons-related activities of Los Alamos, Lawrence Livermore, and Sandia national laboratories should be reduced to reflect post–Cold War realities, consolidated within two of those laboratories, and placed under the direction of the NNWA.

Reform Federal Environmental Cleanup Programs

The DOE's various cleanup programs—which cost $6.2 billion annually—are necessitated by the environmental mismanagement of the nuclear weapons complex. Federal nuclear weapons facilities such as Rocky Flats, Colorado, and Hanford, Washington, are expected to take 30 years or more to remediate. Current cleanup standards negotiated by the DOE with state and local communities establish rigorous protocols, based on the federal Superfund statute, that are aimed at returning sites to near-pristine conditions. Estimates of the ultimate cost of such cleanups vary dramatically, but even the most conservative estimate of $200 billion rivals the cost of the savings-and-loan bailout. Other estimates put ultimate cleanup costs as high as $1 trillion.

While cleaning up those sites is certainly a federal responsibility, the cleanup standards adopted by the DOE are unachievable as well as inordinately costly. Although that is widely understood within the scientific community, the point was perhaps best made in a report issued in 1995 by an advisory board appointed by the DOE to study the national laboratories:

> Probably the most important reason behind the slow pace of assessment and cleanup is the low quality of science and technology that is being applied in the field. Many of the methods, such as ''pump and treat'' for contaminated groundwater remediation, cannot provide the claimed benefits. There is a lack of realization that many—and most experts believe most—existing remediation approaches are doomed to technical failure. Others would require unacceptable expenditures and much extended time to reach their stated objectives.

If the nuclear weapons complex is transferred to the Department of Defense, it makes sense to transfer cleanup operations there as well. RAND notes that ''under the assumption that DOE continued to manage

environmental cleanup, there would arise the issue of who was responsible for new environmental problems created by a DoD organization. It is not clear that bifurcating responsibility for nuclear waste cleanup—between old and new, or between that from weapons programs and that from other sources—would be prudent.'' Accordingly, it makes sense to also give the proposed NNWA this authority. The GAO survey of energy experts likewise found an overwhelming consensus for transferring civilian nuclear disposal; nuclear weapons waste management and cleanup; and all matters of environmental, safety, and health oversight out of the Department of Energy.

Current standards for cleanup of nuclear sites negotiated by the DOE are, even if desirable, untenable both economically and politically. Moving to a standard of risk neutralization would allow far more sites to be cleaned up and correspondingly speedier health protection for the general public. Most environmental engineers believe that such a change in cleanup protocols on federal sites would cut total remediation costs by at least 50 percent.

Privatize the National Laboratories

The DOE maintains 10 major laboratories and 18 minor ones with a combined 30,000-employee payroll. The taxpayers' ''investment'' in those laboratories has truly been staggering—over $100 billion since the creation of the DOE. The national laboratories today are no longer focused exclusively on weapons programs; they have branched out to include environmental, commercial, and various other research activities now that the Cold War is over. For example, 40 years ago, 90 percent of Lawrence Livermore's budget was devoted to defense activities. Today, less than half of its budget is so targeted.

More than 50 reports and audits over the last several decades have warned of ongoing administrative, managerial, and cultural problems at the laboratories, yet the GAO notes that ''none of those past studies and reviews has resulted in overall consensus about the future missions of the multi-program laboratory system, raising questions about DoE's capacity to provide a vision for this system.''

Perhaps the most compelling recent analysis of the national laboratories is the February 1995 Galvin Report, the product of a corporate-academic task force appointed by the secretary of energy, that trumpeted ''one critical finding'' as ''so much more fundamental than we anticipated that we could not in good conscience ignore it. The principle behind that

finding is: government ownership and operation of these laboratories does not work well.'' The prescription?

> The principal organizational recommendation of this Task Force is that the laboratories be as close to corporatized as is imaginable. We are convinced that simply fine-tuning a policy or a mission, a project, or certain administrative functions will produce minimal benefits at best.

Accordingly, Congress should float stock for each separate laboratory, save for two of the three main weapons laboratories (Lawrence Livermore, Sandia, and Los Alamos), for purchase by any interested party. If there is insufficient commercial interest in any particular facility, the federal government should turn that facility over to the management agent currently under contract to the federal government to operate the facility. That agent would then retain full ownership rights to the laboratory and be free to operate it as it wished, contracting with public and private entities in the free market, or close it down. The federal government would retain full liability for past environmental contamination at all the privatized laboratories and would be responsible—through the NNWA—for remediating any environmental contamination that threatened public health.

Eliminate Energy Research and Development

The DOE spends $5.2 billion annually on research and development, about half on basic scientific research and half on more immediate energy research and development. Over the past four decades, the federal government has poured nearly $100 billion into nondefense nuclear science and energy research and development, 70 percent of which since the mid-1980s has been devoted to applied energy R&D. Clearly, federal energy R&D expenditures are not trivial.

The DOE justifies its R&D programs as ''so high-risk and so expensive that no one company's board of directors will agree to invest in it.'' Yet when a particular research activity involves high risk and minimal return due to scientific uncertainty or low energy prices, the market does not ''fail'' by not investing in the project; it operates rationally.

Perhaps the most serious examination of federal R&D programs—conducted for the Brookings Institution by economists Linda Cohen of the University of California at Irvine and Roger Noll of Stanford University—found that energy R&D was an abject failure and a pork barrel for political gain. Thomas Lee, Ben Ball Jr., and Richard Tabors of the Massachusetts Institute of Technology likewise have observed that ''the experience of

the 1970s and 1980s taught us that if a technology is commercially viable, then government support is not needed; and if a technology is not commercially viable, no amount of government support will make it so.''

Even the Galvin Report concluded that the DOE's laboratories—the main tool by which the department forwards its R&D agenda—"are not now, nor will they become, cornucopias of relevant technology for a broad range of industries.''

The reason that energy R&D has such a disappointing track record is that politicians and bureaucrats are charged with deciding which industries, technologies, and projects to support on the basis of political, not economic or scientific, considerations. As former senator William Proxmire once remarked, ''Money will go where the political power is. Anyone who thinks government funds will be allocated to firms according to merit has not lived or served in Washington very long.'' Eric Reichl, former director of the Synthetic Fuel Corporation and long-time member of the DOE's Energy Research Advisory Board, agrees: ''The more R&D dollars are available, the more of them will go to some marginal ideas. The high-merit ideas will always find support, even from—or particularly from—private industry. In general, then, government R&D dollars will tend to flow to marginal ideas. Exceptions always exist, but they are just that, exceptions.''

Federal energy R&D expenditures should be immediately eliminated. The argument that they have provided a net social benefit to the economy is simply dogma masquerading as fact. When the GAO audited a recent DOE report on its R&D ''Success Stories,'' for instance, it found ''basic math errors, problems in supporting economic analyses, and unsupported links between the benefits cited and DoE's role or the technology. These problems make DoE's estimates of the benefits of these cases questionable.'' In fact, no cost/benefit analysis of any kind has ever been produced to justify past or present DOE R&D programs.

Eliminate Subsidies for Energy Efficiency and Renewable Energy

The DOE funds numerous programs that are designed to directly and indirectly subsidize the adoption of energy-efficient technologies and the use of renewable fuels. Favored industries receive federal money for technical assistance, outright production subsidies, information programs, grants, export subsidies, accelerated depreciation preferences, and demonstration projects. Over the last 20 years, the DOE has spent $11 billion

to promote various sources of renewable energy that have managed to capture only 2 percent of the electricity market. Another $19 billion has been spent on energy conservation technologies and mandates despite the fact that such ''demand-side management'' programs, according to the DOE's own figures, are twice as expensive as the fuels they're trying to conserve.

Those programs and preferences should be removed root and branch from the federal budget and all enabling legislation amended or repealed as necessary. Even the lowest cost source of renewable energy—wind-power—is three times more expensive at the margin than the lowest cost source of conventional energy, combined-cycle natural gas. And the economics of wind or other renewables are not expected to improve in the near term or the midterm, a fact even the DOE conceded in its most recent budget request when it noted that ''the contribution of these fuels [coal, oil, and natural gas] is projected to increase in coming years.''

Once fossil fuels become relatively more scarce, markets will turn to alternative fuels and more energy-efficient technologies and practices out of economic self-interest. Subsidies and mandates are simply unnecessary.

Privatize the Power Marketing Administrations

The DOE sells about $3 billion worth of electric power, approximately 8 percent of the nation's annual power production. The facilities that generate that power are mostly dams: Hoover, Grand Coulee, and 129 other smaller dams operated by the Army Corps of Engineers and the Bureau of Reclamation. The DOE's four remaining power marketing administrations (PMAs)—the agencies that deliver public power wholesale (with the exception of the Bonneville Power Administration, which also sells power retail) to publicly owned utilities and rural power cooperatives—are together as large as major private power companies.

The PMAs were originally justified on two premises: first, that monopoly electricity corporations would not find enough profit in electrifying rural America and thus government must step in and provide the power and, second, that government could provide power to consumers at less cost than could private companies because it could do so ''at cost'' without worrying about capital costs or profit margins.

The first premise is now irrelevant. Rural America is thoroughly electrified and will remain so with or without the PMAs. Moreover, 60 percent of rural America is already served by investor-owned utilities. The second

premise—cheap federal power—was a socialist chimera. Public electricity generation has proven to be far more costly than private power.

All four of the PMAs should be privatized by asset divestiture and sold to the highest bidder by an asset privatization working group under the management of the Department of the Treasury. The divested assets should include the right to market power produced at federal facilities (without any price constraint) and the generation equipment associated with energy production at those facilities (owned primarily by the Army Corps of Engineers and the Bureau of Reclamation). The privatization of PMAs should grandfather in existing operating conditions at hydroelectric generating facilities, including minimum flows from the dams, and provide a ''preference'' to current customers that would relieve them from current contract requirements if they so desired. Sale of the four PMAs, proposed by the Clinton administration in 1995 but, alas, proposed no longer, would bring between $3.4 billion and $9 billion to the federal treasury; Bonneville is likely to bring approximately $9 billion.

Although there might not be a market for the largest federal dams, such as Hoover or Grand Coulee (although that remains to be seen), there are more than 100 smaller dams that would find ready buyers. More than 2,000 hydropower facilities are owned by the private sector (compared to 172 facilities owned by the public sector), and 56 percent of the nation's hydropower is generated by private companies. Those facilities are not necessarily small generators. The Conowingo Dam, a 500-megawatt facility on Maryland's Susquehanna River, and the Brownlee Dam, a 585-MW facility on the Snake River, are both owned by nonfederal power companies.

Indeed, current PMA customers complain that the Army Corps of Engineers and the Bureau of Reclamation are failing to maintain power facilities or upgrade them. Both organizations are under orders not to expand power facilities so that federal dollars can be used for other priorities. Sale of those facilities would mobilize private capital for maintenance and upgrading.

Most retail consumers of public power would experience no rate increases under privatization. The reason is that, even though public power is sold to intermediary wholesale purchasers at between 1 and 3 cents per kilowatt-hour, those wholesalers (rural electric cooperatives and municipal utilities) typically resell that power to their customers at market rates—6 to 8 cents per kWh. In other words, the retail customers of public power do not receive the public subsidy; the rural electric cooperatives and municipal utilities do.

Sell the Oil Reserves

The federal government maintains a 591-million-barrel Strategic Petroleum Reserve of unrefined, generally high-sulfur crude oil in five caverns in Texas and Louisiana and a Naval Petroleum Reserve consisting of major oil and natural gas fields in Buena Vista, California, Teapot Dome near Casper, Wyoming, and Naval Oil Shale Reserve Number 3 near Rifle, Colorado.

The various oil reserves of the federal government should be privatized immediately. There is simply no reason for the federal government to own productive oil or shale fields. Nor can any petroleum reserve, no matter how large, insulate the United States from the effects of international supply disruptions. Selling the SPR alone would bring $13 billion in revenue to the treasury.

The SPR is not large enough to meet America's oil demand even in the short term and could never provide significant help in the (extremely unlikely) event of wrenching supply disruptions. The effective withdraw capacity of the SPR is only about 2 million barrels a day, enough to replace but 25 percent of America's daily oil imports for approximately 90 days. Fortunately, however, that will make no difference for the military in the event of a complete cutoff of foreign oil. Joshua Gotbaum, assistant secretary for economic security at the Department of Defense, testified before the Senate in 1995 that the military could fight two major regional wars nearly simultaneously while using only one-eighth of America's current domestic oil production.

No serious energy economist expects oil prices to ever equal, on a sustained basis, the price of putting a barrel of oil—approximately $60—in the SPR. If one thinks of the SPR as the functional equivalent of an insurance policy, then the premium on the policy exceeds the benefits under the policy.

Short of a seamless naval embargo, no oil boycott could prevent the United States from purchasing oil in the international marketplace. As noted by MIT economist Morris Adelman, the dean of energy economics, ''The danger is of a production cutback, not an 'embargo.' The world oil market is one big ocean, connected to every bay and inlet. For that reason the 'embargo' of 1973–74 was a sham. Diversion was not even necessary, it was simply a swap of customers and suppliers between Arab and non-Arab sources.''

The NPR doesn't even pretend to operate for a ''rainy day''; instead it amounts to straightforward federal ownership of productive oil and gas

lands. There is no economic rationale for such an arrangement, no military need for the fields, and no credibility to the argument that federal ownership of the means of production is superior to private ownership.

Conclusion

The plethora of minor DOE undertakings buried in the budget should all be eliminated. As discussed in Chapter 41, the Federal Energy Regulatory Commission should be dismantled. The Home Weatherization Program is nothing but welfare with extremely high overhead, and welfare policies are properly addressed elsewhere in the budget. The Energy Information Administration subsidizes the collection of market information for an industry that scarcely needs taxpayer help.

These views may be rare in Washington, but they are orthodox among serious economists. As noted by Richard Gordon, professor of mineral economics at Pennsylvania State University and recipient of the International Association of Energy Economists' Outstanding Contributions Award, ''The dominant theme of academic writings is that governments have done more harm than good in energy,'' a view ''almost universally supported by academic energy economists, whatever their political outlook.''

Eliminating the Department of Energy would lead to lower energy prices and a strengthened energy industry and go a long way toward reducing the federal debt.

Suggested Readings

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