
Chapter VIII

IDENTIFICATION AND ANALYSIS OF PUBLIC POLICY ISSUES ‘

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Consideration of the materials information systems alternatives highlight a number of interrelated public policy issues. In this study, materials policymaking is viewed as the definition, by high levels of Government and other social institutions, of an overall plan incorporating goals and suggesting the general sense of direction or development in materials-related areas.

Based on the impact analysis, the public policy issues likely to arise in the planning, or operation of one or more of the institutional arrangements are identified in this chapter.

A. INTRODUCTION

In this assessment, the public policy objective implicit in the seven institutional arrangements is to meet the policy-level materials information needs through one or more of a series of progressively stronger legislative/executive actions to integrate and upgrade the existing Federal Government materials information systems.

As the impact identification and analysis make clear, the number and intensity of impacts increase as the level of improvement and change moves from incremental to intermediate to maximum. The possibility that these impacts will generate conflict among stakeholders increases in a similar fashion.

For the most part, the issues discussion is oriented toward the broad social, economic, political, and legal context rather than to specific arrangements. Based on the impact analysis, the public policy issues likely to arise in the planning or operation of one or more of the institutional arrangements are listed below in order of relative importance:

- . Role of the Federal Government with respect to private sector materials information;
 - Authority of the Federal Government to require disclosure of materials information by business enterprises;
 - Openness in Government, and the protection of confidential business information; and
 - Distribution and control of (and access to) materials information in society.
- . Competition within the American economy;
- . Growth of governmental planning;
- . Future of intergovernmental (Federal-State-local) relations; and
- Participant on in the American political process,

B. ROLE OF THE FEDERAL GOVERNMENT WITH RESPECT TO PRIVATE SECTOR MATERIALS INFORMATION

Since much of the information necessary for public policymaking in the materials area comes from private sector data, an immediate issue to consider is whether the Federal Government has a proper role with respect to such data. Or, as some question, is expanded Federal concern over private sector information an unwarranted extension of governmental involvement which runs the risk of unfairly compromising proprietary information and the competitive positions of private enterprise. This issue area is addressed in this section from the viewpoint of political economy, and then in the following two sections from a legal perspective. There are at least two basic issues emerging with respect to the role of the Federal Government in meeting these needs as they relate to the private sector.

First, to what extent should the Federal Government provide further support for improvement and development of private sector materials information? The Federal Government already plays a role here, but the results of this assessment suggest that a more intensive level of support may be needed. Much of the information needed for private sector decisions on materials R&D and engineering design (e.g., information on mechanical, chemical, and physical properties, fabricability, toxicity, and corrosion resistance) is not of direct relevance to Government policy makers. But this kind of information is essential to efficient and effective private sector allocation and use of resources within the broad framework of materials policy. To the extent that realization of public policy depends on private sector activities, it may be argued that it is in the public interest for the Federal Government to provide further support for improving sectoral materials information, even though such information is primarily used by and remains in the private sector.

Second, to what extent does the Federal Government need additional materials data from the private sector? As discussed earlier, the Federal Government already collects a broad range of materials data from the private sector. The results of this assessment suggest that, while new data will be needed (e.g., data on energy use, transportation, and life-cycle costs), the Government's materials information problem is primarily one of inadequate information management, ineffective systems integration, and insufficient analysis rather than incomplete data.

Only a small fraction of private sector data is really necessary to Government policymaking. More information does not mean better information. In order to avoid placing unnecessary reporting burdens on the private sector, and to prevent further information overload of Government policy makers, a priority-setting process is needed to help identify exactly which additional data are needed,

Given improved materials information management and analysis in the Federal Government, a case for limited Government collection of private sector data can be made along the following lines. First, private sector decisionmakers themselves need information (e.g., supply and demand statistics for critical commodities) which, for competitive, cost, and antitrust reasons, among others, can realistically be collected and aggregated only by the Federal Government. Second, because the private sector accounts for the vast majority of materials-related economic activities both at home and abroad, information about such activities is essential to U.S. Government policymaking. Third, private sector materials-related activities have direct and indirect effects (benefits and costs, internal and external) on many other sectors of society. The Government may be regarded as having a legitimate need for information necessary to

help ensure that the net effects of private sector actions are consistent with public priorities. The constitutional and legal bases for Government involvement are discussed in subsequent sections.

The following sections discuss in detail the

legal, administrative, and judicial precedents for safeguarding against harmful and unwarranted disclosure of private sector information in ways which are consistent with public policymaking needs and the open access precedents of the Federal Government.

C. AUTHORITY OF THE FEDERAL GOVERNMENT TO REQUIRE DISCLOSURE OF MATERIALS INFORMATION

1. Sources of Federal Jurisdiction

The Federal Government derives its fundamental authority over business activities from the Constitutional grants of power to the Congress to regulate interstate and foreign commerce, to provide for the national defense, and to regulate the disposition of property belonging to the United States.

One principal purpose of establishing more comprehensive and integrated materials information capabilities is to provide Government agencies with timely, accurate, and credible materials information for informed decision-making. The integrated capabilities are therefore a continuation of existing Government policy. The arrangements rely primarily on existing Federal authority to gather materials data from broad segments of the economy. Only in institutional arrangement 7 (the Materials Information Commission) is there an apparent increase in Federal power achieved through the reordering of existing patterns of authority. The Federal Government has extensive investigatory powers which enable it, through various agencies, to inventory and monitor all phases of materials production and consumption.

2. Limitations on Exercise of Federal Authority

In evaluating the validity of assertions of corporate secrecy in the face of Government requests for disclosure, two facts should be remembered; first, corporations are creations

of law; and second, corporations do not possess the same Constitutional protections of the Fourth and Fifth Amendments as individuals.

Because corporations are creations of law, the Government may impose conditions on their creation, including conditions relating to provision of corporate information to the Government.

Corporations are protected against unreasonable searches and seizures under the Fourth Amendment, but the standards are broader than those for individuals. Under current law, courts will issue subpoenas for corporate records if (a) the request is within the authority of the agency; (b) the demand is not too indefinite; and (c) the information is reasonably relevant to the inquiry. *United States v. Morton Salt Co.*, 338 U.S. 632 (1950).

The Fifth Amendment privilege against self-incrimination does not apply to corporate books and records. The Supreme Court held in *Hale v. Henkel*, 201 U.S. 43 (1906), that corporations were not "persons" for the purposes of self-incrimination under the Fifth Amendment. Thus, disclosure is required even where the information would reveal criminal activity by the corporation or its officers or employees. When an agency or official which is vested with jurisdiction over matters relating to materials resources and investigatory powers issues a lawful request in accordance with relevant procedures and regulations for the disclosure of corporate information, the request will be enforced over any assertions of corporate secrecy.

3. Conclusion

Proposals for establishing comprehensive materials information capabilities utilizing modern information management techniques have been criticized by both industry and Government as Federal intrusion into private corporate affairs. An examination of the sources of Federal authority to gather materials information, the limits on its exer-

cise, and their applicability indicates that establishing such integrated capabilities would (a) be consistent with existing recognized Federal regulatory powers, (b) not greatly expand, if at all, Federal authority over the materials industry, and (c) not violate any recognized rights of "corporate privacy," given appropriate use of checks and balances as discussed later.

D. OPENNESS IN GOVERNMENT AND THE PROTECTION OF CONFIDENTIAL BUSINESS INFORMATION

A major consideration should be the treatment of sensitive data supplied by business sources. This issue reflects the fundamental differences of values reflected in demands for open, public access to information in the possession of the Government, and assertions of corporate privacy for the protection of competitive economic advantages. Balancing these conflicting interests, while at the same time advancing system goals, will be a substantial challenge. To that end, the principal laws governing public access to Government information and restrictions on use of confidential information are summarized and compared with some categories of information to be included within the integrated capabilities.

1. Public Access to Information

Public access to materials information and participation in the formulation of policies are guaranteed under the Administrative Procedure Act, 5 U.S. C. 551 et seq., the Freedom of Information Act, 5 U.S. C. 552, and the Federal Advisory Committee Act, P.L. 92-463, 88 Stat. 770. The chief basis for public access is the Freedom of Information Act (FOIA) which provides that any person, including a corporation, has a right of access to any document, file or other record, including computerized records, in the possession of any Federal agency or department unless such material is sub-

ject to one of nine specific statutory exemptions. Another factor favoring public access is that many agencies have as part of their responsibilities, the collection and publication of materials commodities and resources information and statistics for public use. (See Joint Hearings *on the* Domestic Supply Information Act before the Senate Committee on Commerce and Senate Committee on Government Operations, 93d Cong., 2d Sess., at 149-154 (1974).) The principal agencies exercising such authority are the Departments of Commerce, Agriculture, and Interior, and the Federal Energy Administration. The Securities and Exchange Commission also maintains public information on the structure, financial condition, and activities of many corporations in the materials industry. In recognition of the importance of such information to public and private decision making, large quantities of materials information are already made public under existing policies and programs,

2. Protection of Confidential Business Information

The Freedom of Information Act, 5 U.S.C. 552 (b), includes nine categories of information which are exempt from the compulsory disclosure provisions of the Act. Of particular relevance to materials information systems are two exemptions:

(a) Matters specifically exempted by statute, 5 U.S.C. **552 (b) (3)**. This exemption is intended to preserve the protections of confidentiality afforded under almost 100 other statutory provisions. For a partial list of these statutes, see *Federal Statutes on the Availability of Information*, Committee Print, House Committee on Government Operations, 86th Cong., 2d Sess. (1960).

(b) Trade secrets and commercial or financial information obtained from a person and privileged or confidential, 5 U.S.C. **552(b) (4)**. To invoke coverage of this exemption, the information must be a trade secret under the strict meaning of the term or be commercial or financial information obtained from a person (including a corporation) and privileged or confidential. Trade secret is construed to mean an unpatented, secret, commercially valuable plan, appliance, formula, or process, which is used for the making, preparing, compounding, treating, or processing of articles or materials which are trade commodities. *United States ex rel. Norwegian Nitrogen Products v. United States Tariff Commission*, 6 F. 2d 491, 495 (D. C. Cir. 1925), rev'd on other grounds, 274 U.S. 106 (1927). Privileged information includes matters covered by traditionally recognized privileges such as the lawyer-client privilege. Commercial or financial information is exempt from disclosure, if privileged, or if within the standard of confidentiality set forth in *National Parks and Conservation Association v. Morton*, 498 F. 2d 765, 770 (D.C. Cir. 1974). Information is confidential under this exemption if disclosure of the information is likely to impair the Government's ability to obtain necessary information in the future or to cause substantial harm to the competitive position of the person from whom the information is obtained. Where the Government possesses mandatory authority to obtain the necessary information, the first test in *National Parks* is inapplicable since no impairment of its collection power could occur. This standard places the burden upon

the Government and the source to show a likelihood of substantial harm to competitive position from disclosure, severely limiting the effectiveness of agency practices which conferred blanket confidentiality to information supplied by private sources, in the absence of a specific statutory provision, (See Case note, 88 Harv. L. Rev. 470 (1974).)

A significant limitation on the use of these exemptions is the provision that reasonably segregable portions of requested documents must be disclosed after deletion of exempt materials. Often the deletion of identifying materials is sufficient to justify the release of some confidential information. Finally, it should be remembered that the Freedom of Information Act exemptions do not forbid disclosure; they are discretionary. Documents and records may be released to the public even though covered by one or more exemptions where such release would not constitute an abuse of discretion or violate other statutory prohibitions.

18 U.S.C. 1905 imposes criminal penalties for the unauthorized disclosure of trade secrets and confidential information by Federal officials and employees. This statute covers information relating to "trade secrets, processes, operations, style of work, or apparatus or to the identity, confidential statistical data, amount or source of any income, profits, losses, or expenditures of any person, firm, partnership, corporation, or association, " Section 1905 is frequently referred to in other statutes for its definition of trade secrets and confidential information. The section does not create further exemptions to the Freedom of Information Act, but merely punished the unauthorized disclosure of such information whether exempt or nonexempt under FOIA. Section 1905 has been the basis for several "reverse freedom of information suits" in which corporations attempt to enjoin agency release of documents concerning them pursuant to a FOIA request. The corporate plaintiffs have asserted that release of information which is exempt under FOIA and which is

described in section 1905 violates the criminal prohibitions of section 1905 and, therefore, constitutes an abuse of discretion reviewable under the Administrative Procedure Act, 5 U.S.C. 701-06. *Charles River Park "A", Inc. v. Department of H. U. D.*, 519 F. 2d 935 (D.C. Cir. 1975); *Sears, Roebuck and Co. v. General Services Admin.*, 509 F. 2d 527 (D. C. Cir. 1974). Some legal authorities have advanced the theory, as yet untested, that these cases recognized, at least tacitly, the right of a corporation to sue to prevent substantial harm to its competitive position from unauthorized disclosure of confidential information and might serve as precedent for a suit against the Government and/or an official or employee disclosing such information for any resulting damages.

In addition to the criminal sanctions of section 1905, many statutes dealing with specific commodities or agencies contain criminal penalties for unauthorized disclosure of protected information. Moreover, the Federal Reports Act, 44 U.S. C. 3501 et seq., contains a provision which sets forth conditions under which confidential information obtained by one Federal agency may be released to other Federal agencies and extends the application of any legal restriction on the use of such information by the first agency, including penalties for unlawful disclosure, to the officers and employees of the second agency. The Federal Reports Act in combination with specific statutory grants of confidentiality preserves the confidential classification of information obtained from private sources.

A major concern of Government and materials industries representatives interviewed in connection with this assessment was that broad public access to the system would result in the unwarranted disclosure of corporate "proprietary information." Proprietary information is not synonymous with confidential information, privileged information, or trade secrets, as previously defined, nor is it, in itself, a category of protected business information. While assertions of corporate secrecy and privacy are an insufficient basis to

refuse disclosure of corporate information to Government agencies, some recognition is granted to the needs of business entities to prevent certain sensitive information from being revealed to their competitors and the public. Government agencies recognize this legitimate concern and carefully protect such sensitive matters to preserve their good relationships with their information sources. Corporate "proprietary" information is protected from public disclosure to the extent that it comes under one or more specific statutory provisions,

3. Conclusions

Most of the data supplied by individual companies would be legitimately considered confidential under the Freedom of Information Act, and additional protection from harmful public disclosure of sensitive corporate information is found in many other statutes and regulations. The design of a statistical information system also offers protection to individual company data. The system is primarily concerned with statistical trends and would use information aggregated from individual reports. Anonymity of individual data sources could be maintained with the use of special identifying codes and internal system security which would limit access to individual reports and reduce possibilities of accidental disclosure. It is probable that the system would utilize statistical sampling methods and would survey only a small number of firms in each of the many sectors of the materials industry. This approach would not result in the accumulation of massive files on each company in the materials industry. Acceptance of the system would be promoted by advance determination through regulatory or legislative action of the standards for classification of confidential information and for the availability of individual company reports for inspection by other Government agencies. The interaction of the system with existing Government policies on openness and confidentiality would result in a materials in-

formation system which offers comprehensive and accurate materials information to Govern-

ment and public users and which utilizes and protects sensitive corporate information.

E. DISTRIBUTION AND CONTROL OF MATERIALS INFORMATION IN SOCIETY

American society faces a difficult dilemma when it comes to the distribution and control of information in important areas like materials. On the one hand, conditions of information overload and complexity are such as to require better management control over information, for which computers and other information technology are some of the most useful tools available. Yet at the same time, there is great concern over possible threats to privacy and excessive concentrations of information which are made possible through data banks and interconnected computer systems. In this respect, concern has been expressed that the institutional arrangements will lead to excessive centralized control over materials information,

Protections against abuse have been built into the arrangements in the following ways. First, arrangements like a super-statistical agency (which would centralize in one institution all materials information activities of the Federal Government) have been ruled out. This kind of arrangement appears to constitute a clearly excessive concentration of control (and power), is contrary to many existing statutes, and represents a potential administrative nightmare. Second, the legislative mandate and anticipated budget restrictions for each arrangement are intended to limit the scope of activities to priority information needs.

This limitation is founded on the premise that, while information is essential to materials policymaking, too much information can be just as harmful as too little. However, as the various sectors of society become more interdependent and tightly linked, as is the case with regard to materials, information on external factors and interactions becomes more important. Some degree of centralization

is required to provide such information. Essentially, the purpose of the integrated capabilities, when viewed in these terms, is to provide the degree of centralization (through integration and upgrading of Federal Government information systems) necessary for provision of adequate information on the aggregate interactions and interfaces between the major social entities in the materials-related sectors of society. The capabilities are not primarily concerned with the internal workings of specific institutions (e.g., specific corporations), except to the extent validation of internal data is necessary to ensure reliable summarized and aggregated data.

Third, each arrangement is subject to a number of checks and balances, in addition to the necessary technical security measures: (a) the basic grant of authority which requires that Congress, the President, and the public have access to all policy-relevant information, subject to protections of data sources and proprietary information; (b) the application of existing statutes (e.g., the Freedom of Information Act, Privacy Act, Administrative Procedures Act, and Federal Reports Act); (c) the direct monitoring of activities by both OMB (for the President) and GAO (for the Congress); (d) periodic oversight by relevant congressional committees; (e) the authorities of existing agencies which by and large protect business firms from disclosure of sensitive information; (f) the necessary cooperation of existing agencies for actual collection of materials data and cooperation of the business community in provision of such data; and (g) the exclusion of any substantive policy or regulatory responsibilities other than those relating directly to materials information.

The intent of these checks and balances is to help ensure that the arrangements can achieve

their primary objective of providing materials policy makers with aggregated materials information from a centralized location, but without permitting excessive centralized control over (or potential abuse of) such information

or the detailed data on which it is based. Overall, the arrangements are intended to augment and build on, but not supplant, the essentially decentralized systems now operative,

F. COMPETITION WITHIN THE AMERICAN ECONOMY

In view of the fact that information and knowledge are keys to the competitive position of most American businesses, concern has been expressed as to how competition among profit-minded organizations in the United States can be influenced. Government's traditional role in America has not been to control, but rather to promote competition in most areas of the economy—except in certain cases, such as public utilities, where competition has been deemed undesirable. When construed as essentially a governmental intervention into the economy in the areas of materials, how will the dynamics of the economic system be affected? Will they tend to undermine or strengthen current patterns of competition?

1. Materials Substitution

From the standpoint of producers who accept the reliability of data and use it, an improvement in the information flow will provide new and timely knowledge concerning alternative sources of materials supplies, and will allow businesses to better select from among various substitution options. These developments will obviously affect competition. The competitive edge of some companies will be enhanced, since new data would lead, for instance, to innovative combinations of materials for more efficient production processes, more effective allocation of scarce resources, and improved product lines.

Through the use of improved data, the realization of production alternatives will improve or change the life and type of products, and therefore will alter present patterns of

competition. If new products last longer and are more useful, the quality of competition is enhanced in that other resources are conserved. Producers will experience and adjust to new dynamics in product turnover and variety as a result of the continuing utilization of data. In competing for a specified market which is sensitive to product quality and type, producers will be continually concerned with improving or altering the type and life of products so as to appeal to consumers, better use of scarce resources, and thereby increase profits,

2. Materials Research and Development

Another topic which deserves attention involves the relationship between the institutional arrangement and private research and development. Traditionally, materials information resulting from R&D has contributed to new products, many made with substitutes and synthetics. Data will to varying degrees influence this private R&D, thus affecting competition. Some R&D activities will undoubtedly be expanded in areas which in the past have consumed scarce resources, because data will suggest where the greatest savings and profits may be made. In other areas, R&D may be reduced or eliminated due to market rejection of a specific product which must rely upon key materials in short supply.

Due to shortages, industrial R&D may focus on possible technological innovations which would increase the efficiency of recycling and waste reduction, or allow greater use of abundant resources which may be substituted for more scarce ones. In other areas, for example

copper, R&D addressing new mining technologies could contribute to lower costs, and to controlling pollution and land use problems associated with production and solid waste disposal. It may be possible to promote more R&D cooperation between some companies, particularly where the return has been low in the past. In other areas, R&D competition may increase because of high returns. providing companies with the knowledge of where investment should be made and where profits are likely to be greatest.

3. Industrial and Business Planning

With implementation of the integrated capabilities, companies will have an increased opportunity to improve their planning processes and activities, which are often closely associated with research and development. Improved capabilities would help in shifting the content and perception of developing industrial plans. In the past, information about a specific resource or material has generally been quite limited at a given point in time; plans have been formulated on the best available data, with resources allocated accordingly. Improved knowledge concerning a particular trend in materials allocation, location, and rate of depletion should enable the relevant policy makers to reduce potential costs and risks while planning new and better lines of products,

Where reasonable profits can be made through production of these new products, corporate policy makers may increase the availability of resources by turning more to conservation or rationing activities, which will assure supplies for a longer period of time. Since more comprehensive, reliable, and timely information about materials will be available from the materials information systems, planning and related managerial functions will play a large role in increasing the likelihood of survival of a specific business enterprise, given the forces of a competitive

market. Increasing the efficiency of production activities will result in better use of resources and reducing the relative costs of production, thereby improving the quality—if not the quantity-of competition,

4. Competition Among Smaller Versus Larger Firms

As a consequence of the growth of alternative sources and substitutes of materials, and changes in R&D and planning activities, the question arises as to a change in relative market competition among smaller and larger firms. It is difficult in many instances to determine with certainty whether competition here will increase or decrease. It is not clear, for example, how the large volume and improved quality of data would help small businesses, since they do not deeply engage in long-range planning. By contrast, this data would be of value to larger firms. Yet the smaller businesses may also benefit from the data, since they now tend to be at a distinct information disadvantage,

Many smaller firms usually do not have adequate analytic capabilities even to handle the data already available. So more and better data alone are not likely to make much difference. However, if small firms are offered data as well as analysis, an improvement in their competitive position relative to larger firms could be stimulated. Even so, it seems clear that information per se (whether data, statistics, forecasts, and/or analysis) will not in any case lead to a revolutionary competitive realignment for small business.

5. Role of the Federal Government

The competitiveness of the American economy may also be affected by changes in the policies of the Federal Government. The role of Government policy is in part to ensure adequate materials supply and reserves, while simultaneously meeting other goals such as maintaining environmental quality. Integrated

capabilities could stimulate consideration of changes in governmental regulatory activities—toward greater intervention into the economy, or toward deregulation,

Government's need to affect economic activities, in view of the materials situation, may induce changes in trade legislation, corporate antitrust laws, standards for product performance, or requirements concerning environmental quality. In addition, there could develop changes in the U.S. tax system toward domestic and foreign operations, such as to increase or decrease import/export restrictions. Other governmental actions, such as new taxes or subsidies, could be taken to encourage industry to cooperate with national goals concerning recycling and reuse. Based on improved data, the Government might also encourage life-cycle cost accounting, so that the

final cost of a product will more closely reflect the total social costs of producing it. The Federal Government, as the largest single consumer, will also tend to influence market changes through its own buying activities, which may for example alter competition for various governmental contracts.

6. Conclusion

In conclusion, the functioning of the economy and the society upon which it depends should be improved. Both producers and consumers will be subjected to the reality of the general materials situation in this country and to detailed knowledge about it. One is complementary to the other. They may be two different segments in the market structure, but they are both part of the same market environment,

G. THE GROWTH OF GOVERNMENTAL PLANNING

An important political issue involves the way in which integrated materials information capabilities are likely to relate to local, State, and national governmental planning in the United States. The institutional arrangements do not make plans themselves. Their mandate specifically excludes any planning or policy-making responsibilities, except for plans and policy on materials information. However, the arrangements are designed to support planning and policymaking processes in other agencies of the Government.

1. Public Planning in the United States

Public planning in the United States has always reflected the major traits of the American political process at any particular point in its evolution. Because power is dispersed throughout the political system, no one power center exists for planning without a complex system of checks and balances and separation of powers to guard against abuses in decision making and to protect the legiti-

mate interests of all major sectors within society. The United States thus does not maintain a formal, highly structured planning process. Plans evolve in large part through the normal workings of the political process, with multiple actors and power dispersed throughout the private and public sectors.

Poor planning may be worse than no planning. In order to plan effectively and efficiently in the area of materials and resources, decisionmakers need the most timely, comprehensive, and reliable information available. Better information does not necessarily mean improved planning, but it does usually tend to affect the planning process, especially if it is available in an accurate, useful, condensed form which will facilitate decisionmaking. Decisionmakers must avoid information overload, even in an area as critical as materials shortages. More importantly, key decisionmakers need high-level forecasting and analysis which will help their decisions address the true complexities and interrelationships which must be considered.

2. Materials Planning at the Federal Level

The executive branch has been unable to plan effectively for real and potential materials shortages because of inadequate organization, conflicting or uncoordinated data, and insufficient analytical resources. Overlapping policy functions exist throughout the executive branch, leading to fragmented policymaking in many instances. Moreover, the Federal decision making process is crisis-oriented and, many concerned interest groups—both consumers and producers—have limited inputs. Although some steps have been taken during the 1970's to improve materials policymaking and planning resources at the national level, they nevertheless continue to be generally inadequate for coping with present and future problems.

To varying degrees, each of the seven institutional arrangements would potentially help in overcoming some of these Federal-level materials planning problems, by reducing fragmentation and overlapping in materials data responsibilities shared by various Federal agencies. This should make for more informed and timely short-run materials decisionmaking at all levels of Government. In some areas where long-range Federal planning is particularly needed, such as in energy and mineral resources, it should also promote a continuous planning process as opposed to the ad hoc, crisis-oriented process which has historically been evident. Further, improved information would tend to generate additional change in the traditional institutional structure in materials planning since its existence would likely make executive and congressional leaders more aware of the need for less fragmentation in responsibilities for meeting short-run and long-run problems.

Planning would also be facilitated under some alternatives by improving the ability of decisionmakers to map out policy options and priorities for a higher level of responsiveness to materials questions. And finally, group par-

ticipation could be increased because of data collection, clearinghouse, and referral functions available; the resulting new inputs from these groups would strengthen the democratic aspect of Federal materials planning.

3. State/Local Materials Planning

While Federal materials planning could potentially be improved, the same is true, at least in part, at the State and local levels. For example, data and trend projections would be useful to local and State governments which are accelerating their land use planning activities. These activities are directly related to materials issues, as in the case of restrictions on new development (to preserve land for forests, agriculture, parks, etc.) affecting the building trades, projected highway systems, energy conservation, and so on. Moreover, land use management provides an excellent example of State and local planning which is (at least in theory) "comprehensive" in nature, affecting so many fundamental aspects of everyday life. In the past, many land management decisions, such as those relating to protection of agricultural lands, were based upon guesses and assumptions as to future materials supply and demand.

The same potential contributions are likely in State planning, where the "quiet revolution in land use control" has accelerated since the late 1960's. The States do not want to be told by the Federal Government how to plan the use of land. However, State governments do need data and projections concerning the interrelationships between land, environment, industrial and commercial expansion, and new residential development of large-scale proportions. More generally, they need a systematic means for inventorying, monitoring, and evaluating the desirability of particular types of land usage, and for judging the effectiveness of different growth management schemes. They now have information for these activities only in the primitive sense of dated highway and tax maps, limited field

work, and aerial photography, Improved statistics and forecasting would be of value in

supplementing these traditional sources of data for planning purposes.

H. THE FUTURE OF INTERGOVERNMENTAL RELATIONS

Representatives of State and local governments have expressed concern over the implications for intergovernmental relations. A key question is: What new developments would accompany the implementation of integrated materials information capabilities?

1. American Federalism and Materials Problems

Materials supply problems are frequently regional, national, or even international in nature. Although State and local action is essential to the implementation of materials programs, State and local officials have necessarily relied in large measure on the Federal Government for formulating these programs. Moreover, possible alternative solutions to materials problems may entail great expenses, and thus, for example, few States have found the funds for developing materials data base information systems for assisting in problemsolving. It follows that, for the most part, the States maintain a reactive rather than an active posture. They cannot initiate broad-ranging materials policies and generally cannot afford sophisticated information systems as one means of assisting in solving problems.

2. Intergovernmental Cooperation

intergovernmental cooperation might be improved where State and local governments are able to draw upon and use data in solving local and regional problems. Obviously, regional data would be valuable to these officials. Energy data would be useful for a wide range of State conservation programs. Integrated capabilities would assist in responding to the 1975 Governor's Conference proposal concerning the creation of an interstate energy clearinghouse. Similarly, the utility of inte-

grated materials information capabilities was suggested in a tentative draft of the energy facilities siting resolution adopted at the Conference, stating that ". . . the Federal Government can take the lead in amassing the information on which every level of government and private actions can be most confidently based. The Federal Government should accumulate data from public and private sources and establish a framework in which energy information is maintained accurately, completely, currently, and in uniform modes." (National Governor's Conference Tentative Draft of Resolutions, New Orleans, June, 1975, page 16, mimeographed.)

Integrated capabilities could also positively affect the fact that different States may have opposing interests in certain materials areas, as in the case of States dependent on others for petroleum but still seeking the most reasonable prices possible. In such instances, through improved data, they may at least be able to appreciate more fully the perspectives, problems, and concerns of other States or different parts of the Nation.

All this is not to suggest, however, that a majority of State and local leaders will regularly utilize the integrated capabilities soon after implementation. They must clearly provide relatively reliable, timely, and comprehensive data. Having met this condition, if the institutional location is generally acceptable to them, and is largely a collection and clearinghouse facility, its usage by State and local officials should steadily increase over time. This would be a positive contribution to cooperative federalism.

3. Intergovernmental Friction

Just as greater intergovernmental cooperation may indirectly result from integrated

capabilities, so too may many frictions develop among actors in the Federal system because of their existence. States with substantial resources might oppose any further Federal knowledge of, or certainly influence over the use of, their materials. From the State standpoint, materials development and conservation programs should not be required through Federal law. This could avoid providing a symbol for a States rights reaction, even if State fears as to Federal influence were unwarranted, which might trigger some greater degree of regionalism and interregional friction among the States, or influence States to adopt more narrow points of view with reference to their own resources.

These potential sources of intergovernmental conflict could likely lead to discontent if the collection and clearinghouse/referral functions are not separated from the analytic functions. A strong preference for such a separation surfaced during the 1975 Governor's Conference meeting, where the creation of ERDA was praised as a notable illustration of how regulatory functions should be separated from research, development, and promotional capacities. State opposition to the analytic function essentially reflects the fear of another Federal materials agency ultimately possessing regulatory powers. States could also grow

to question whether political pressure was being exerted on the process of designating "policy options." If the above developments do not occur, however, State and local governments could be aided through a more centralized location from which they could request reliable and comprehensive materials data.

4. Conclusions

With regard to federalism, integrated capabilities will assist State and local governments in understanding and perhaps coping with their materials problems. They may still rely primarily on the National Government for financial and technical assistance, and for broad materials policy affecting resource development, distribution, and usage throughout the country. But valuable roles which State and local governments can play include policy implementation; providing data to Federal agencies, and identifying public needs as part of the national materials decisionmaking process. However, integrated capabilities can best contribute to a spirit of intergovernmental cooperation by providing materials data and clearinghouse/referral services, not high-level policy analysis which some State and local officials believe could lead to further regulatory powers located within Federal agencies.

I. PARTICIPATION IN THE POLITICAL PROCESS

A chief issue emerging from the question of creating and implementing the integrated capabilities concerns the ways in which they will relate to the democratic political process in the United States. This issue is analyzed here through the central organizing question: How will integrated capabilities contribute to more widespread political participation and influence by various interests in the public and private sectors?

1. Role of Information

Additional information per se will not ensure

greater participation or influence by public or private groups in the political process. Information is, however, a political resource. It provides one basis from which groups may more effectively participate and exert influence—provided that they choose to use it and provided that they have access to key political actors.

Obviously, one step in the political participation process involves persons seeking and acquiring data from which they may express an informed view. Without timely and accurate information, participation is less meaningful and the ability to influence policy is undermined. As participation diminishes, so does

the potential or actual power of that individual or group within the social fabric. It follows that reasonably widespread participation is a crucial underpinning for democratic government. By being able to participate in the political process, individuals and groups may consent to the policies which govern their lives, and by being able to bestow or withdraw their consent, they may ultimately hold government more accountable.

2. Reduced Barriers to Participation

In varying degree, a particular **alternative** would contribute to removing some of these barriers to wider political participation in materials policy formulation. Theoretically, group participation could increase, remain roughly the same as it has been in the past, or decrease. But most changes are likely to be in the direction of increased participation. Many interest groups and governmental officials in the public sector do not have ready access to important data on materials, and they will thus tend to benefit from integrated materials information capabilities.

Each of the seven institutional arrangements will tend to facilitate increased participation by those individuals and groups which previously have lacked access to public data because of its cost, the lack of knowledge of how to acquire the data, or a number of other practical reasons. The alternatives, by contrast, are unlikely to reduce access and current levels of participation by groups in the public or private sectors, although there may be shifts in the degree of influence exerted by these individuals or groups on policy formulation.

On balance, integrated capabilities could provide the basis for higher levels of participation by all public or private groups, more informed and valid criticisms of specific materials policies, and ultimately a more responsive political system. When materials problems occur to the extent that the general public must change its basic lifestyle, or to the point where profit-making companies lose money, pressure

could be exerted more readily on political decisionmakers who had ineffectively used—or failed to take into account—data to anticipate and cope with those problems. Such participation and influence could ultimately contribute to a political system more accountable to all groups.

3. Wider Range of Participation

In terms of the Government, Federal executive and legislative agencies will participate to a greater extent in the sense of engaging in additional data collection, clearinghouse, and analysis activities. These activities will make new data inputs available to the political process. Participation, in the form of added inputs from existing Federal agencies, should provide decisionmakers in the public sector with data and forecasts previously unavailable or difficult to acquire. In particular, this would mean more informed participation in materials policymaking by elected and appointed officials at all levels of government, if they are aware of and use the services provided. Although their materials problems tend to be local or regional in nature, State and local officials throughout the Nation would also have a timely source of information with which to anticipate future developments and to gain an overview of related problems in adjacent areas.

Political participation by public interest, environmental, and trade association groups will increase since many of the additional services provided by Federal agencies will be available to the general public for minimum reproduction costs. These groups will naturally gain some additional access to information and analysis simply by virtue of increased services and a higher level of coordination of Federal activities. Under the current materials information arrangements, fragmentation of responsibility is confusing and frustrating to the average individual and group inexperienced in acquiring data. By contrast, integrated capabilities will be located in one office or agency, thus substantially improving its

visibility and perhaps accountability to interest groups and the public generally.

This, in turn, will promote public use of materials data and analysis for participating in and influencing the policymaking process. A common data base will provide an improved foundation for communications with political representatives, which will tend to lead toward more informed interaction among relevant actors. Likewise, a shorter response time for requests and the clearinghouse function will be useful to small groups and individuals who cannot easily keep up with current developments. More specifically, certain features, such as the materials life-cycle data, will be of value to particular environmental and industrial groups.

Depending on the alternative, a mix of voluntary and mandatory data submission standards will exist which will not drastically change those currently operative. Thus, in most cases, American industry will continue to exercise a basic choice as to participation through inputs of data it chooses to provide the Government. Other factors held constant, the private sector's participation should not substantially change, and industry will not lose a significant level of influence in the political process. The level of participation by the private sector

would not be basically altered, since the agencies with which industry has developed positive relationships would still be performing most of the same materials functions as in the past.

4. Conclusions

Integrated capabilities are likely to contribute to the goal of broader political participation and influence by all public and private groups in American society. Materials information can be an important political resource, and a basis for more widespread political participation by removing some of the obstacles to information access, thus allowing the Nation to better approach the democratic ideal of a broadly-based political system for all those who want to participate. On the other hand, integrated capabilities are unlikely to reduce access and participation by the vast majority of groups which now provide inputs to public policy formulation, although there may be a relative change in the amount of influence these groups exercise. The results of this greater access and usage will be a more informed political exchange among participants, and ultimately a political system which is more responsive and accountable to a variety of groups in American society.