

**Energy
Information
Administration**

**1999
Application
◆
President's
Quality
Award
Program**



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EIA is the first place to go for
the last word in energy information.*

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1999 Application President's Quality Award Program

NOMINATION FORM

Applicant Organization:

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1000 Independence Avenue, SW
Washington, DC 20585

Highest Ranking Official in Applicant Organization:

Signature _____

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Size of Organization:

Number of Employees: 375 Federal, 300 Contractor

Number of Sites: Three

Budget for Preceding Year: \$10M-\$100M

List Sites: Forrestal Building, Washington, DC
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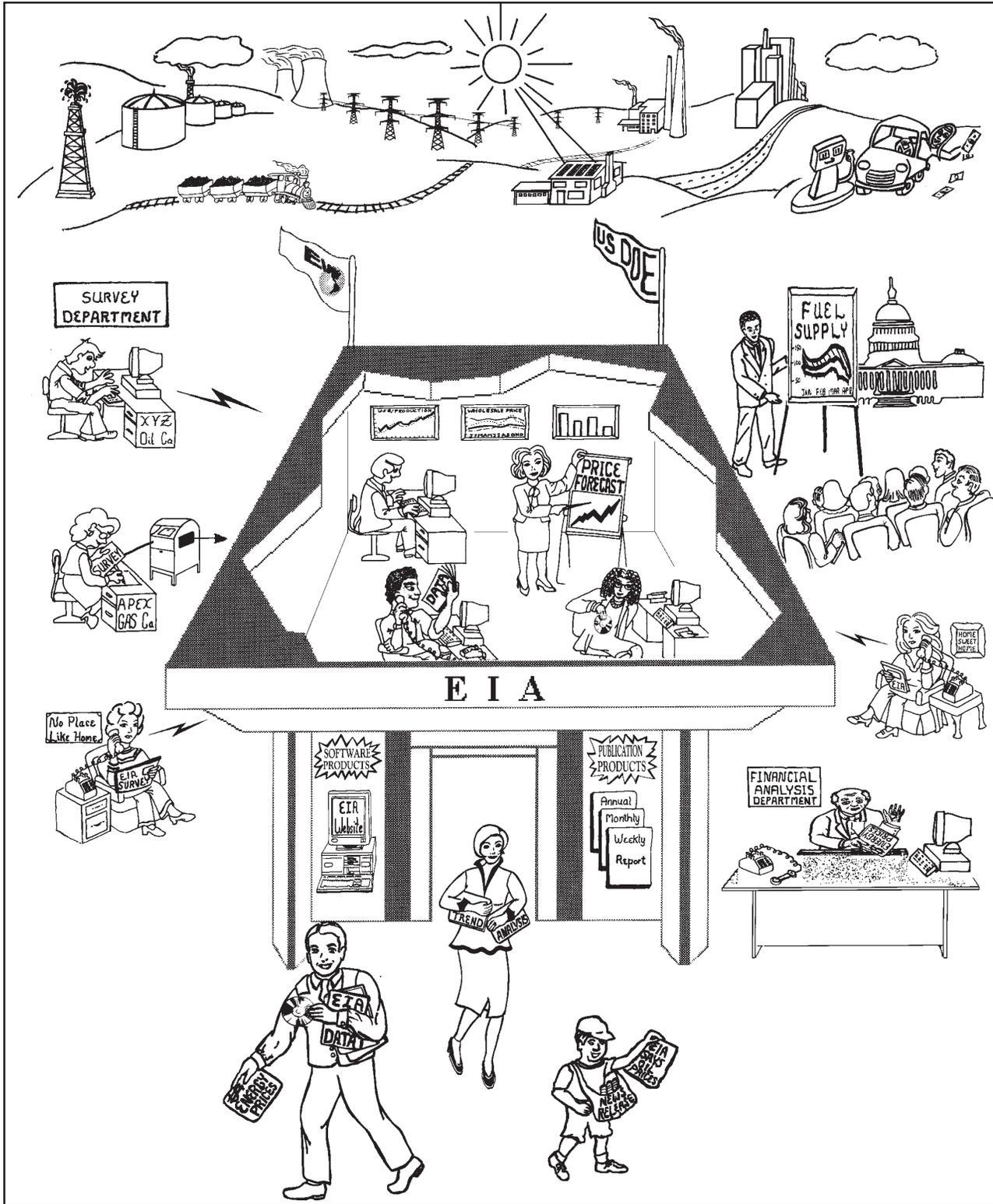


Figure A: A Day In the Life of EIA

ORGANIZATIONAL OVERVIEW

The Energy Information Administration (EIA) was established in October 1977 as a quasi-independent agency in the Department of Energy (DOE). The agency's sole purpose is to provide reliable and unbiased energy information. EIA systematically collects data directly from 120,000 respondents, such as oil companies, electric utilities, and personal households, through 83 scientifically designed surveys and indirectly from other sources. EIA analyzes energy issues and makes forecasts using its National Energy Modeling System and 18 other special purpose models. EIA's scope includes all energy types (petroleum, natural gas, coal, electricity, nuclear, renewables), energy stages (production, conversion, distribution, supply, consumption, price), and impacts (technical, economic, environmental). EIA information is disseminated in over 50 hard-copy publications (250,000 copies distributed in 1997), electronically (4.5 million Web site downloads and 800,000 Listserv mailings in 1997), through Congressional testimony and topical briefings to policymakers, and by personal customer response via phone, mail and fax (over 30,000 responses from our National Energy Information Center in 1997). Our principal customers are industry, research and academia, government, finance, media, private citizens, and others. EIA's budget for FY1998 was \$67 million, covering 375 Federal employees and 300 contractors. Virtually all our revenue comes from Congressional appropriations, with a very small amount from other Federal agencies for special information products or services.

1 Basic Organization Description

1.a Mission, Products and Services

Mission: EIA is a leader in providing high quality, policy-independent energy information to meet the requirements of Government, industry, and the public in a manner that promotes sound policymaking, efficient markets, and public understanding.

EIA is a Federal statistical agency, similar to the Census Bureau and the Bureau of Labor Statistics in its

data collection function, but generally performing more analysis and forecasting activities. Our core business processes are: (1) survey and data operations, (2) data integration, (3) analysis, (4) forecasting, (5) dissemination, (6) resource management, and (7) technical support. Our collection, processing and publication of energy data is illustrated in Figure A, which starts with respondents filling out survey forms and ends with EIA products going to customers.

The agency was established by Congress as a quasi-independent DOE unit whose information products were mandated to be policy-neutral. To meet this requirement, we do not seek DOE or Administration approval of our products, although we follow DOE's administrative requirements.

EIA's product is energy information. In the early years, EIA products were primarily publications mailed to customers which contained energy data (compiled from EIA surveys and other sources), analytical articles and forecasts. Additionally, we directly served customers who called in or sent letters requesting specific information. As information technology advanced, we routinely began collecting and disseminating our data electronically. We also began producing brochures in layman's terms, summarizing important aspects of our more detailed products. In 1995, as the Internet became more widely used, EIA went on-line (<http://www.eia.doe.gov>) with one of the first government Web sites (later praised by the Vice-President). While still providing our customers with hard-copy products, electronic dissemination of information products has grown dramatically and most of our products are now available through our Web site. Information is also disseminated through electronic publication using a dial-in modem (called EPUB), CD-ROMs, Listservs (e-mail distribution lists), fax and telephone hotlines.

Our information products can be divided into four groups—Data, Analyses, Forecasts, and Metadata:

Data Products: Compilations of survey data collected from respondents, processed by EIA and augmented by data from other sources (e.g., Census Bureau, Weather Service.) Data products by various fuel types, geographical areas, and reference periods provide comprehensive coverage of energy resources, reserves, production, conversion, consumption, prices and related

energy industry financial data. Text accompanies tabular data summaries, highlighting key facts. Our most popular data products in 1997 were the *Monthly Energy Review*, *Natural Gas Monthly*, *Electric Power Monthly*, *Petroleum Supply Monthly*, *Quarterly Coal Report*, and the *Weekly Petroleum Status Report*.

Analysis Products: Technical reports and articles which analyze issues relating to energy including economics, technology, production, prices, distribution, storage, consumption, and environmental effects. About three dozen analysis reports and articles are released each year. Two of the most popular last year were *Electricity Prices in a Competitive Environment* and *Natural Gas: Issues and Trends*.

Forecasting Products: Forecasts of energy variables in the short-term (0-2 years) and the near and mid-term (2-20 years) spanning all energy types and including national prices, supplies and consumption and international oil prices, energy supplies and consumption. Some forecasting models are available on-line for users who develop their own forecasts and all files are on our Web site. Our major forecasting products last year were the *Short-Term Energy Outlook*, the *Annual Energy Outlook*, and the *International Energy Outlook*.

Metadata Products: Descriptions of EIA information products that help customers find what they need. They include directories of all our survey forms, publications, electronic products, models, new releases, energy education resources, EIA contacts, and our *Annual Report to Congress*.

1.b Employee Profile

At the start of the 1980s, EIA had over 700 employees, but our workforce was down to 384 employees by the beginning of 1998 (31 managers, 353 non-managers) and our personnel ceiling for the end of 1998 was 361 employees. EIA non-management employees are represented by Chapter 213 of the National Treasury Employees Union. Our Administrator is a Presidential appointee who reports to the Secretary of Energy; all other employees are career civil servants ranging from grade GS-2 through Senior Executive Service. They represent a variety of disciplines, with an emphasis in the quantitative and systems analysis areas. The staff range in education from stay-in-schools to doctorates and comprise a diversity of ethnicities. We also utilize about 300 contract personnel to carry out our mission. At the beginning of 1998, EIA personnel were

housed in three locations: DOE Headquarters in Washington, DC—284 employees; 950 L'Enfant Plaza (near DOE HQ)—86 employees; and Dallas, TX—14 employees. About two-thirds of the staff participate in alternate work schedule programs (eight 9-hour workdays and one 8-hour workday every 2 weeks, or four 10-hour workdays per week) and about 25 employees work off-site (e.g., home) up to one day per week.

1.c Major Markets

EIA's market base includes any individual or organization seeking reliable energy information at the local, regional, national or international level. Our customer base is expanding worldwide because of the growth in electronic and mass media dissemination of our products.

1.d Current Organization Structure

EIA's organization structure is shown in Figure 0-1. Over the last few years, all elements of the agency have been reorganized so that most employees are no more than two management levels away from the Administrator and his Deputy.

1.e Equipment, Facilities and Technologies

EIA's core business is information production. Our principal equipment consists of computers and printers, communications equipment, and software. Technologies include statistical data collection and processing, economic modeling, analysis, and forecasting systems. Virtually every employee has a PC and printer. Information processing work is done on PCs, servers, and a mainframe computer. We operate our own Local Area Network, e-mail system, Internet and Intranet sites.

1.f History of Quality in EIA

From its inception in 1977, EIA always has set high standards of product quality, has monitored performance statistics at the survey (workunit) level, has automated its processes and has built successful partnerships with suppliers. Individual effort, professionalism and dedication to customer service have always been highly valued in our culture. A traditional hierarchical management structure prevailed until a few years ago. While it provided for a stable work structure, it fostered compartmentalization and competition among organizational units and didn't encourage efficiency, collaboration or agency-level strategic planning. When faced with drastic budget and staff reductions over five years ago, EIA's leaders realized that the tra-

Energy Information Administration

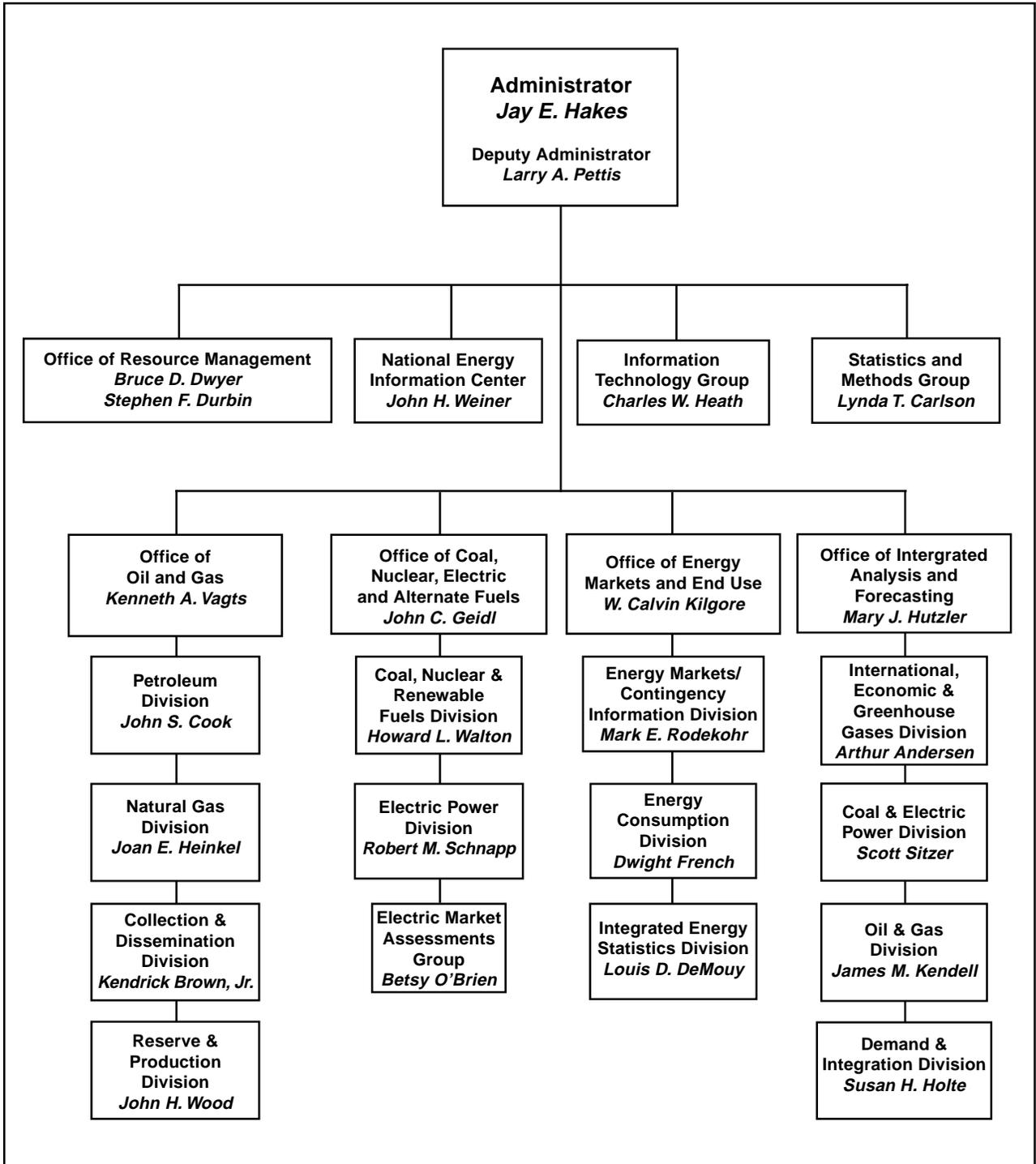


Figure 0-1 EIA Organizational Structure

ditional management model had to change. In 1992, we became one of the first DOE Headquarters' units to embrace the "quality" movement and we undertook many initiatives in the name of quality — some successful, others not. We learned from those efforts and the flurry of early activity soon evolved into a more mature corporate approach. Today our leaders drive performance excellence initiatives through a fully-vetted corporate strategic plan using a process refined over four cycles. Performance measures at agency and sub-unit levels have been defined in alignment with the strategic plan, and mechanisms are now in place which implement innovations and fine tune business practices more systematically. As a result, EIA has improved the quality and dissemination of its products and expanded its customer base, all during a period of serious downsizing. In recognition of its achievements in striving for performance excellence, EIA twice has been awarded DOE's Energy Quality Award.

2.a Principal Customers

EIA's principal customers work in industry (supplier/manufacturer, energy industry, other), research and academia (university, student, professional society, nonprofit, private consultant/researcher, trade association), government (Congress, White House, DOE and its laboratories, other Federal, State/Local), finance (banker, investor), and other (media/press, international organization, law firm, library, repackager/reseller, and private citizen). Our customers, virtually all in the "voluntary" category, use our energy information for a variety of purposes, most significantly in debates on national energy and environmental legislation and during energy emergencies. A *Washington Post* editorial (July 28, 1995) opposing further reductions of our budget summed up the reasons for EIA: *"When the markets are calm, as they currently are, few people other than specialists pay much attention to these statistics. But the Energy Information Administration exists because the country discovered, in the two big oil crises of the 1970s, the horrendous costs of inadequate statistical intelligence.... The Energy Information Administration also collects some of the data needed for environmental policy — the figures, for example, on which the decisions about global warming are to be based.... The budget of this small numbers agency has been trimmed, and taking another \$15 million would do real harm to the quality of its work. That's a small amount compared with the costs of mistakes."*

2.b Key Customer Requirements for Major Products and Services

Quality requirements for our products are expressed in terms of their availability, timeliness, accuracy, comprehensiveness, and relevance. Because of the diversity of our customers, we provide information through many media and across all fuel types, various geographical areas, time-frames, economic sectors, and levels of aggregation. Customer service requirements include ease of contact, courtesy, familiarity with our information, understanding customers requests, and promptness.

2.c Differences Among Customer Groups

EIA's products and services reflect the many differences among its customer groups. In addition to the type of organization that customers work for (categorized above in 2.a), we segment customers using three other classifications: (1) mode of access (e.g., paper publications, electronic, telephone); (2) how they use our information (e.g., research, forecasting, analysis, policy formulation, answering questions); and (3) type of data used (e.g., electricity, petroleum, coal, international, forecasts). Within these diverse groups, EIA recognizes even deeper customer diversities: technical and nontechnical, ongoing and new, public and private, paying and non-paying, domestic and international.

3 Supplier Requirements

3.a Principal Suppliers

EIA's main suppliers are in three basic groups: (1) survey respondents and other information providers, (2) contractors (support and vendors), and (3) other government offices (primarily DOE's Office of Human Resources and Administration (HR)). Currently we collect energy information from about 113,000 survey respondents (ranging in size from major energy firms such as Exxon and Potomac Electric Power Company, down to small energy firms and individuals). We employ the services of about 300 support contractors, primarily in survey and data operations, analysis and information technology.

3.b Special Supplier Relationships

The quality of our data is dependent on our data suppliers—our survey respondents. Although respondents are generally required by law to respond, partnering has helped us to gain their greater cooperation and their recognition of the need for EIA data. We have

focused on making their reporting easier, more timely and more accurate. Also, we have recently reconfigured our contractor arrangements, consolidating many contracts into an omnibus procurement. This change will allow us to reduce costs and processing times associated with maintaining multiple contracts. Because we are a small DOE agency, we depend a great deal on support from DOE HR. Generally, we have been successful in building a collaborative partnership with HR in recent years. For example, together we improved review and approval times for getting the new omnibus contract in place and for processing contract task orders.

4 Other Strategic Factors

4.a Competitive Factors

While there are private groups that collect and sell energy data, EIA is the only source recognized as independent and comprehensive. The overlap in data coverage with these other groups is minimal and, in fact, many of them include EIA data in the products they sell. There are a number of private groups that also sell energy forecasts and analyses of energy issues, but EIA is the only analytical organization required by law to be policy-neutral. In attracting and maintaining customers who could purchase energy information from private sources, our competitive edge is based on our proven credibility and our market position as the low cost provider.

4.b Factors Affecting Performance Success

The principal factors responsible for EIA's performance success in recent years have been: strong leadership commitment to change; employee (and union) support; and widespread use of new information technologies responsible for substantial productivity gains.

4.c New Thrusts and Challenges

Revolutionary advances in information technology are providing EIA tremendous opportunities to dramatically improve our delivery of products and services, while downsizing our workforce and funding base. Concurrently, major energy industry changes (e.g., the restructuring of the U.S. electric power industry) and the worldwide focus on the environmental effects of energy (e.g., greenhouse gases) have created major new technical challenges and opportunities for EIA. In meeting these challenges, we have been and will be increasing both our knowledge base and our customer base.

4.d Introduction of New Technologies

EIA's productivity gains and growing customer base have been primarily due to the continuous introduction of improved information and communications technology. Starting in 1977, EIA has upgraded its information processing hardware and software in step with advances in technology. It was one of the first Federal agencies to set up electronic customer interfaces for both incoming and outgoing information; to set up an Internet site; to set up a Listserv mailing list and to market its own CD-ROM. By dramatically improving access to EIA products, these technological innovations have brought EIA thousands of new customers.

4.e Laws and Regulations

The primary law affecting EIA is the Department of Energy (DOE) Organization Act (1977), which established EIA as the single government authority for energy information and gave it independence from the rest of DOE with respect to data collection and from the whole of government with respect to the content of its reports. It continued a requirement for EIA to report to Congress annually and it established requirements for an annual survey of energy industry financial data and an annual survey and analysis of U.S. oil and gas reserves. Other laws confer on EIA specific mandatory data collection and analysis requirements, such as the Powerplant and Industrial Fuel Use Act (1978), the Paperwork Reduction Act (1980 and 1995 revision), the Energy Emergency Preparedness Act (1982), the Nuclear Regulatory Commission Authorization Act (1983), the Energy Policy and Conservation Act (1985), the Omnibus Budget Reconciliation Act (1986), and the Energy Policy Act of 1992.

4.f Organizational Alliances and Partners

EIA has partnership agreements with many other organizations—which are customers, suppliers or partners in projects of mutual benefit—including the National Association of State Energy Officials, DOE's Offices of Emergency Management, Fossil Energy and Civilian Radioactive Waste, the Federal Energy Regulatory Commission, the Mine Safety and Health Administration, the OMB Interagency Council on Statistical Policy, the Environmental Protection Agency, the Bureau of Labor Statistics, the Interstate Commerce Commission and the California Energy Commission.

1 LEADERSHIP

From its creation in 1977 through the early 1990s, EIA's leaders followed a traditional hierarchical management approach. This model provided an organized framework for carrying out a set program under stable conditions with plentiful resources. During those years, EIA developed high standards of product quality, monitored performance statistics at the individual survey level, made major strides in automating processes and built partnerships with respondents. Individual effort, professionalism and dedication to customer service were highly valued in the culture. However, a hierarchical management structure also creates compartmentalization and competition among organizational units and does not encourage corporate-level planning and collaboration. When faced with impending drastic budget and staff reductions over five years ago, our leaders realized that EIA's traditional management model had to change. We became one of the first DOE Headquarters units to embrace the quality movement and we undertook many initiatives in the name of quality—some successful, others not. EIA's various offices pursued their early improvement activities independently and at varying levels of commitment.

Our leaders learned from those pioneering efforts and the flurry of early activity soon evolved into a more mature corporate approach. Today our leaders drive performance excellence initiatives through a fully-vetted corporate strategic plan using a process that has been refined over four cycles. Leadership mechanisms are now in place which implement innovations and fine tune business practices more systematically. A seminal event in the maturing of our leadership team occurred in 1995 when virtually all EIA managers attended DOE's 3-day Leaders for a Customer Driven Organization workshop conducted by the Federal Quality Consulting Group (formerly Federal Quality Institute). Our Administrator and Deputy Administrator each championed a session, and the results were pivotal in starting to change from a competitive culture towards a more collaborative culture. The 2-day EIA Collaborative Management Workshop, held in late 1996, was the next event at which our management practices were reviewed and refocused. Two major outcomes were EIA Principles of Collaborative Management (Figure 5-1) and a refocusing of the 40 cross-organizational teams then existing. We now have less than a dozen cross-organizational teams.

1.1 Leadership System

EIA's strategic plan is the primary mechanism through which our leaders set the agency's overall direction. It drives Office and Group operational plans which underlie our core business activities. Our Administrator's vision is incorporated into our strategic plan and Office Directors' and Group Leaders' visions for their units are incorporated into their plans, in alignment with the corporate plan. The Administrator, his Deputy and their direct reports are personally involved in the strategic planning process, which has evolved over four cycles into an EIA-wide collaborative effort. Preliminary results for corporate performance measures were available for the first time in 1997—following a two-year development process—so our leadership incorporated the quantitative measures into the corporate strategic plan, supplementing them with qualitative measures. These measures have also been incorporated into individual Office plans. Leaders met personally with employees in all-hands meetings and smaller group meetings to discuss the plan, and copies were disseminated both electronically and in hard copy to every employee. In this way our leaders set and communicated the strategic direction and priorities for EIA.

There are four key corporate-level groups comprising our leadership system: the Senior Staff, the EIA Quality Council, the Business Reengineering (BR) Steering Committee, and the EIA/NTEU Partnership Council (Figure 1-1). Communications between these four leadership groups occur through (1) posting of all minutes on bulletin boards, (2) members serving on more than one group, and (3) presentations of one group's activities given at meetings of the other groups. The activities of these four groups are as follows:

1. Senior Staff

As Figure 1-2 shows, EIA's leadership team consists of Administrator Jay Hakes, Deputy Administrator Larry Pettis and the leaders of our eight principal units—collectively referred to as the EIA Senior Staff. They meet every other week and the minutes of their meetings are posted electronically on the Administrator's bulletin board for all employees to read. At these meetings, Jay and Larry lead discussions of current DOE policies, requirements, plans and activities affecting

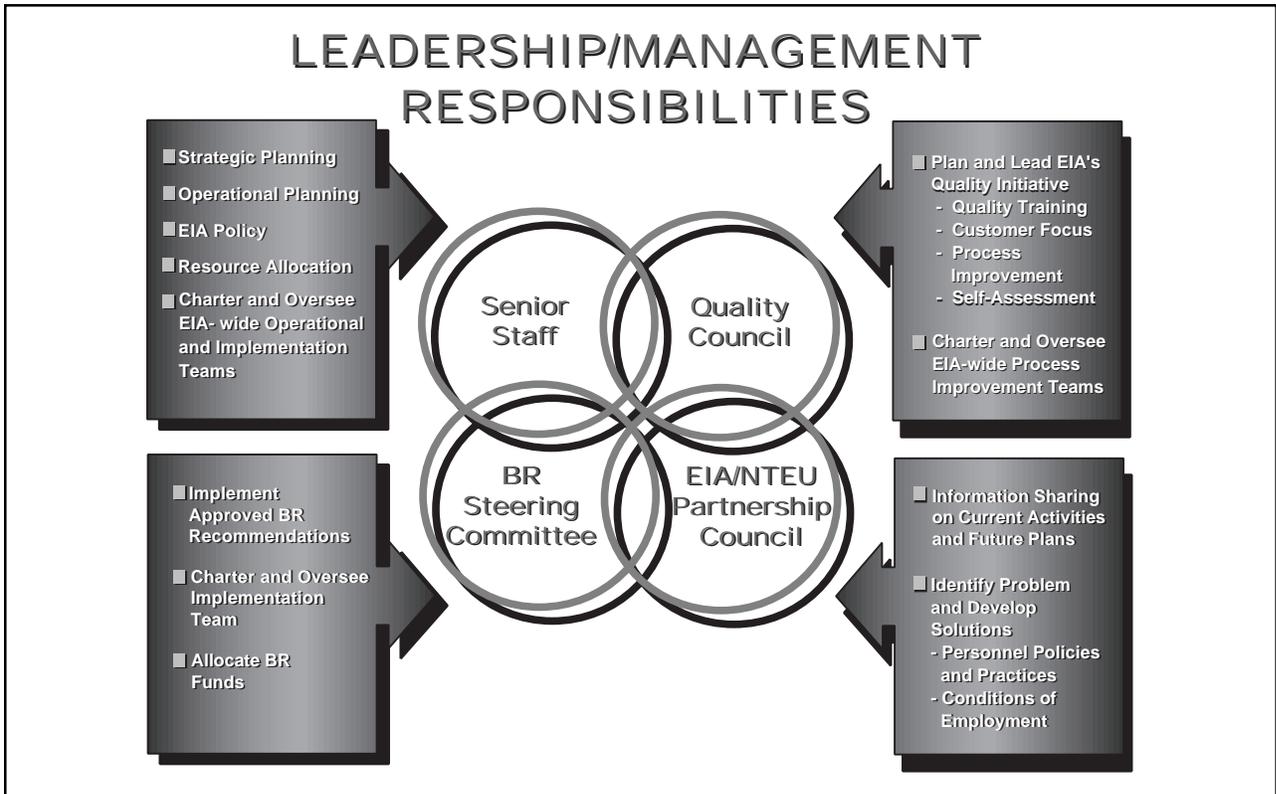


Figure 1-1 Leadership/Management Responsibilities

EIA and participants discuss current plans, programs, resource allocations and operational results. Managers conduct their own staff meetings, cascading important information down to all employees either orally or electronically, or both. Each of the principal units maintains its own bulletin board, posting meetings, minutes, notices and concerns accessible to all employees. For the last five years, Jay and Larry have used a non-prescriptive, lead-by-example approach, role-modeling and teaching their leadership approaches while encouraging managers to develop their own strategies and plans that link to and support the corporate strategic plan.

In advance of each fiscal year, Jay and Larry work with the Senior Staff to allocate EIA's resources (staffing levels and contract, training and travel funds) through the Annual Operating Plan (AOP) process. This provides each operating unit its budget allocations. Managers monitor progress against performance objectives weekly, monthly and annually according to the schedules of their work units principal activities. The 44 performance measures in the strategic plan (Figure 2-3) provide the basic evaluation criteria for this ongoing process. Senior leaders' annual performance reviews are based not only on performance results, but also on their personal behaviors such as demonstrable sup-

port of our corporate goals and core values, designed to encourage movement towards a collaborative culture.

2. EIA Quality Council

Started in 1994 and meeting monthly, its purpose is to initiate and champion EIA's efforts in customer service, process improvement, performance measurement, collaboration, employee well-being and training, and other crosscutting activities at a corporate level. Minutes of Quality Council meetings are posted on EIA's Vision 2000 bulletin board. Chaired by the Deputy Administrator, it is composed of 15 management and non-management personnel (including union representation and a customer focus advocate) serving on a rotational basis. Both Jay and Larry serve on the Subgroups of the Council, as do many other Senior Staff. The three Quality Council Subgroups are:

- **Customer Survey Subgroup:** provides leadership for EIA's Customer Survey Committee. Survey results are presented to senior staff and all employees in special briefings and posted on the Announcements bulletin board.
- **Self Assessment Subgroup:** provides leadership for our Performance Measures Implementation Team,

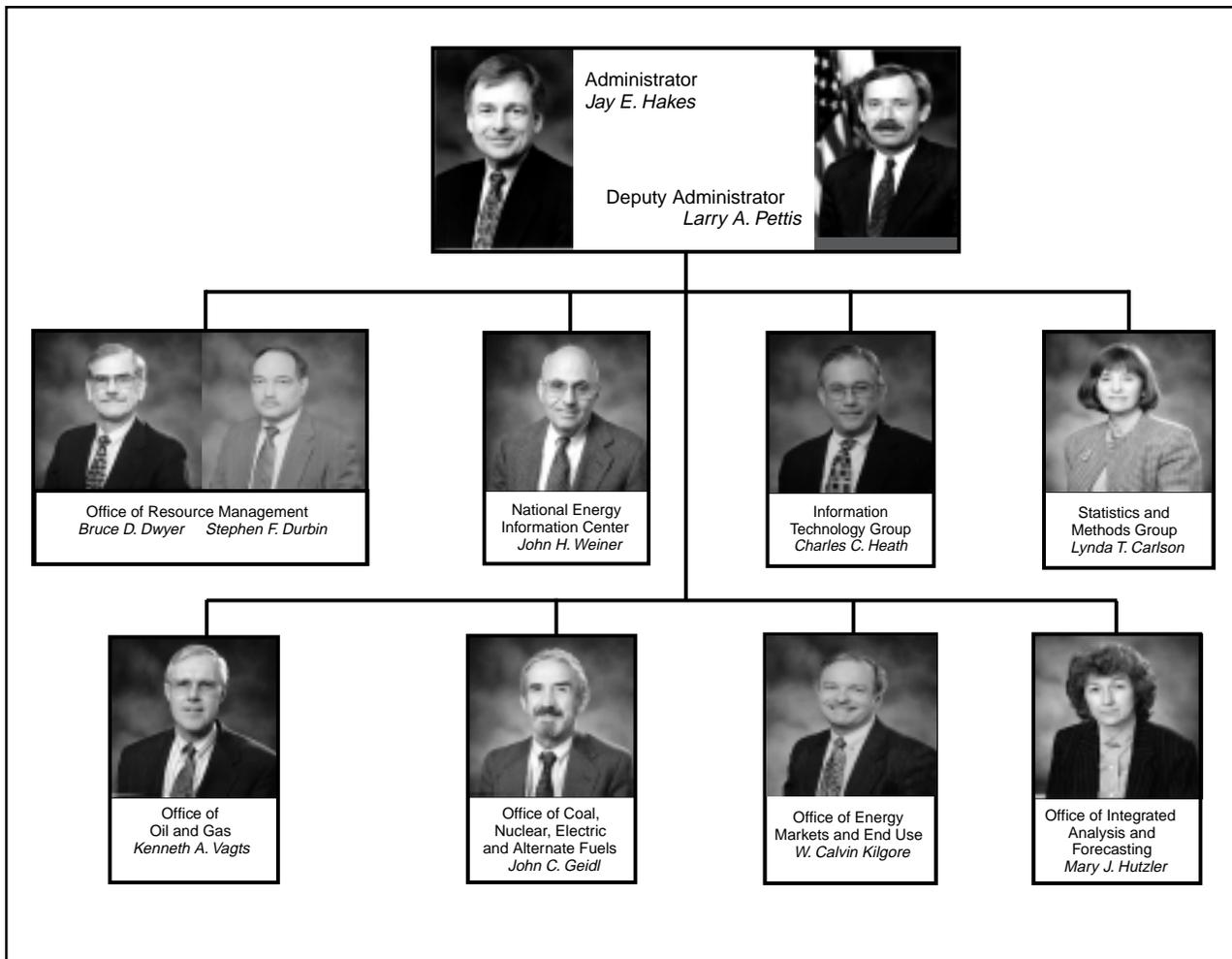


Figure 1-2 EIA Leadership Team

our self assessment activities and, in 1998, our applications for the Department of Energy Quality Award and the President's Quality Award/Award for Quality Improvement.

- **Organizational Climate Survey Subgroup:** provides leadership for EIA's organizational climate survey, analyzes results and recommends improvement actions.

3. Business Reengineering Steering Committee

Created following EIA's major business process reengineering project in 1995-1996, this management team (with union participation) guides implementation of specific major reengineering innovations and monitors their progress. Jay, Larry and other leaders participate actively on this committee. Information is communicated to employees through the Business Reengineering

bulletin board, including minutes of the meetings, and through cascading by senior management.

4. EIA/NTEU Partnership Council

Its purpose is to ensure close labor-management collaboration on issues affecting employee well-being. Members are Jay, Larry, the NTEU Chapter 213 President, other EIA managers and union representatives. EIA has included union representation in its major planning activities for the last four years and union representatives routinely attend most work-unit staff meetings. This has resulted in early identification and resolution of many labor-management issues.

The Administrator or the Quality Council charters corporate teams with specific functions. Currently, the following corporate teams exist in addition to those highlighted above:

- The **Analysis Review Board** conducts customer outreach and oversees the analysis proposal process resulting in recommendations to the Administrator about which energy analysis issues and projects EIA should perform in the coming year.
- The **EIA Diversity Advisory Committee** provides recommendations and conducts programs on all aspects of diversity within EIA.
- The **Common Data Definitions Team** ensures that EIA has common definitions, identifies and resolves multiple definition issues and ensures consistency for new energy-related terms.
- The **Information Product and Services Committee** oversees development of our Web site and related activities.
- The **Rent Avoidance Team** evaluates our space requirements and recommends space reallocations to minimize rent costs.

EIA leaders and employees meet frequently with customers (e.g., Congressional staff, media, energy analysts, etc.) and suppliers (e.g., respondent groups, contractors) to make sure that customer needs and expectations are included in our planning process, as well as to provide EIA information products to them. Our leaders and employees delivered speeches and briefings to customers, represented EIA at meetings with them, conducted seminars for them, and talked to them on the telephone throughout the year. For example, in each of the last three years, the Administrator has chaired two Customer Roundtables (government and non-government energy experts) in order to learn public concerns about energy issues which we might address in our analysis program. Because the restructuring of the electric power industry was the leading topical issue of 1997, one Division Director conducted a series of high-level educational briefings for Congressional and other customers (e.g., three for the Senate Energy and Natural Resources Committee, one for the House Energy and Power Subcommittee). We also sponsored 11 formal customer focus groups in 1997 to learn their preferences for electricity information and in 1998 conducted additional focus groups on our natural gas information products. The results of these customer meetings are communicated back to employees through summaries posted on our bulletin boards.

The Administrator has led EIA employees in looking for opportunities to work with the media to get our information out to the greatest number of customers. He

considers this initiative so important that it is included in our strategic plan with measurable goals of increasing the number of citations in the overall print media, in major newspapers, and on television and radio. This initiative has other benefits: it has a very positive effect on employee morale when staff members see the results of their efforts quoted in newspapers and on television and it provides us feedback about whether our products are understandable by non-technical audiences, a growing customer group. The Administrator has envisioned analogous goals and benefits for our Web site work.

In order to continually communicate his vision and plans, our Administrator maintains an active dialogue with employees via e-mail, conducts employee seminars and has authored nine articles in *EIA Today* (the EIA monthly newsletter) on topics such as effective communications, change management, performance measurement, process mapping, and outputs vs outcomes. During "EIA Communications Day" (sponsored by EIA's Diversity Advisory Committee) Jay conducted a seminar on "Government in the 21st Century" and Larry conducted one on "The Future of EIA." During the year, they conducted four employee discussion groups on strategic issues and used the results in the strategic planning process. In the Organizational Climate Survey, the statement "Management effectively communicates the agency's mission to employees" was agreed to by EIA employees more than by employees in other statistical agencies (Figure 7.3-2).

EIA's leadership practices are evaluated and improved through several mechanisms:

1. They were reviewed formally twice at off-site retreats (in 1995 and 1996) which involved all managers. Action plans for improvements were developed at those retreats and many have been successfully implemented (e.g., collaborative management principles.)
2. Ongoing discussions at the biweekly Senior Staff meetings produce continual fine-tuning of EIA management processes.
3. Individual leaders' practices are reviewed by senior management annually as part of EIA's performance evaluation process.

Our leaders have often gone beyond what is required in striving for performance excellence. This is exemplified by Jay's support of EIA's development of performance measures well in advance of the requirements

in the Government Performance and Results Act (GPRA). He also provided our chief statistician to teach development of performance measures to other DOE headquarters offices. Our early work in performance measures allowed us to become one of the 20 GPRA pilot agencies in the Federal government. When DOE began sponsoring "Seven Habits of Highly Effective People" workshops in 1993, Jay and Larry funded supplementary EIA workshops so that more EIA employees could participate sooner. Other EIA leaders have followed Jay and Larry's lead by supporting and extending their leadership behaviors. Examples:

1. **Ken Vagts**, Director of the **Office of Oil and Gas**, established a collaborative, team-based approach to plan the Office's reorganization, in order to implement Business Reengineering innovations, gain efficiencies and lower the manager/non-manager ratio. The planning process took almost a year to complete because all employees participated and their many concerns were addressed and resolved ahead of time. The reorganization was approved in October, 1997 and has been implemented successfully.
2. Following the elimination of the SES position in the Office of Planning, Management and Information Services in 1996, its three subgroup leaders **John Weiner**, **Bruce Dwyer** and **Steve Durbin** proposed a shared leadership/team approach, to pilot test the Business Reengineering recommendation for more shared leadership positions, which was approved. John now leads the **National Energy Information Center**, which focuses on customers. Steve and Bruce co-lead the **Resource Management Office**, which focuses on employees and suppliers, following "EIA Principles of Collaborative Management" by involving all staff in the training and planning to transform the group into three self-directed teams. The results of this pilot effort will be evaluated this year.
3. **Lynda Carlson** became Director of the **Statistics and Methods Group** (SMG) in February, 1997 and immediately began to create a new vision and mission for the unit. Formerly as the Office of Statistical Standards, the group was viewed as EIA's internal auditor, checking on others' work. The group now works collaboratively with its EIA customers to assure that performance excellence is built into programs from their inception, rather than "blowing the whistle" at the end of a project. The group is now partnering with units throughout EIA on electricity deregulation, natural gas survey coverage trends and modeling issues.
4. **Cal Kilgore**, Director of the **Office of Energy Markets and End Use**, saw the potential of electronic dissemination well in advance of its popular acceptance and encouraged the development of a corporate EIA strategy for utilizing CD-ROMs and the Internet. His pioneering efforts, strongly encouraged by the Administrator, have placed us in a leadership role among government information providers and have resulted in a dramatic increase in EIA's customer base.
5. When Congress mandated a 70% reduction in the contract budget for the **Office of Integrated Analysis and Forecasting** in FY1996, Office Director **Mary Hutzler** immediately began a collaborative zero-based budgeting process in which staff proposals were evaluated and prioritized by Office managers and then discussed with staff at an all-hands meeting. While the drastic resource reduction resulted in the loss of many projects and lowered morale, the open and collaborative process that Mary started helped staff to acclimate to the new realities while enhancing the reputation of the Office's main product, the *Annual Energy Outlook*.
6. When EIA's first employee Culture Climate survey was completed, **John Geidl**, Director of the **Office of Coal, Nuclear, Electric and Alternate Fuels**, set up eight discussion groups between staff and managers to pursue areas for improvement revealed by the survey results. Based on the information gathered at these sessions, three teams were set up to improve recognition, training and information circulation within the Office. In addition, seven other initiatives were undertaken to improve operational processes. All of these efforts developed recommendations which have now been implemented.
7. One EIA leader supported the change process by providing partial funding for one employee to obtain an advanced degree in Organizational Development; two Offices have individuals dedicated solely to quality management and organization improvements.

1.2 Company Responsibility and Citizenship

1.2a Societal Responsibilities

EIA has a tradition of sensitivity about the impacts of its actions on others, in both how it collects information (input) and how it disseminates information (output). On the input side, we are very sensitive to the effect of our actions on our survey respondents.

We are a strong supporter of Federal initiatives to control the burden of our data collections on our respondents (Paperwork Reduction Act). This minimization of burden translates into reduced costs for business in completing our survey forms. We also respect the nature of company-level data and protect the confidentiality of sensitive data provided by our 120,000 respondents so as not to jeopardize their competitive positions. We use aggregation procedures refined over two decades which protect sensitive company-level data from disclosure. Aggregations that might inadvertently reveal company information are not published. We are active on an intergovernmental team that reviews techniques to protect confidentiality.

On the output side, we take numerous steps to avoid the harmful effects of incorrect or biased information or information leaking prior to release. Our data collection activities are scientifically designed so that our information is accurate and reliable—a major concern because EIA information is routinely used in public debate on far-reaching energy, financial and environmental issues. We seek out best practices and assess the technical aspects of our statistical programs with the American Statistical Association Committee on Energy Statistics, an advisory committee created specifically to evaluate EIA's statistical activities. We take very seriously our mandate to provide “policy-neutral” information for the benefit of the public at large, independent of the political party in power. To protect our neutrality, we do not provide our information or analysis results to Administration officials for approval prior to their release to our customers. To ensure that our energy data are unbiased by any employee connections to outside groups, we adhere to more stringent standards of conduct regarding travel reimbursement and attendance at conferences than are required by DOE. Realizing the far-reaching impact that our information can have on energy and financial markets, we prevent its premature release with “information embargoes.” We produce many information products specifically designed to provide American citizens with useful information about energy consumption, prices and supplies. Our easy-to-use Web site allows a high-school student in Boise or a small-business owner in Topeka to have ready access to the same energy information as a professional energy analyst in New York.

1.2b Community Involvement

One of our most important actions in support of communities is providing special information support to

people experiencing energy emergencies or unforeseen price increases, including on-site support staff, 24-hour hotlines and survey forms pre-cleared by OMB for emergency use. In 1996, DOE's Office of Emergency Management, EIA and the National Association of State Energy Officials agreed to establish a communications system to be used during energy emergencies. Each State was asked to designate an Energy Emergency Information Coordinator; EIA/DOE sets up and maintains communications during an energy emergency. To date, 53 of 55 States, territories, and commonwealths are participating, most using the Internet to exchange information with EIA. Also, to assist in energy emergencies, EIA supported DOE's Heating Fuels Monitoring Committee—set up during the unusually cold winter of 1996/97—by providing special information to help affected communities.

Our leaders have sponsored a number of other programs of direct benefit to communities, including donation of 25 surplus computers to John Eaton Elementary School in Washington, DC; sponsorship of two student interns at Howard University (\$50,000 per year); assistance to Historically Black Colleges and Universities and Hispanic Serving Institutions—\$88,000 was claimed in FY97 for donated computer equipment and \$62,000 was paid for student fellowships and internships; preparation of energy educational materials for primary and secondary school students; distribution of Energy Awareness brochures to households; setting up an EIA booth at the Boy Scout National Jamboree; providing EIA judges for DOE's National Science Fair; providing speakers on energy topics for community and trade group events; supporting the “Stay In School” program—which has provided part-time jobs for local high school and college students; sponsoring EIA summer jobs for young people; and hiring 4 people in the “Welfare to Work” program (for which EIA received a Vice-Presidential citation.)

In 1997, the Administrator, along with the Secretary of Energy, co-chaired the Combined Federal Campaign for the Department of Energy. EIA staffers helped him by designing and implementing systems to carry out the campaign more efficiently and quickly (one month instead of the usual three). Through EIA's efforts, DOE's 1997 participation rate increased to 63% (from 59% in 1996)—one of the highest of any major Federal agency. DOE's average gift per employee in 1997 was \$169 (up from \$148 in 1996)—the highest of any major U.S. Department.

2 STRATEGIC PLANNING

EIA's current strategic planning process started in 1994 and has been refined over four cycles. Prior to 1994, we developed and implemented annual and multi-year operating plans around individual programs, without a corporate perspective. Our present strategic planning process uses corporate-wide operational, customer and employee information and specifies corporate-wide performance measures and performance goals. In 1997, the Strategic Plan was made available to the public, both in hard-copy and on our Web site.

2.1 Strategy Development Process

In the most recent rework of our strategic plan (1997), we used a five-step process to develop and deploy it and the program office action plans, as shown in Figure 2-1. There were six significant innovations that year; two were structural and four were process improvements. The structural changes were (1) expanding the planning horizon to 2002 and (2) incorporating EIA's corporate performance measures into the plan.

The process improvements occurred in the steps identified in Figure 2-1. The **first** significant process improvement was the systematic compilation of input data for use in the corporate strategic planning sessions (Corporate Strategic Planning Preparation). The data compilation effort provided the participants in the strategic planning process with key information

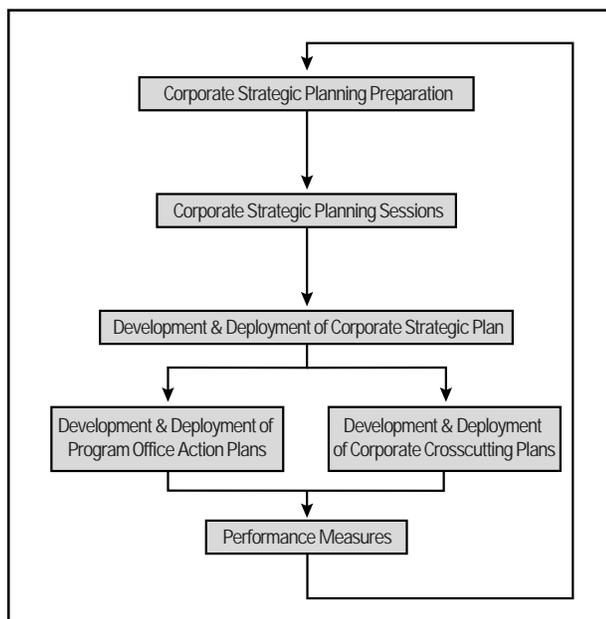


Figure 2-1 EIA Strategic Planning Process

in five major areas: customer feedback, employee perceptions, agency capabilities, status of major work efforts and 5- to 10-year trend and risk projections. Feedback from customers was compiled from systematic surveys of our telephone, Listserv and Web site customers. Information on human resources, specifically employee perceptions and suggestions, was available from the organizational climate survey, from the results of four discussion groups conducted by Jay and Larry specifically for this purpose, and from a special survey fielded by the strategic planning staff. These discussion groups were designed to obtain employees' and managers' perceptions of our progress towards fulfilling our previous strategic goals and the priorities we should place on each of them in the next 5 years. The special survey of all employees (Federal and contractor) was intended to gain the same information from a wider selection of employees.

The strategic planning staff organized the collection and reporting of agency capabilities and the status of major work efforts from the agency's cross-functional work teams and committees. This collection and reporting effort also provided the teams and committees with the opportunity to provide input to the strategic planning process about issues they felt the planners needed to address. In addition, an update on the status of strategic corporate initiatives from the prior year's strategic plan was prepared. A visioning subgroup led by Jay completed a "Strengths, Weaknesses, Opportunities, and Threats" analysis which identified the major political, economic, financial, technological, competitive and societal trends and risks that will affect EIA during the next 5 to 10 years (Figure 2-2).

These results were consolidated and presented to all strategic planning participants for a critical issue review prior to actual planning, the **second** process innovation initiated during this cycle. In prior years, this step had been conducted during the planning session, but by doing it in advance, we found that participants were better prepared and able to be more productive sooner. The strategic planning participants were Jay, Larry, the directors of EIA's eight Offices, the budget officer, the quality coordinator, two union representatives and a staff support group. During three working sessions occurring within a month and a half, the participants reconfirmed the mission, vision and strategic goals of EIA, redefined the strategic objectives,

approved performance measures and linked them to the objectives. During this phase the **third** significant process innovation occurred. Midway through the sessions, the Office Directors personally took the draft strategic objectives and performance measures to small groups of employees at all levels of their organizations to receive in-process feedback from employees, which was then used to refine the plan. The performance measures and strategic objectives were also reviewed by our Performance Measures Committee for appropriateness.

Once the Strategic Plan was completed, it was distributed to every employee (Federal and contractor) in hard copy and summary card form and posted on EIA's Intranet site. Our senior management met with all employees at all-hands and other meetings to explain the plan. Copies were delivered to senior DOE officials, the Office of Management and Budget, several key staffers in Congress and interested parties in academia and the plan was made available to the general public in hard copy and on EIA's Internet site.

2.2 Organization Strategy

2.2a Strategy and Action Plans

Our Strategic Plan (1998-2002) is summarized in Figure 2-3, which shows its five strategic goals, their associated objectives and performance measures. (Measures with quantitative goals are bolded and Figure numbers showing associated results in Section 7 are noted.)

The Plan embodies our commitment to become ever more customer-driven, more performance-based and more technically innovative. The Plan quantifies our important customer-based performance criteria: product quality, timeliness, relevance and ease of access.

As a direct result of listening to our customers, our strategy is to maintain the present quality of our products and services, while improving their timeliness. We plan to achieve that goal through increased use of enterprise-wide information technology and electronic collection and dissemination. (Note: When comparing results and goals relating to customer surveys, please be aware that because the 1995-1997 customer survey results had to be backcasted to correspond to the 1998 survey—which covered only National Energy Information Center telephone customers—the backcasted base numbers in the Figures cited in Figure 2-3 differ from values in the Plan.)

To become more performance-driven, we will continue to refine our performance measures and increase the personal accountability of supervisors by putting plans for measurable accomplishments in their performance standards. We will continue EIA's emphasis on human resource development through use of systematic workforce planning, appropriate training and encouragement of diversity in the workforce.

The creation of program office action plans was the **fourth** process innovation instituted in the last cycle.

<p>Major Political Trends</p> <ul style="list-style-type: none"> • Balanced budget by 2002 • Attempt to abolish the Department of Energy • Privatization • Government reinvention/customer service • Government Performance and Results Act (GPRA) • FTE allocation <p>Major Economic Trends</p> <ul style="list-style-type: none"> • Energy crisis • Possibility of increased price volatility due to lower fuel inventories • Deregulation of electric utilities • Carbon mitigation • Merger of energy companies • Economic stability • Economic growth & emissions. 	<p>Major Technological Trends</p> <ul style="list-style-type: none"> • Rapid change in information technology • Rate of technology-induced changes • Centralization versus resource availability • Training • Transition from pull to push technology • Virtual communities • Automation-productivity enhancement. <p>Major Social Trends</p> <ul style="list-style-type: none"> • Workplace issues of telecommuting, diversity and downsizing • Retail energy choices/competition • Role in customer/consumer education • Terrorism • Technology-induced social change.
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Figure 2-2 Major Trends Affecting EIA

Figure 2-3 Elements of EIA's Strategic Plan (1998-2002)

Strategic Goal 1. We will work together to achieve the full potential of a diverse workforce.	
Objectives	Measures
1.1 EIA teams will acquire and use effective team-building skills in carrying out team-related work by 2000.	1.1.1 Combined score on the organizational climate survey questions related to teamwork. 1.1.2 Number of multi-office analysis proposals and the number of multi-office funded projects.
1.2 EIA will support its employees in acquiring the training necessary for them to do their jobs well between 1998 and 2000.	1.2.1 Combined score on the organizational climate survey questions related to training (Figure 7.3-9). 1.2.2 Number of internal seminars and courses and the sum total of attendees at these seminars and courses (Figure 7.3-8). 1.2.3 Percent of employees attending at least one course requiring the use of training funds. 1.2.4 Qualitative assessment of the percent of Federal employees that have completed or have the skills related to the EIA recommended core competencies.
1.3 EIA will have highly qualified staff in permanent senior positions in each of its primary workforce disciplines by 2002.	1.3.1 Qualitative discussion of EIA's actions and the associated results.
1.4 EIA will increase the representation of qualified minorities and women in senior positions (both technical and management) between 1998 and 2002.	1.4.1 Progress in achieving this objective will be measured in the annual EIA Equal Opportunity Report.
1.5 EIA will employ systematic workforce planning techniques by 1999 to guide its staff and managers in achieving its human resource objectives.	1.5.1 Qualitative discussion of EIA's actions and the associated results.
Strategic Goal 2. EIA will assure its data, analyses and forecasts are of the highest quality.	
Objectives	Measures
2.1 EIA will improve customer satisfaction with the accuracy of its data and analyses between 1998 and 2002.	2.1.1 Increase the share of customers who are very satisfied (the highest rating on a scale of five) with the accuracy of EIA information from the 1995 base of 51% to a 2002 goal of 60% (Figure 7.1-4). 2.1.2 Maintain the 1997 base of 95% of customers who are either satisfied or very satisfied (the highest two ratings on a scale of five) with the accuracy of EIA information (Figure 7.1-4).
2.2 Data accuracy will remain stable, or improve over time, as EIA improves the timeliness of its data and analysis products between 1998 and 2002.	2.2.1 Data accuracy will be measured at the survey level, with up to five elements per survey, by percent sampling error or revision error rates (Figures 7.5-3 – 7.5-7).
2.3 Forecast credibility will remain stable, or improve over time, as EIA improves the timeliness of its products between 1998 and 2002.	2.3.1 Compare the percent difference between actual and forecast for 10 key values for EIA short-term models (Figure 7.5-8). 2.3.2 Conduct a comparison of domestic mid-term model forecasts of key variables with historical data and prepare a qualitative discussion of factors that led to differences (Figure 7.5-9). 2.3.3 Conduct a comparison of international mid-term forecasts of total world energy consumption and world consumption by fuel with historical data in 5-year increments beginning with the availability of 1995 international data and prepare a qualitative discussion of factors that led to differences.

Figure 2-3 Elements of EIA's Strategic Plan (1998-2002) (continued)

Strategic Goal 3. EIA will assure its products and services are relevant to the needs of its customers.	
Objectives	Measures
3.1 EIA will improve customer satisfaction with relevance between 1998 and 2002.	<p>3.1.1 Increase the share of customers who are very satisfied with the relevance of EIA information from the 1995 base of 60 % to a 2002 goal of 70% (Figure 7.1-4).</p> <p>3.1.2 Maintain the 1997 base of 99% of customers who are satisfied or very satisfied with the relevance of EIA information (Figure 7.1-4).</p>
3.2 EIA will increase the number of citations of energy information attributed to EIA in the news media between 1998 and 2002.	<p>3.2.1 Increase citations in the overall print media by an average of 10% per year (Figure 7.1-12).</p> <p>3.2.2 Increase citations in major newspapers by an average of 10% per year (Figure 7.1-12).</p> <p>3.2.3 Increase citations on television and radio broadcasts by an average of 10% per year.</p>
3.3 EIA will increase its customer base between 1998 and 2002.	<p>3.3.1 Increase of the number of unique daily users of EIA's Internet site by an average of 25% per year (Figure 7.2-1).</p> <p>3.3.2 Increase the downloads of the electronic file versions by an average of 25% per year (Figure 7.2-2).</p> <p>3.3.3 Increase the number of Energy InfoDiscs sold by an average of 5% per year.</p> <p>3.3.4 Achieve an annual subscription renewal rate for the Energy InfoDisc of an average of 50% by 2002.</p> <p>3.3.5 Select, corporately, one or more customer segments each year and attempt to increase the number of users in those segments by at least 25%.</p> <p>3.3.6 Increase the number of briefings given to senior executives and Congressional policy makers by an average of at least 20% per year.</p>
3.4 EIA will improve the design and delivery of EIA products and services between 1998 and 2002 to take full advantage of electronic dissemination of energy information to our customers.	<p>3.4.1 Annually conduct customer surveys, customer discussion groups, and Internet response analyses and provide qualitative discussion of EIA's actions and the associated results.</p> <p>3.4.2 Provide a qualitative discussion of EIA's actions to reduce the number and size of paper publications and the redesign of the remaining paper publications and the results of these actions.</p>
3.5 Each EIA office will eliminate its least relevant energy information products and services and reallocate the resources to emerging energy issues and enhanced product delivery between 1998 and 2002.	3.5.1 This objective will be measured at the office level and be presented as a qualitative discussion of EIA's actions and the associated results.

Figure 2-3 Elements of EIA's Strategic Plan (1998-2002) (continued)

Strategic Goal 4. EIA will provide its customers with fast and easy access to public energy information.	
Objectives	Measures
4.1 EIA will improve customer satisfaction with overall service between 1998 and 2002.	<p>4.1.1 Increase the share of customers who are very satisfied with overall service from the 1995 base of 68% to a 2002 goal of 80% (Figure 7.1-1).</p> <p>4.1.2 Maintain the 1997 base of 99% of customers who are either satisfied or very satisfied with overall service (Figure 7.1-1).</p>
4.2 EIA will improve customer satisfaction with timeliness between 1998 and 2002.	<p>4.2.1 Increase the share of customers who are very satisfied with timeliness from the 1995 base of 32% to a 2002 goal of 50% (Figures 7.1-4 and 7.1-6).</p> <p>4.2.2 Increase the share of customers who are either satisfied or very satisfied with timeliness from the 1995 base of 73% to a 2002 goal of 80% (Figures 7.1-4 and 7.1-6).</p>
4.3 EIA will improve customer satisfaction with ease of access between 1998 and 2002.	<p>4.3.1 Increase the share of customers who are very satisfied with ease of access from the 1995 base of 64% to a 2002 goal of 70% (Figures 7.1-1).</p> <p>4.3.2 Maintain the 1997 base of 92% of customers who are either satisfied or very satisfied with ease of access (Figures 7.1-1).</p>
4.4 EIA will improve the timeliness of its products between 1998 and 2002.	<p>4.4.1 The median for electronic release of data from EIA annual publications will be 165 days after the close of the reference period. The median for release of printed EIA annual publications will be 180 days after the close of the reference period. (Figure 7.5-10).</p> <p>4.4.2 The median for electronic release of data from EIA quarterly publications will be 75 days after the close of the reference period. The median for release of printed EIA quarterly publications will be 90 days after the close of the reference period. (Figure 7.5-11).</p> <p>4.4.3 The median for electronic release of data from EIA monthly publications will be 20 days after the close of the reference period and the median for release of printed EIA monthly publications will be 30 days after the close of the reference period (Figure 7.5-11).</p>
Strategic Goal 5. As a performance-driven organization, we will conduct our business in an efficient and cost-effective manner.	
Objectives	Measures
5.1 All new and revised EIA data, model, analysis, information technology, and management systems will have quality performance measures built into their designs.	<p>5.1.1 This objective will be measured by a qualitative narrative report on implementation actions taken by each office. The quality performance measures include edit checks, imputation flags, cost per unit, follow-up attempt records and peer reviews. These measures will be used as a basis for ongoing improvements.</p>
5.2 EIA offices will sustain or improve their level of service between 1998 and 2002 without budget adjustments for the rates of inflation experienced in recent years.	<p>5.2.1 This objective will be measured by a qualitative narrative by each office. Budgets will not be given any upward adjustments to account for inflation.</p> <p>5.2.2 Combined score on the organizational climate survey questions related to innovation and change.</p>

Figure 2-3 Elements of EIA's Strategic Plan (1998-2002) — Goal 5 (continued)

<p>5.3 Senior Executive Service and full supervisors will be responsible for measurable accomplishments in support of EIA's Strategic Plan beginning in 1998.</p>	<p>5.3.1 The basis for annual performance awards will include measurable accomplishments in support of the Strategic Plan and be presented as a qualitative discussion of EIA's actions and the associated results.</p>
<p>5.4 EIA will use performance measures to evaluate progress throughout the organization beginning in 1998.</p>	<p>5.4.1 Each EIA Office will have established performance measures that are consistent with EIA's performance measures and be presented as a qualitative discussion of EIA's actions and the associated results.</p>
<p>5.5 EIA will make intelligent use of technology, including use of off-the-shelf software wherever practicable, to provide better service at lower cost.</p>	<p>5.5.1 The Information Technology Group will monitor EIA's actions to implement this objective and provide a qualitative discussion of the results.</p>

These plans, developed by the offices, were linked to the corporate strategic plan through congruent performance measures. Prior to 1997, only corporate level action plans were developed, which generally included only actions that cut across functions and organizations, leaving responsibility for major office-level portions of the plan unspecified. Now, through office-level plans aligned with it, the corporate strategic plan is fully deployed throughout EIA. Individual office plans vary in format, content and emphasis, a conscious decision reflecting our leaders' non-prescriptive management philosophy. OO&G and CNEAF both vetted their action plans with employees in much the same manner as the corporate strategic plan was, and their plans are regularly reviewed and updated.

EIA is pursuing a twin-track resource allocation strategy. At the office level the resource allocation strategy is to eliminate the least relevant products and services, and reallocate resources to emerging energy issues and enhanced product delivery (Objective 3.5 in Figure 2-3). Relevance will be decided primarily by input from customers. As an example, we are presently deciding whether to keep our public electronic bulletin board (EPUB) or to merge it into our Web site. At the corporate level, our resource allocation strategy is focused on obtaining additional resources to work on emerging energy issues, such as greenhouse gases and the restructuring of the electric power industry.

2.2.b Performance Projection

Of the 44 performance measures in the Strategic Plan, 22 have quantitative performance goals established for 2002. These performance goals are considered achievable and we project that they will be met, some ahead of schedule. For example, goal 4.2.2 (increase the share of customers satisfied with timeliness to 80% by 2002) was met this year, four years ahead of schedule. As we accumulate more data with sufficient trend history, we will develop additional quantitative performance measures and associated goals.

We will continue to compare our performance levels to those of other organizations. Currently our membership on the Interagency Council of Statistical Agencies and the Task Force on One-Stop Shopping for Federal Statistics provides us natural opportunities to benchmark our performance to that of similar organizations. For example, we were one of nine statistical agencies using the same organizational climate survey, so we were able to compare our results directly to eight other organizations (Section 7.3). Through the Task Force we helped create the FedStats Web site, which provides us information about comparable Web sites. Customer satisfaction levels is another group of performance measures for which we have benchmark information (Section 7.1) and we will continue to use these sources of benchmark information to calibrate the goals in our strategic plan.

3 CUSTOMER FOCUS

EIA's main business is the collection, analysis and dissemination of **energy** information and our expertise in survey design and data analysis transfers to the collection of **customer** information as well. We are very much aware of our vast customer base and very sensitive to their diverse needs and expectations. We are continually talking with customers, attending and conducting meetings, receiving electronic feedback, and systematically fielding customer satisfaction and market research surveys to improve the quality, timeliness, comprehensiveness, and dissemination systems of our information.

3.1 Customer and Market Knowledge

Using information from thousands of contacts each year, EIA segments customers using four classifications: (1) mode of access (e.g., paper publications, electronic, telephone); (2) type of organization they work for (e.g., government, industry, finance, academia); (3) how they use our information (e.g., research, forecasting, analysis, policy formulation, answering

questions); and (4) type of data used (e.g., electricity, petroleum, international, forecasts). Within these diverse groups, EIA recognizes even deeper customer diversities: technical and nontechnical, ongoing and new, public and private, paying and nonpaying, domestic and international. Most of our customer survey work and analysis has been conducted based on the customer access mode. EIA's customers by mode of access and type of organization are shown in Figure 3-1.

Our largest group of customers overall is industry (29-50%) with research and academia second (Figure 3-1). Different approaches are used to gather information from different customer groups. Customer surveys have been conducted via telephone, on the Web, by mail and through e-mail, depending on the access method chosen by the customer to obtain information from EIA. The main purposes of these surveys are to measure customer satisfaction overall and satisfaction with different product and service attributes, and to determine the value to customers. Overall satisfaction and certain product features, such as timeliness

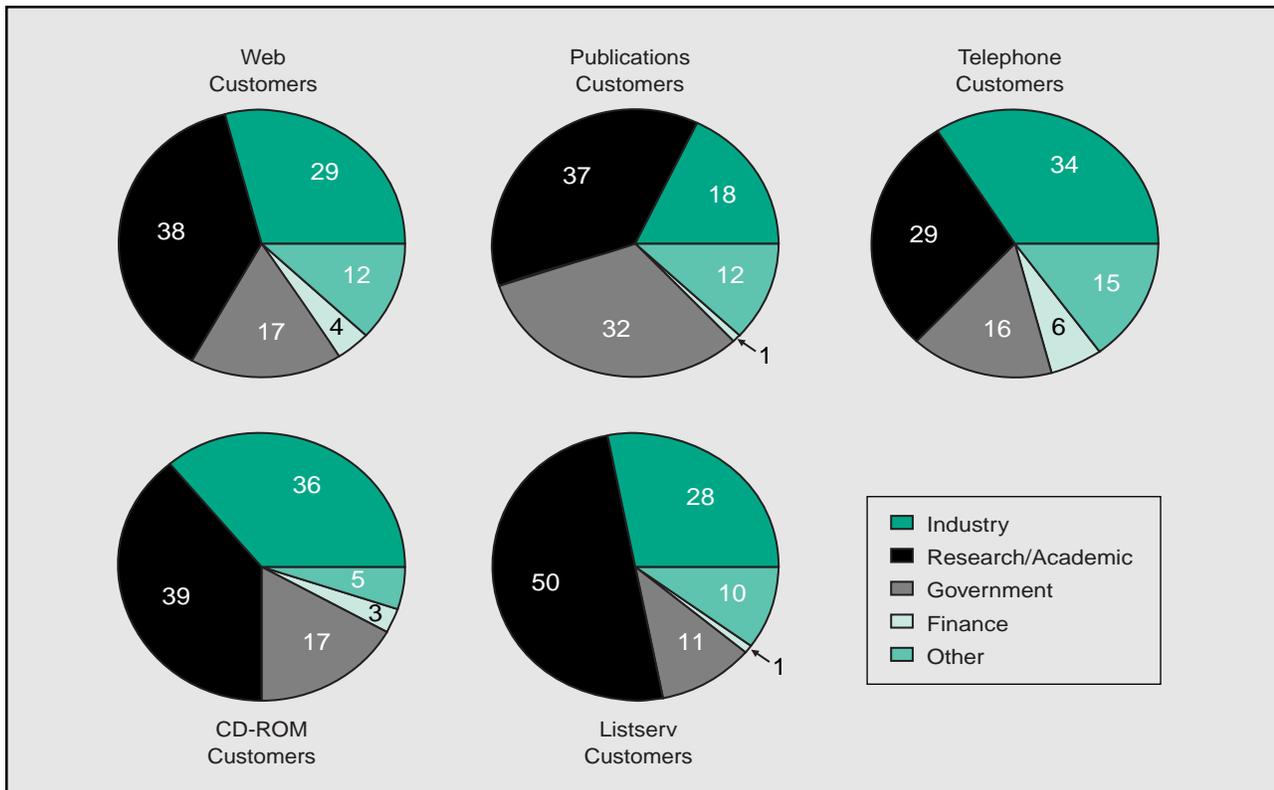


Figure 3-1 EIA Customer Groups by Mode of Access (%)

and accuracy, are targeted for all customers. In addition, because one important issue facing EIA in the near term is the extent to which we can move away from paper publications to a much greater reliance on electronic dissemination, nearly all customer surveys seek customers' preferences in the area of access type to help shape future products and distribution. Questions unique to each customer group also are asked. For example, CD-ROM customers are asked about ease of loading the disc; Web site customers are asked about whether the site is easy to use; telephone customers are asked about staff courtesy.

To determine and project customer profiles, requirements and satisfaction levels, EIA has established three main critical corporate-level processes. The **first** of these processes, which provides customer opinion data, is run by the Customer Survey Committee, a cross-organizational team chartered by the Quality Council to conduct systematic surveys of the various customer groups, addressing all of EIA's products. The Committee designs, fields, tabulates, and analyzes customer responses to these organization-wide surveys by customer access mode. The surveys further segment the customers within the survey group targeted and ask customers to rate their satisfaction with specific product and service aspects and ask which product and service attributes are the most important. This tells us where our efforts are most important in the eyes of the customers. Most of our customers use more than one type of access. For example, most telephone and CD-ROM customers also are Web site users and most Web site customers are heavy users of paper publications.

The **second** process provides actual usage statistics of EIA's information products—counts which are maintained on an ongoing basis. These hard customer data reinforce our customer preferences measured by the surveys by showing what the customers actually choose. The statistics by access type and data type include: Web site hits, hotline phone counts, hard copy subscriber counts, electronic Listserv subscriber counts, CD-ROM subscriber counts, and Electronic Publication (EPUB) usage counts.

The **third** process provides the ongoing feedback solicited electronically on the Web site, which is received by designated staff daily, responded to within 24 hours, directed to the appropriate staff and managers for information, summarized monthly and provided to all staff on an electronic bulletin board. In addition, in 1997 EIA established two new staff positions to

focus on customers, one to collect and analyze customer feedback, and the second to conduct marketing and customer outreach efforts to existing and potential customers.

The process of eliminating a product or service in EIA involves examining not only usage statistics, but also analyzing the customer base. For example, the number of our EPUB users has been dropping with the introduction of the Web site. EPUB is an early technology that we introduced in 1984, well before the widespread availability of the Internet, to disseminate information electronically. Our first assumption was that the Web technology was overtaking EPUB. However, a customer survey of EPUB users showed that many of the remaining customers were taking advantage of the high downloading speed not available through the Web. While this information complicates the decision, it allows us to address these customers' requirements before making a unilateral decision that could adversely affect them.

EIA also has different approaches to listening to and communicating with different customer groups. Besides corporate-level, formal surveys, EIA has targeted specific customer groups to determine products and features by: conducting yearly Analysis Roundtables with energy experts to help determine which energy issues our analysts should focus on; conducting briefing sessions for Congressional customers on the changing structure of the electric power industry; sponsoring annual conferences in specific areas of interest, such as the National Energy Modeling System/Annual Energy Outlook Conference, the Winter Fuels Conference, and the State Heating Oil and Propane Conference; holding focus groups with specific customer groups to gather input on specific requirements; arranging formal written agreements through "Memoranda of Understanding" with particular customers, such as the National Association of State Energy Offices, the Interstate Commerce Commission and the Bureau of Labor Statistics; and attending specific energy industry conferences to determine developing or changing customer needs.

EIA's approach to listening to and learning from customers has been refined over many cycles and is always being improved. Our customer surveys and survey processes are evaluated and improved each time. This evaluation and improvement process has been used most extensively by the Customer Survey Committee to improve the telephone survey, which is now

in its fourth year. A recent customer survey for mail subscribers went one step further in evaluating the survey instrument. A recognized expert, external to EIA, reviewed the instrument and survey process and made recommendations based on previous controlled studies.

To keep current with changing needs, customer input is directly integrated into the strategic planning process each year. The preplanning notebook assembled for planners in 1997 contained a section on customer feedback results to define and focus on areas needing improvement. Customer feedback is the driving force for three of our five strategic goals: fast and easy access to public energy information; high quality information; and relevant products and services (Figure 2-3). Challenging but attainable performance goals and targets for year 2002 were established by studying satisfaction levels over the past three years. As the strategic plans, objectives, and measurements change, the customer surveys are reviewed to incorporate the relevant questions necessary to provide the measures.

3.2 Customer Satisfaction and Relationship Enhancement

3.2a Accessibility and Complaint Management

Customer contact requirements vary by customer segment, particularly by type of access. Customers can contact us by telephone, letter, e-mail, fax, Internet, or in person. The first point of contact for our customers is usually the National Energy Information Center (NEIC), staffed with 11 knowledgeable information specialists whose primary responsibility is to respond to customer inquiries, particularly telephone calls and walk-ins. New information specialists receive hands-on training in customer service and meeting customer requirements from a senior information specialist. EIA's information specialists take pride in their service, and their dedication is reflected in their very high ratings from customers (Figure 7.1-1). NEIC employees developed a detailed procedures book that documents how the Center provides service to its customers.

The Center also includes a public reading area with all major EIA publications clearly displayed. In addition, EIA makes it easy for customers to call employees directly in parts of the organization outside the Information Center. Specific contact information is provided in all of our publications, along with the NEIC telephone

number and Web site address. Using the feedback button on the EIA home page, customers can communicate their requirements and concerns to EIA. Feedback received on the Web site is responded to quickly by designated staff and only transferred to other people to answer when necessary. The Web comments also are forwarded by the Internet coordinator to the appropriate author, supervisor, and/or industry specialist so they are specifically made aware of the customer feedback in their area and are posted monthly on the bulletin board so all staff can benefit from the feedback. EIA realizes that feedback won't be used systematically unless it is easily available to all employees. Summaries of complaints (from the Web feedback and from answers to open-ended questions and answers to probe questions on dissatisfaction on the telephone surveys) are provided to help planners shape future directions.

Rather than having one central "complaint" desk, EIA has used a decentralized approach in which each employee is authorized to resolve customer problems through one-on-one communications. Many "complaints" received by EIA are actually requests for information that are beyond our scope or information that cannot be released to the public because it is confidential information about individual energy companies which must be protected. A number of other so-called complaints are about prices of energy that EIA does not control in any way. About two-thirds of EIA employees have attended a 2-hour training session on customer service which covered topics including empathetic listening and recovering from a mistake. This type of training prepares us to deal with both the real complaints about our products and services and those complaints over which we have no control.

We also make ourselves more accessible to customers by attending conferences, seminars, and meetings throughout the year. EIA's traveling display booth informing customers about our products and services appeared at ten conferences throughout the country during 1997 and at six conferences so far in 1998. We often distribute information and publications and conduct laptop demonstrations of electronic services and other capabilities at these conferences. We have developed two useful pocket-sized products to help customer reach us: An *InfoCard* that has important summary energy information, NEIC phone numbers and Web site address, and a *QuickGuide* (a "credit card") that lists our phone, fax and TTY numbers, as well as Web site addresses. More than 12,000 cards were distributed to customers in 1997.

3.2.b Customer Satisfaction Determination

EIA's process for determining customer satisfaction, providing access and building relationships has been evolutionary. The Customer Survey team recognized that EIA had a diversity of customers and a single survey of all customers would be both inappropriate and unwieldy to field. The team decided to begin with telephone customers first, and then build on that base with other access types. In 1997, the team expanded customer coverage to include separate surveys for CD-ROM, Web site, and Listserv customers as well. Publication subscribers were added in 1998. Our current process targets a specific segment to be surveyed, samples the segment, compiles, analyzes, and releases results to the leaders and staff for that segment, and then cycles through remaining customer segments.

In 1995 and 1996, EIA conducted surveys of our telephone customers. In 1997 we conducted 4 major customer surveys: (third annual) telephone, CD-ROM, Web site, and Listserv (electronic mail). We ask customers how satisfied they are overall and with five specific aspects of our service (ease of access, courtesy, familiarity with our information, understanding the customers' requests, and promptness in responding) and five specific aspects of our information products (availability, relevance, accuracy, comprehensiveness, and timeliness). Customers are asked to rate their satisfaction with all of EIA's products and services with respect to these aspects using a 5-point scale. Customers responding with low ratings are asked to explain why they aren't satisfied. Core questions on satisfaction are contained in all the surveys, but questionnaires vary by customer segment, tailored to the particular access type. More recent surveys ask customers to indicate which product attribute is most important to them, so we can focus our efforts in these areas (Figures 7.1-9 and 7.1-10). In addition, because of the importance of access to our products, subscription renewal cards sent to more than 12,000 paper publication customers asked if they would still want the paper copy if the products they needed were available electronically. Satisfaction results from our various surveys compare the share of customers who are *satisfied* with the share who say they are *very satisfied*. Our goal is to keep dazzling those customers giving us the highest rating and move more of the satisfied customers into the "dazzled" category (Figures 7.1-1 and 7.1-4).

EIA is viewed as a benchmark by other government agencies in conducting customer surveys. EIA is the organization within DOE with the authority to review all DOE customer surveys before they are sent to OMB for clearance. Staff members have presented papers at the American Statistical Association and the Washington Statistical Society on our survey design, fielding methods, and results. In 1997, EIA was contacted by the General Accounting Office, the Environmental Protection Agency, and the National Center for Education Statistics, among other organizations, to discuss our customer survey experiences. Results of our Web site customer survey were highlighted in a National Performance Review report as an example of an agency on the right track providing good service. EIA seeks out available results from customer satisfaction surveys conducted by similar organizations to compare satisfaction results, survey processes, and questions asked. EIA compares its courtesy satisfaction ratings that were highlighted in the National Performance Review report with six organizations. Overall satisfaction results from surveys conducted by the Office of Energy Research, the National Center for Education Statistics (NCES) and BLS also are compared. NCES used our telephone customer survey as a model for their 1997 customer survey. Finally, EIA compares its satisfaction results to other parts of DOE (Figures 7.1-2 and 7.1-3).

3.2.c Relationship Building

EIA's mission is to provide high quality, policy-neutral energy information in a manner that promotes sound policymaking, efficient markets, and public understanding. Our customers trust our data because of our track record for accuracy, performance excellence, and lack of bias. On the customer survey conducted in January 1997, respondents said they trust EIA (completely or to a great extent) to provide high quality energy information (Section 7.1). EIA builds customer loyalty by listening to its customers and providing the products and services the customer wants. For example, on our CD-ROM survey, customers said they were relatively less satisfied with the features of our search mechanisms and the databases. Using this feedback, the CD developers proposed ten improvements. A letter to the subscribers was included in the next CD edition, along with some of the changes effective in that edition, informing customers of those implemented and proposed improvements, based on their input.

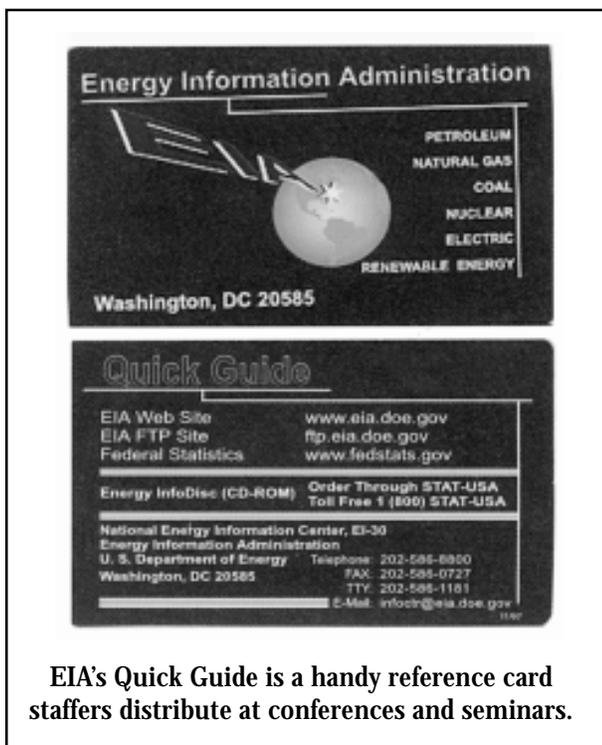
Specific customer relationships are formally built for long-term partnerships, and less formally for more short-term relationships (such as in a cold spell when energy prices tend to rise). At the personal level, employees spend large amounts of time building relationships at conferences, meetings, press conferences, Congressional briefings, on the telephone, and online. Most subject matter experts in EIA have personal relationships with many customers who have come to count on them for reliable and accurate information. This is the core of our customer relationships.

EIA's customer service standards were published in Vice President Gore's National Performance Review report in October 1995 titled *Putting Customers First 95: Standards for Serving the American People*. These 12 standards (Figure 3-3) cover the five important aspects of EIA service (ease of access, courtesy, familiarity with the information, understanding customer requests, and promptness). EIA tracks performance against these standards by continuously measuring customer satisfaction with the specific attributes.

EIA's process for determining customer satisfaction, providing access and building relationships has been evolutionary. The Customer Survey team recognized that EIA had a diversity of customers and a single survey of all customers would be both inappropriate and

unwieldy to field. The team decided to begin with telephone customers first, and then build on that base with other access types. In 1997, the team expanded customer coverage to include separate surveys for CD-ROM, Web site, and Listserv customers as well. Publication subscribers are scheduled to be added in 1998. Our current process targets a specific segment to be surveyed, samples the segment, compiles, analyzes, and releases results to the leaders and staff for that segment, and then cycles through remaining customer segments.

EIA Quick Guide



EIA Customer Service Standards

- Provide service through knowledgeable employees who will treat you with courtesy, dignity, and respect every time you do business with EIA.
- Follow standard statistical practices to ensure the accuracy and reliability of our data, and we will document everything we publish.
- Provide you with our best estimate of the time needed to complete your request and fully explain any delays.
- Offer options to service.
- Resolve customer needs through single-point contact whenever possible.
- Distribute our information in a format that fits your needs as resources allow.
- Provide instructions for accessing electronic information.
- Respond to written inquiries within five business days.
- Answer each customer telephone call within one business day, providing the requested information whenever possible.
- Write and speak in language that you can understand — free of government jargon, acronyms and technical terms.
- Include a contact name and telephone number on every document and letter.
- Deliver services without discrimination on the basis of race, color, national origin, sex, religion, age, disability, political beliefs, marital or family status, and organization size or nature.

Figure 3-3 EIA Customer Service Standards

4 INFORMATION AND ANALYSIS

4.1 Selection and Use of Information and Data

In EIA we use three primary information modes for tracking, analyzing and improving our processes, results and culture: performance measures (work-unit and corporate), the Automated Tracking System and the Annual Operating Plan. Since the creation of EIA in 1977, we have used in-process performance measures in work units to track the receipt and processing of data from all of our surveys. These measures include response rates, incoming data attributes, error flags, revision errors, sampling errors, time of receipt and cycle time (Section 6.2). Today some of these measures are built into the data processing software for many of the surveys and are available to process managers.

The ultimate outcomes associated with our mission (sound policymaking, efficient markets and public understanding) are difficult to measure, but measures associated with our outputs (energy data, analysis and forecasting reports) are more easily defined and tracked. For example, we use product timeliness, accuracy and relevance—and our customers' satisfaction ratings for these attributes—to measure individual product results (Section 7). At a corporate level, we use overall usage and customer satisfaction levels as proxies for the harder-to-measure outcomes listed above. We believe that if many customers are using our products on a continual basis and their documented satisfaction levels are high, our products are helping them achieve the outcomes sought in our mission statement.

In 1994 we formed EIA's first corporate-level Performance Measurement Development Team. The team developed an input/output chart for EIA, identified quantitative and qualitative performance measurement categories and produced a list of 14 performance measures. In the intervening years, these measures have been revised through several cycles and now our Strategic Plan contains 44 quantitative and qualitative performance measures which we track (listed in Figure 2-3). In particular, they define data requirements for: (1) workforce potential (teamwork, training, diversity, etc.); (2) accuracy of our information products measured directly and as perceived by our customers; (3) relevance of our products and services (citations, usage statistics, subscription

renewals, external briefings, etc.); (4) fast and easy access to our products (customer satisfaction with timeliness and ease of access, time to release/cycle times); and (5) efficient and cost effective business operations (information product quality measures, employee perceptions on innovations, qualitative reports and discussions).

The Automated Tracking System is the management information system we use to keep track of information products in the development pipeline. It is used to find out what products are being planned and the status of a particular product as it goes through our peer review process. As projects are approved for inclusion in EIA's yearly Analysis Agenda, for example, they are logged into ATS and tracked through their life cycle.

The Annual Operating Plan contains personnel and contract allocations disaggregated by work unit and by function. Related information is compiled from a variety of DOE sources and made available to managers and employees. For example, our Office of Resource Management maintains a strength report (derived from DOE HR reports) which is posted every 2 weeks on the "Changing \$\$ and FTE's" bulletin board. This report shows the number of full-time employees, pending terminations, projected full-time employee targets and the shortfall/overage.

In order to make both corporate and work-unit performance measures easy to maintain and access, a local area network-based performance measures database is currently being populated. Both pre-programmed reports and ad hoc reports are available from the system. Performance measurement results are communicated through electronic bulletin boards, management briefings and reports, our monthly newsletter *EIA Today*, brown bag lunchtime seminars, displays in the hallways, staff presentations, and even speeches to outside groups which are posted on the bulletin board. Individual office performance measures results are displayed in work units to communicate results (Section 7) and create intra-agency benchmarks. Corporate performance results are analyzed and acted upon by the Senior Staff and the Quality Council. Work-unit performance results are monitored continuously and acted upon promptly.

4.2 Selection and Use of Comparative Information and Data

EIA has a long history of comparing our key energy data, analysis and forecasting products to comparable products available from external sources. For example, we compare our energy forecasts with those of DRI McGraw-Hill, Wharton Energy Forecasting Associates, Gas Research Institute, International Energy Agency, Petroleum Economics, Ltd., NAC International, Energy Resources International, Inc. and Petroleum Industry Research Associates, Inc. (Figure 7.9). We compare our survey information to that of the American Petroleum Institute, The Oil and Gas Journal, Bureau of Labor Statistics, Department of Transportation, Lundberg Survey, and American Automobile Association. Many of the results are presented in our publications or in-house documents. Several private organizations use EIA data and forecasts as their benchmarks.

In order to learn how employees feel about working in EIA, we have conducted a survey of employee perceptions (culture or organizational climate) each year since 1994. In its first two years, the survey was administered by the firm Coopers and Lybrand and it allowed us to compare ourselves to both typical and best-in-class companies in the firm's database. However, in an effort to obtain better comparative statistics, in 1996 we became part of a group of other Federal statistical agencies measuring organizational climate using a survey implemented by the Joint Program on Statistical Methodology at the University of Maryland. Because nine Federal agencies participate, we can compare our results to the average of the eight other Federal statistical agencies (results in Section 7.3), which include the Census Bureau, National Agricultural Statistics Service, and National Center for Educational Statistics.

The organizational climate joint survey addresses 14 topic areas, such as teamwork, communication and information sharing, top level management, innovation and change, mission and goals, customer service, rewards and recognition, and training, which correspond to goals, objectives and measures in our Strategic Plan. In addition, other key data required by the performance measures, such as customer satisfaction data, are targeted for comparison. These data are gathered from Web sites, publications and by talking to other agencies.

4.3 Analysis and Review of Organization Performance

4.3.a Analysis of Data

Our mission is to produce energy information products that promote sound policymaking, efficient markets and public understanding. To assess our progress in creating these outcomes, we measure and analyze our product usage and customer satisfaction levels to assess our performance. Because we consider employees to be our most valued resource, we also measure our perceptions of ourselves, our leaders and our workplace. These measures (product usage, customer satisfaction levels and employee perceptions) are the bases upon which we assess our corporate-level performance results.

Each objective in the Strategic Plan is measured by one or more corporate performance measures. Currently, these performance measures cover employee and customer opinions, data accuracy and timeliness, forecast accuracy, Internet and CD-ROM usage, and media citations. While most of the corporate performance measures are gathered and analyzed by the Performance Measures Team, customer data are compiled and analyzed by the Customer Survey Committee and employee perception data are analyzed by the Organizational Climate Survey Team. A summary report of performance measures is presented quarterly to Senior Staff and the Quality Council. The first integrated report of results was prepared in 1997.

The findings of each customer survey are presented to the Senior Staff and Quality Council shortly after the survey has been completed. If a specific team is involved with the product, such as the Web site or the CD-ROM, that team is also briefed directly. The information is also distributed throughout the agency through posting on the electronic bulletin board and in written articles. Managers meet with their work units to go over the results and plan follow-up actions.

Specific human resource information, such as current and projected personnel ceilings and number of employees by office, is tracked biweekly and posted electronically. Contractor costs are analyzed monthly at two levels of the organization: 1) the task monitor level responsible for directing the work, and 2) the contracting officer representative level in the Office of Resource Management. At the close of the task, a final

evaluation is performed by the contracting officer (Figures 7.4-1 and 7.4-2). Other operational costs such as telephones and space are reviewed and analyzed by the Office of Resource Management on a regular basis (Figures 7.2-7 and 7.2-8).

Comparisons of our energy information products are also made at the program level and significant results provided to our customers. At regular intervals, usually every three years, our plans for energy data collection surveys are formally reviewed by OMB, which ensures the validity and value of the surveys, the minimization of respondent burden, an understanding of our customer needs, and lack of duplication with other government data collections. The OMB review provides an independent assessment of our data surveys.

Our Administrator and Deputy Administrator have shown a great personal interest in performance measures. They have personally championed the effort, have attended meetings of the Performance Measures Team, and have taken active roles in promoting their use. Jay has given lectures on performance measures to outside groups, highlighting the differences between outputs and outcomes. Review of performance measures is also an important part of the agenda for the Quality Council and Senior Staff. The effectiveness of our approach for review and analysis of corporate performance is illustrated by the citation of EIA's approach to performance measures in the third edition of a major text, *Public Administration: An Action Approach*, by Robert B. Denhardt.

Review of all of the performance measures and other data is a critical component of the strategic planning process for the agency. As described in Section 2.1, these data are an input to the Corporate Strategic Planning Preparation phase during which all of the goals are reviewed, objectives are redefined (with their associated measures), progress is evaluated, and new goals are established.

4.3.b Review of Organization Performance

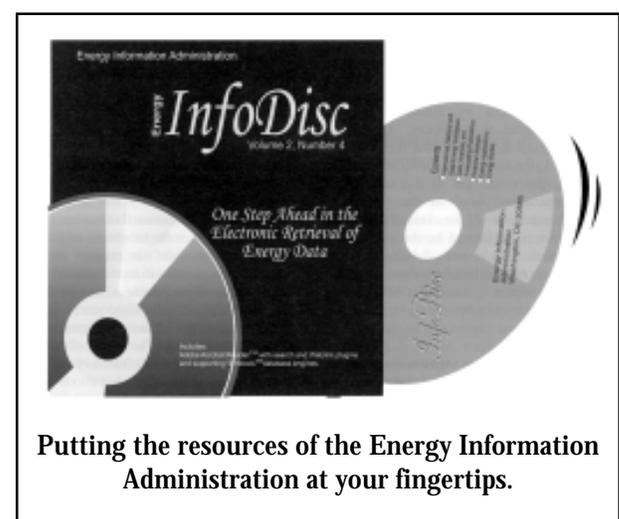
Organization performance is reviewed by the leadership groups (e.g., Senior Staff, Quality Council) on a regular basis. Performance results (including customer and employee survey results) are assessed in relation to our goals and plans and if it appears that goals are not likely to be met, corrective actions are taken. For example, a measure identified for improve-

ment is the timeliness of EIA data. In an effort to provide our product sooner, new procedures (e.g., estimation techniques) have been developed to allow release of our products even before receipt of all respondent data or by releasing just the critical components of the product once derived. The results of this initiative will be carefully monitored not only for improvements in timeliness but also to ensure that accuracy, an equally important product attribute to our customers, is maintained.

A second example concerns the method by which we distribute our products. In the last few years, we have been moving from paper publications to electronic dissemination, which allows us to provide our products more quickly and cheaply. We are actively seeking input from our customers by asking about their electronic capabilities, as well as their preferences, in our customer surveys (Section 7.1). The move from paper to electronic is being measured and evaluated at both the work unit and corporate level.

Review of agency performance has changed how we assess ourselves and how we set stretch targets. For example, customer satisfaction results are now looked at differently given the high ratings levels we have achieved. In many cases, maintenance is not considered sufficient, and many of our stretch goals are now aimed at increasing the percent of our customers who are "dazzled" (very satisfied), not just simply "satisfied" (Figures 7.1-1 and 7.1-4).

Our CD Rom



5 HUMAN RESOURCE FOCUS

5.1 Work Systems

5.1.a Work and Job Design

EIA's workforce at the beginning of 1998 consisted of 31 managers and 353 technical and administrative staff, from GS-2 to Senior Executive Service, from high school students to doctorates. In the past, our work systems had been designed mostly by supervisors, not surprising with a staff to supervisor ratio of about 3 to 1. However, at the beginning of 1998, that ratio was over 11 to 1 (Figure 7.3-1) and our smaller number of supervisors now focuses on setting direction, planning, removing barriers, and coaching employees. Team leaders focus on directing technical work without the supervisory burdens associated with administrative and employee conduct responsibilities. Team members focus on getting the work done and looking for ways to improve work processes. Employees understand the importance of EIA and the significance of their jobs (Box in this section and Figures 7.3-2 and 7.3-3).

Since 1993, EIA leaders have made major efforts to move our organizational work culture from one of control and competition to one of cooperation and collaboration. This was manifest in 1995, when we undertook an agency-wide year-long effort to reengineer the work processes associated with our most costly core business processes (survey and data operations, technical support, data integration and dissemination.) Dozens of employees at all levels—managers and non-managers—and from all units and disciplines participated in this effort. In addition to the technical outcomes, which were significant, the reengineering process itself was a major success in changing how we design, manage and improve our work processes. Employees shared their knowledge and skills across traditionally stove-piped work units in ways that changed EIA fundamentally. At the 1996 leadership retreat, EIA leaders reaffirmed their commitment to move EIA towards a collaborative work culture and the participants developed a clear set of definitions describing how we would operate using principles of collaborative management (Figure 5.1).

All eight EIA program offices have now reorganized to implement teams as their basic work unit and to reduce the number of supervisors, as called for by the National Performance Review. Most employees are no

more than two layers of management away from the Administrator and his Deputy. Employee recommendations to consolidate all information technology work in a single group were adopted, along with a recommendation to consolidate work units dealing with data operations at the office level, after a pilot effort did not demonstrate significant advantages for corporate consolidation. The reorganizations of the program offices were strongly influenced by extensive employee input, results from organizational climate surveys, employee discussion groups and bulletin board responses to plans.

EIA Collaborative Management Principles

- High levels of interaction and communication among team members.
- Mutual support and responsibility among team members.
- Decisions pushed down as far as possible.
- Regular feedback between supervisors and team members.
- Supervisors working with teams on clear goals and objectives for the production and improvement of products.
- Team's participation in determining how best to achieve those goals.
- Supervisors over time being able to shift time currently spent on checking to planning and coaching.
- Achievement of goals assessed by performance measures in order to encourage continuous self-improvement.
- Recognition of the diversity of skills needed to produce quality products and services.
- An environment that encourages team members to develop multiple skills.
- Design of work so that resources can be made available for crosscutting team activities from time to time.
- Flexibility in the assignment of teams members to encourage the right mix of skills and personalities.
- Availability of training for teams where such training can improve team performance.

Figure 5-1 Collaborative Management Principles

Motivated by the principles of collaborative management (Figure 5-1), we are working together in exercising both individual and team initiatives to continuously improve our work processes and products, as illustrated in the following cases:

- The Information Technology Group (ITG) has one full manager for 38 staff. This structure allows rapid creation, expansion, or termination of teams to meet changing customer or operational needs. Use of generic position descriptions facilitates movement between teams, allows individuals to develop special qualifications and has allowed EIA staff to take over technical leadership previously held by contractors; all done seamlessly with the cooperation of management and the union, and without formal paperwork.
- In response to customers' needs and strategic plan goals, a statistician in CNEAF performed a process mapping of the collection cycle for the annual uranium survey to learn how to publish data sooner and a team leader in EMEU did the same thing for the Financial Reporting System survey.
- In the current work environment in which information technology is freeing up people's time, the secretaries in Oil and Gas formed a team to reconfigure their jobs so they could perform more professional duties with the saved time and qualify for professional job series. They have implemented innovative ways to perform traditional administrative functions by sharing duties across organizational units. A corporate group of secretaries is currently working with ORM to find similar improvements agency-wide.
- An energy analyst, concerned about our being able to maintain analytical capability with declining resources, designed the curriculum for an in-house 12-week Energy Industry Study Program in 1996 to broaden the knowledge of analysts beyond their single subject matter expertise and reduce our dependence on more costly contractors. The third session was held in early 1998.

5.1.b Compensation and Recognition

The Federal pay and job classification systems set EIA's compensation structure and allow only limited discretion for monetary awards and promotions. Most employees (365) are on the General Schedule (GS), while the Administrator, fourteen senior executives, and four senior level technical staff are in separate systems. Bonuses for senior EIA managers are proposed

by leaders based on annual performance plans and evaluations, and approved by a board composed of their peers from across DOE. Advisory 360 degree reviews are used in the evaluation process. For GS employees, bonuses are paid annually for outstanding and highly successful performance. Currently, our leaders set the size of the bonus pool based on their general assessment of organizational performance, effectively tying individual rewards to organizational results. For example, in 1996, the size of the pool was doubled to three percent of total salaries to reflect our leaders' perceptions that EIA performed extremely well in getting its products out on time despite the disruptions of multiple government shutdowns and the EIA 17% budget cut that year.

Team efforts and truly exceptional work are recognized with special act awards ranging from \$500-\$2,000 and on-the-spot awards of \$50-\$300. These awards are usually initiated by supervisors, but cross-organizational team awards can be initiated by a management group. For example, the Quality Council recognizes corporate teams with monetary awards. Certificates of appreciation, plaques, EIA T-shirts and mugs are also given to show appreciation of good work and quality actions.

Additionally:

- CNEAF, SMG, and ITG celebrate accomplishments at an "Alfresco Team Building and Awards Meeting" (picnic).
- ORM holds an "End of the Fiscal Year Party" to celebrate closing the years financial books.
- OIAF awards major staff contributors bound copies of its major annual publication.
- Accomplishments are publicized in the internal *EIA Today* newsletter monthly.
- The Administrator treats the winners of the annual graphics contest to lunch.
- The names of authors and subject matter experts appear in publications and on the Web site, giving them public recognition and the opportunity to deal with and receive feedback directly from their customers.

Conversely, there were two examples of employees' recognizing managers: the staff of one EIA manager asked the DOE Assistant Secretary for HR to publicly recognize their boss as a quality manager, and the EIA

Diversity Advisory Committee threw a surprise all-hands party to honor Jay and Larry for leading us towards performance excellence.

EIA employees scored high on pay and benefits in the organizational climate survey, but were significantly less satisfied with awards. An EIA Quality Council subgroup is currently analyzing the use of rewards and will recommend improvement actions. EIA employees were more satisfied than employees at other statistical agencies on all three of these measures (Figure 7.3-5 for awards and Figure 7.3-6 for employee survey results).

5.2 Employee Education, Training, and Development

Our training efforts are designed to support the needs of the organization for particular skills as well as the needs of individuals to grow intellectually and develop their careers. Training activities have been affected by the current downsizing environment. For example, we have not hired a new full-time employee in over three years, so we do not have current new employee orientation or training programs. On the other hand, training of current staff has taken on increased importance as we have had to replace skills lost through attrition. Promotions above the journeyman level have been frozen for 4 years, which could lead employees to question the need for training that doesn't lead to career advancement. Despite this uncertain environment, our employees rated their experience of training and career development positively (Figures 7.3-7 through 7.3-9). Training is delivered in three basic categories:

- Corporate training for all staff to reinforce minimum competencies and culture change.
- Corporate specialized training for staff to remain current in subjects of common interest in several organizational areas.
- Job-specific training tailored to match the skills of individuals with the mission requirements of the work unit.

About 300 EIA staff attended "Seven Habits of Highly Effective People" and "Moving Through Change" workshops. Managers received Federal Quality Consulting Group training in 1995 to be "Leaders for a Customer-Driven Organization." The Diversity Committee sponsors annual communications workshops for the whole

staff. In 1995 the Corporate Training Team identified five key corporate core competencies for which courses are still being offered to all staff.

Specialized training requirements are determined and the delivery designed by teams from across EIA. ITG holds periodic classroom training on technical subjects (e-mail, use of desktop applications, Internet and Intranet technology, security) to support our core competencies and in response to user demand and changing technology. SMG sponsors workshops on designing surveys to improve the quality and timeliness of our data to meet strategic plan objectives. SMG also sponsors workshops to advance the state of applied economic analysis in EIA. Customer focus advocates provide training on EIA's different customer groups, ways to improve service, effective listening techniques, and recovering from mistakes. EIA Contracts Management staff holds periodic workshops for contract technical monitors, and recently arranged training on performance-based contracting prior to our awarding a major new contract. Last year, there were 20 participants in a structured mentoring pilot program. Jay and Larry encourage staff to apply for new leadership training programs.

On-the-job training takes many forms. In survey work units, staff visit respondents to see commercial energy facilities and get feedback from the people who actually fill out our survey forms. The Analysis Review Board sponsors author briefings to give staff experience in giving oral presentations, to share their findings with other EIA staff, and to get feedback to improve their analysis products. In the business reengineering pilot, employees from different parts of the organization taught one another their best practices in conducting surveys. In ITG, staff use computer-based training to earn Microsoft certification. With fewer layers of formal organizational structure, employees have more opportunity to move from one team to another to broaden the perspectives of their work. Many employees keep abreast of developments in their fields through membership in professional societies such as the American Statistical Association and the Operations Research Society. We support active participation in professional groups by encouraging the writing of papers and funding travel to meetings to deliver papers. Developmental assignments are encouraged and many EIA employees participate in or lead interagency efforts in areas such as developing strategic planning performance measures and performance-based contracting guidance for statistical work. This

provides an opportunity for effective external reinforcement of knowledge and skills. Managers and employees are encouraged to complete Individual Development Plans to record and review progress in career development.

5.3 Employee Well-Being and Satisfaction

5.3.a Work Environment

DOE's Office of Human Resources (HR) provides our physical facilities and maintains a safe and healthful work environment for us, and EIA managers believe HR has been responsive to our needs and problems. We are working successfully with HR to upgrade our office space (improved layout, new carpet and fresh paint) even as our overall space needs are decreasing. Our Rent Avoidance Team was convened twice so that our employees could determine the best space configurations to maximize savings in overhead costs. Even with the disruptions of moving and smaller office square footage, our employees do not believe their physical environment makes it difficult for them to do their job. EIA has placed a high priority on funding information technology hardware and software. Every EIA employee has the use of a personal computer with current software. E-mail is the routine form of communication. Individual needs are accommodated with ergonomic equipment and furniture. Employees score EIA favorably for providing adequate resources to do their job well (Figure 7.3-11).

5.3.b Employee Support Services

EIA leaders strongly support EIA employee programs (Strategic Objective 1, Figure 2-3) in addition to services and benefits programs provided by the Department. These include the Alternative Work Schedule program, the Employee Assistance Program, the indoor fitness center (three of its nine directors are EIA employees), the career and job placement center, and the day care facility (one of the board members is an EIA employee). EIA employees take advantage of opportunities to participate on Departmental teams supporting such efforts, including the Secretary's Diversity Council, the DOE/NTEU Partnership Council, the Federal Women's Program Advisory Council, and the American Indian Heritage Task Force. Our leaders encourage people to take advantage of flexible work schedule programs because the programs help them deal better with meeting publication deadlines

and our goal to improve timeliness. A 9-day out of 10 alternative work schedule has been in place for ten years, and a 4- out of 5-day schedule and a flexi-place program have been in a pilot test for over a year. Employees are also permitted to work a part-time schedule (Figure 7.3-13). EIA staff use and contribute to the donated leave program which supports people in need of sick leave for prolonged illness. On questions dealing with accommodation of personal needs, employees think that EIA does well (Figure 7.3-12). EIA has not had a grievance filed since 1994, the only DOE Headquarters organization without a grievance for over 3 years. Involving union members in the early quality initiatives and the subsequent union partnership set the tone for an improved environment. Also, EIA leaders hired an alternative dispute resolution expert to deal quickly and fairly with specific equal employment opportunity and grievance cases. EIA employees' overall impression on diversity in the agency is favorable. Women make up 39% of the workforce and minorities make up 29%.

5.3.c Employee Satisfaction

EIA assesses the employee work environment through several methods, the most important being an organizational climate survey which has been conducted four times. Second, we conduct employee discussion groups associated with strategic planning and our annual communications seminar. Jay and Larry lead these groups. Third, employees are encouraged to express their personal views through e-mail, either publicly on bulletin boards, or privately to Jay or Larry. Finally, many offices have periodic all-hands meetings to solicit employee feedback. The information obtained from these sources is reviewed by the EIA Quality Council or the Senior Staff on a regular basis (see Box). Government downsizing initiatives over the past 5 years have created the potential to severely affect employee satisfaction. We have had an externally mandated 4-year freeze on promotions to the GS-14 and above level. EIA employees feel that opportunities for advancement are inadequate more than other statistical agency employees do. DOE has set a 30% staffing reduction target to be achieved over 6 years. Employees have been faced with the threat of a reduction-in-force for 3 years. We work to mitigate the possibility of a reduction-in-force and the negative effects that can result from such uncertainty:

- We keep staff informed about all downsizing actions using e-mail and open discussions.

My Job Is Boring ... NOT!

The results of our first (1994) organizational climate survey indicated that many EIA employees did not perceive that their jobs affected others in important ways (i.e., were not significant) and many did not take pride in their jobs. Leaders were concerned by this result, especially since earlier that year they had reaffirmed the value of employees by establishing as the number one goal in our first strategic plan: "We will work together to achieve the full potential of a diverse workforce through teamwork and employee development." During the next 9 months, a team of about ten people addressed these important employee perceptions and developed a detailed plan with two dozen actions centered around four themes: (1) The Big Picture—employees need to understand and feel involved in EIA's mission; (2) We're All Working on the Same Railroad—all employees have an interest in the overall operations of EIA and EIA is the sum of individual employee contributions; (3) Share the Glory—job significance can grow out of a combination of individuals being given more authority over their work and, in turn, accepting greater responsibility and accountability; and (4) The Medium is the Message—we need to promote our strategic plan with constant reinforcement of our vision, mission, goals, and core values through actions as well as words. One of the first actions was an essay contest asking what benefits the taxpayer received from EIA, with Jay treating the winners to lunch.

The second organizational climate survey (1995) showed us that changing organizational attitudes is not done quickly. The results for the same questions indicated a slight downward trend in job significance and a slight upward trend in job pride. Over the course of the next 18 months, we continued working on this challenge. Four dozen crosscutting teams were formed to include employees in solving specific corporate challenges. A major employee-based reengineering study demonstrated that employees could have a significant input into how EIA might be organized to conduct business more efficiently. A Big Picture presentation in 1997 by Larry Pettis on the future of EIA was the most widely-attended session of the Communications Workshop sponsored by the EIA Diversity Advisory Committee. The introduction of the Web site and increasing media citations of EIA played an important role by giving employees quick feedback on the public demand for their work. These and other efforts paid off.

Our third organizational climate survey (1997) was a collaborative project with eight other Federal statistical agencies and the Joint Program on Survey Methodology. A team of EIA employees participated in the design and all employees were given an opportunity to comment on the design. This survey achieved our objectives to have a less costly survey, to involve employees, and to benchmark our results to those of comparable organizations. We believe the data give a strong indication that we have made substantial progress in improving our employees' perceptions of the importance of their work and the pride they take in it.

We scored high on statements about employees' experiences, including: "The agency's work is valued by the public," "Employees have a sense of loyalty to the agency," "The agency's mission is clearly understood by employees," "Employees can participate in developing agency goals," and "Management effectively communicates the agency's mission to employees" (Figure 7.3-2). This employee understanding of what we are about and the value of what we do was reaffirmed in four employee discussion groups led by Jay and Larry when they were gathering input for the 1997 strategic plan. Additionally, one of the statements most disagreed with by EIA employees was "The work I do is boring". In fact, our employees disagreed with this statement more strongly than employees at the other statistical agencies (Figure 7.3-3). Even with these good results, Jay Hakes keeps telling us "We can't rest on our laurels. We will have to continue to seek new efficiencies to develop new products and services to stay relevant to our markets and to keep our jobs interesting."

- We post job openings available in other government and private sector organizations.
- We have justified the use of buyout authority and have assisted 63 people (60% of our staff reduction) in exercising this option over the last three years.
- We are working with DOE officials to reverse the severe decline in staffing target levels, with some limited success.
- We are working with our Congressional appropriations committees who have given the Department guidance in the 1998 appropriations report language to avoid or minimize any reduction-in-force at EIA.

Our leaders are planning to achieve our staffing targets over the next 2½ years without any involuntary separations. Employees recognize their efforts to pro-

vide job security with one of the highest scores on the organizational climate survey (Figure 7.3-10). EIA employees responded with high scores on factors related to job satisfaction (Figure 7.3-3). The more positive influences of job security, pay, and interesting work (Box) appear to outweigh the less positive responses to rewards, recognition, and promotions. This satisfaction level is reinforced by declining attrition rates (Figure 7.3-14).

Our results in delivering accurate, timely information are improving, giving us high customer satisfaction ratings. These favorable ratings are reflected in the perceptions of our employees who rate the quality of EIA's products and service between good and very good and who agree that our customers are satisfied with EIA's products and services (Figure 7.3-4).

Some of Our Publications



6 PROCESS MANAGEMENT

6.1 Management of Product and Service Processes

The work performed within EIA is comprised of seven core business processes.

1. Survey and Data Operations
2. Data Integration
3. Analysis
4. Forecasting
5. Dissemination
6. Resource Management
7. Technical Support

Each of these processes was mapped to at least the sub-process and activity level through an EIA-wide process-mapping effort completed in 1996 as part of our activity-based costing efforts, and many key processes have been mapped to further levels of detail as part of office-level process improvement efforts.

6.1.a Design Processes

Performance goals for design processes are driven by corporate level strategic performance goals, which in turn are driven by customer requirements and technology advances. For example, our customers indicated a strong preference for more timely information production, without a decline in accuracy. EIA responded by making improved timeliness a major strategic goal. The corporate performance goals associated with timeliness were adopted by individual Offices and drove their individual process design improvement programs. Fortunately, rapid advances in information technology exemplified by electronic data receipt and dissemination are occurring just as we need them to help us meet our timeliness improvement goals.

To improve timeliness and reduce costs EIA-wide, a major recommendation of our 1996 business reengineering effort which affects two of our core processes (survey and data operations, and data integration) was to develop a Common Collection and Processing System (CCAPS) for all EIA surveys. Following approval of this recommendation by the Business Reengineering Steering Committee, the Data Applications and Sup-

port Team was formed to assist in the design of the system. The project plan was approved by the Committee in April, 1997. The CCAPS is being created to centralize and standardize collection and processing of data and thereby reduce life-cycle costs. The detailed requirements for design and development of the system were gathered using Joint Application Design (JAD) techniques; JAD is a joint venture between users and developers of the system which encouraged interaction between participants to develop better solutions by taking on different conceptual frameworks and perspectives. The design work is now underway, and the team provides monthly written progress reports measuring actual performance against the baseline established in the plan, and quarterly project reviews are held with the Committee. All monthly reports and quarterly briefings are posted on the Business Process Reengineering bulletin board for staff to review.

There are other stimuli that drive process design throughout the year, including requests from customers for special products, windfall technology introduction and the many process innovations suggested by workteam employees. These process design innovations are encouraged and recognized by EIA's leaders (Section 1).

EIA's principal products are data, analysis and forecasting reports, and each has its own design processes. **Data reports** are compilations of survey and related information. EIA has been in the survey business since 1977 and we have redesigned our data collection processes over many cycles. Our process for creating or changing our survey forms is designed to meet OMB requirements. It includes a data requirements analysis in which we meet with customers to solicit comments on their data needs. (For example, in 1997 we held 11 customer focus groups as part of our process to redesign our electricity surveys in response to major restructuring of the U.S. electric power industry. The lessons learned from this process have been applied to a redesign of natural gas surveys this year.) When we have sufficient justification, we communicate our intention to introduce or change a survey, and we solicit formal customer input, through public notices in the *Federal Register*. In order to speed up the process, we recently worked out a new "generic" approval process with OMB which allows us to bundle

survey forms together rather than submit our many survey forms separately. To implement a new or changed survey, we (re)design and (re)build the respondent frame (full universe), select a sample from the frame and design the associated data processing systems that convert incoming survey data into energy information suitable for release to the public. The systems development process includes requirements analysis, software specification, design, development, prototyping, testing, installation, documentation, turnover and training. The design and development process itself is evaluated at in-process meetings held during the development cycle. Tracking measures include budget and schedule deviations and operational results.

For **analytical products**, we design our yearly Analysis Agenda through a process which has just gone through its third cycle. The cycle begins with customer input. Each year, the Analysis Review Board sponsors two Analysis Roundtables (chaired by the Administrator) in which government and non-government customers express their opinions on topical energy issues. Using this input, the Board develops a prioritized set of analysis themes which drive office-level analysis proposals. The proposals are evaluated by the Board (including discussions with authors) and approved by the Administrator. All completed analysis and forecasting products are subjected to a cross-agency peer review process before they are released, and analysis proposals must contain a peer review plan as part of the project design. The analysis proposal process is reviewed and revised yearly by the Board. Additionally, the Analysis Review Board set up the EIA Environmental Issues Forum (to focus on future environmental projects) and monthly author briefings which facilitate communications across workgroups. Employees set up special workshops and in-house training to help everyone sharpen his or her skills in emerging topics (e.g., electric power industry restructuring, environmental issues).

The process for designing and revising the National Energy Modeling System (NEMS), the basis for our major **forecasting product**, the *Annual Energy Outlook (AEO)*, and the procedures for developing the forecasts for the *AEO* also begins with customer input, using a process which has been refined over six cycles. Each year we sponsor a NEMS/*AEO* conference held in Washington, DC, at which customers provide detailed feedback to us about the forecasting methodology and results of the *AEO*. We evaluate all their

EIA Production and Delivery Processes

Survey and Data Operations

- Plan and scope survey and data activities
- Design and/or revise survey
- Request and acquire data
- Process data
- Aggregate and check data
- Prepare data product and conduct reviews
- Develop and maintain frames and sampling procedures
- Develop and maintain survey processing systems

Data Integration

- Plan and scope integrated product
- Design and update integrated databases
- Produce and inspect output products

Analysis

- Plan and scope analysis projects
- Perform analysis
- Prepare analysis product and conduct reviews

Forecasting

- Plan and scope forecasting products
- Develop and update model inputs
- Run models and analyze results
- Prepare report and conduct reviews
- Archive and document models

Dissemination

- Promote customer awareness/access to product
- Prepare product for distribution
- Distribute information/products.

Figure 6.1 EIA Production/Delivery Processes and Subprocesses

inputs and incorporate many suggestions based on resource availability and priorities. The process for creating the forecasts was mapped and overhauled five years ago, and has been refined each cycle. Each year following release of the current *AEO*, a “post-mortem” review is undertaken to refine the process further. Recently, the review process resulted in a 2-month earlier release of the main forecast case and a 1-month earlier release of the publication.

6.1.b Production/Delivery Processes

EIA's key production and delivery processes and sub-processes are shown in Figure 6-1. Intact work teams supplemented by contractors carry out these processes, which have been refined for twenty years over many cycles. The processes are managed using in-process performance measures which derive from our strategic measures. In survey and data operations, the strategic measures of accuracy and timeliness translate into in-process measures of survey response rate (i.e., percentage of completed surveys received out of the total), number of error flags and revision errors (all of which impact accuracy), and cycle time (which impacts timeliness). These measures are monitored throughout each survey cycle (weekly, monthly, quarterly, annually or quadrennially) and reviewed at in-process team meetings. If sufficient responses have not been received to assure accuracy (must be at least 75%), remedial action is taken promptly (usually phoning tardy respondents and obtaining their agreement to provide missing data). EIA's surveys currently exceed 90% response rate (Figure 7.4-1). However, sometimes the in-process reviews reveal results which indicate important industry shifts. For example, nonresponse rates for certain natural gas surveys grew as a result of the deregulation of the industry (more companies entering the industry). Restoring accuracy requires major survey redesign, not just process changes.

Performance measures for the dissemination process include time from the close of a reporting period to delivery to the customer, and ease of access. EIA's time of delivery has improved greatly in recent years because virtually all of our products are now available through our Web site, eliminating the wait for the printing and mailing of paper publications. Of course, EIA has many customers for whom the hard copy is still their preferred medium. For this class of users, we will continue to improve the timeliness of all of our processes so that hard-copy publications also get

to customers sooner. Easing customer access to our products is another goal, especially for electronic products (Section 7.1). We are developing processes to ensure that Web site and CD-ROM users are able to get the information they want quickly and efficiently. To do that, we have developed standards for electronic products, standardizing formats and procedures across all of our data classes and fuel types, giving a common “look and feel” to all EIA electronic information.

Performance measures for analytical and forecasting processes include relevance, comprehensiveness, thoroughness and time to complete. Accuracy measures for forecast processes include the difference between forecast and actual values. Customer opinions and peer review inputs on the relevance, comprehensiveness and thoroughness of analytical and forecasting approaches and results provide qualitative data; quantitative comparisons are made with forecasts published by other organizations and with actual values (Figures 7.5-8 and 7.5-9).

The Administrator strongly encourages the use of process mapping to improve processes, and communicated it in an article in *EIA Today*. Using “process mapping” many EIA work teams have streamlined their processes to improve efficiency, timeliness, quality, and in many cases, reduced cost (Section 7).

6.2 Management of Support Processes

Our core support processes are resource management and technical support. Resource management includes budget and finance, human resources, facilities and equipment management, records management, contracts and management information systems. Technical support includes analytical, statistical and information technology support. In recent years, EIA has fundamentally changed its two technical support processes. In early 1997 the Office of Statistical Standards changed from an internal auditor to the Statistics and Methods Group (SMG), a partnering analytical and statistics technical support group. Also, following the recommendation of the business reengineering project, our leaders reengineered our automated data processing concept and created the Information Technology Group (ITG) to centralize not only the computer facility and computer support, but also development and maintenance of all computer systems previously dispersed throughout EIA.

Our finance, human resources, administrative and logistics services have traditionally been delivered to employees by three organizational groups: DOE, EIA's Office of Resource Management and by EIA program offices themselves. Many layers of review and approval were required to deliver the simplest of resources. Now, every effort is made to give the tools to the customer so that he or she can access the actual service provider as directly as possible. For example:

- We earned Administrative Contracting Authority to issue contractor tasks directly without going through the DOE Contracting officer, saving 2 weeks per task (about 50%).
- Through DOE's Working Capital Fund, we now pay only for the services (e.g., copying, supplies, phone) we actually use. Previously we paid a flat fee based on headcount, whether or not we used the services. This has resulted in significant cost savings (Figure 7.2-5).
- Services provided by SMG (statistical, analytical and forecasting support) and ITG (information systems support) are now based on Service Level Agreements negotiated with their customers before a project starts.
- Until recently, EIA had over 500 PCs on its network (Federal and contractor employees) and there was little standardization across EIA, making support costly. After consulting with users, the Information Technology Group (ITG) formulated agency-wide hardware and software standards so that we are now working toward one standard EIA desktop.
- As a tool to improve performances, SMG and ITG ask customers to fill out questionnaires at the completion of each project measuring their responsiveness, timeliness, and quality in fulfilling Service Level Agreements. Initial results for SMG show that 80% of its customers are very satisfied and want to partner with SMG on future work.

We use built-in performance measures to save money and processing time in support processes. For example, in resource management, the components of DOE's Working Capital Fund serve as a set of performance statistics by which EIA measures funds spent on administrative support. In the omnibus contract recently implemented, performance measures are outlined in the Performance Work Statement and technical monitors evaluate results and expenditures monthly.

6.3 Management of Supplier and Partnering Processes

Our major suppliers and partners are: (1) survey respondents and other information providers, (2) contractors (support and vendors) and (3) other government offices, primarily DOE's Office of Human Resources and Administration (HR). We communicate our requirements to them and track their results in specific ways:

Data Suppliers: Respondents are suppliers to our core business process of survey and data operations. Their key requirement is to fill out the surveys fully, accurately, and on time. Although legally we can compel them to complete our surveys, we have never exercised this authority. Rather, we partner with them and seek their cooperation to achieve timeliness and accuracy. Over 120,000 respondents provided information on 83 EIA surveys last year. Survey workteams track their respondents through each survey cycle and contact them if they are late or non-responsive. We've held workshops, prepared short, quick guides to reporting and established one-on-one relationships. Additionally, we provide some respondents software to submit their data electronically, reducing their reporting burden while improving quality, since the software contains error-correction programs. We make use of statistical sampling where possible to reduce burden. Respondent processes are evaluated and improved on an on-going basis at survey team meetings.

Contractors: Support contractors, our other main group of suppliers, are provided task orders which describe the work they are to perform (primarily data operations, information technology and analysis) and the schedule of deliverables. The work is tracked by EIA technical monitors through in-person contact and required reports. Recently we designed and provided custom training to 150 technical monitors to improve their ability to evaluate contractor performance and provide effective feedback. Our hardware/software vendor relationships have also changed with the creation of ITG. We are using fewer vendors because standardization means fewer systems to maintain. ITG is making sure that vendors are aware of what other vendors are doing to avoid duplication and encourage sharing of best practices.

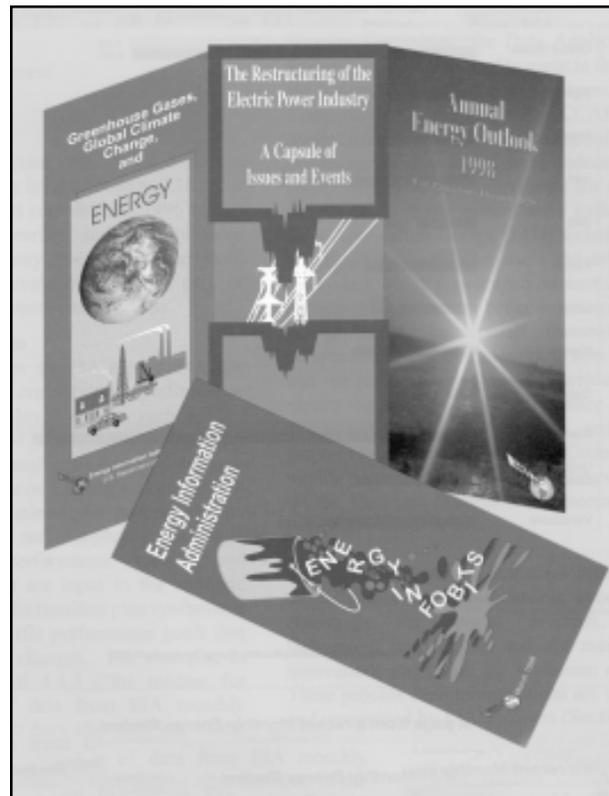
Other Government Offices: Our relationship with DOE HR has improved dramatically as we both have improved our business practices. Probably the most

important process change has been a significant increase in meaningful communications between us; we now meet with HR throughout the year to discuss process improvements that would be mutually beneficial.

We have established partnerships with other government units at Federal, State, and local levels. Many have been implemented by memoranda of understanding or other formal agreements. For example:

- EIA participates in several collaborative activities with other agencies in the federal statistical system. The Administrator is a member of the OMB Interagency Council on Statistical Policy, made up of the Chief Statistician of the United States and the heads of the 13 major statistical agencies. The Council meets monthly and coordinates cross-agency policy. For instance, the Council requested that EIA, Census and the National Science Foundation take the lead in developing the FEDSTATS Web site (<http://www.fedstats.gov>), which links the web pages of all the statistical agencies. The Council sponsored a multi-agency organizational climate survey led by Census, EIA and the National Agricultural Statistics Service and implemented by the Joint Program on Statistical Methodology of the University of Maryland. EIA is now part of the interagency data sharing enclave which has been sponsored by OMB and the Council, as well as the OMB-sponsored Federal Council on Statistical Methodology (FCSM), composed of chief statisticians and methodologists of the federal statistical agencies. The group sponsors conferences to share new methodologies and reports on statistical issues of concern to the agencies. For instance, EIA is a member of the subcommittees on training, editing, nonresponse and disclosure. EIA officials have also been active members of and contributors to the Federal Publishers Committee of the Depository Library Council.
- In 1994, we signed a Memorandum of Understanding (MOU) with the U.S. Environmental Protection Agency to cooperate on issues relating to greenhouse gases.
- EIA has an MOU with Bureau of Labor Statistics through which we gather petroleum price information and share it with them, and an MOU with the Interstate Commerce Commission through which we gather and share diesel fuel price information.
- EIA is a signatory to an agreement with the National Association of State Energy Officials and DOE's Office of Emergency Management to operate a communications system in energy emergencies.
- As a result of a data sharing agreement with the Mine Health and Safety Administration, EIA has reduced the burden on coal survey respondents by 35%.
- EIA is partnering with the Federal Energy Regulatory Commission and other Federal agencies to develop standard data definitions, data element coding and confidentiality policies to merge and transfer data sets among ourselves seamlessly.
- EIA and the California Energy Commission are exploring common data collections in the new environment of a restructured electric power industry. This relationship could be the beginning of a new system of partnerships between EIA and the States.

Some of Our Brochures



7 BUSINESS RESULTS

EIA's mission is to produce energy information that promotes sound policymaking, efficient markets and public understanding. We assess our level of achievement of these outcomes by evaluating our product usage and customer satisfaction levels. The results show that while we are accomplishing our mission and have made improvements, there are still areas for improvement. Most of our customer satisfaction ratings are very high, with a growing percentage who are "dazzled" (Section 7.1); where they are not, we are taking corrective action. The size of our workforce has been reduced, but employee perceptions about the EIA workplace are generally positive (Section 7.3). Our financial and market results indicate that in spite of a 23% reduction in funding and staffing (Section 7.2), we have expanded our customer base and improved our products' attributes (Sections 7.1 and 7.5). Through large-scale electronic and media dissemination of our products, we have increased their timeliness and availability to the public while reducing our printing and distribution costs. We will continue to focus our improvement efforts on the performance targets set in our strategic plan.

7.1 Customer Satisfaction Results

EIA has conducted systematic surveys of its customers for the last four years, giving us a solid time series of performance results. Of our various customer surveys (telephone, Web site, CD-ROM, Listserv and publications) the surveys of telephone customers give us the most comprehensive measure of overall performance because they have questions about all of EIA's products and services. Customers are asked to rate their satisfaction overall and with 5 attributes of customer service and 5 attributes of product quality (Figures 7.1-1 and 7.1-4). (Note that the values in figures in this section may not add to the total shown due to rounding.) EIA's overall customer service satisfaction levels have been 95% or higher for the last four years (changes of a few percent are not considered statistically significant.)

Overall, our satisfaction levels compare favorably to those of the Bureau of Labor Statistics in their 1995-1996 telephone customer survey, which scored 98%

Majority of Customers "Dazzled" (Very Satisfied) with EIA Service

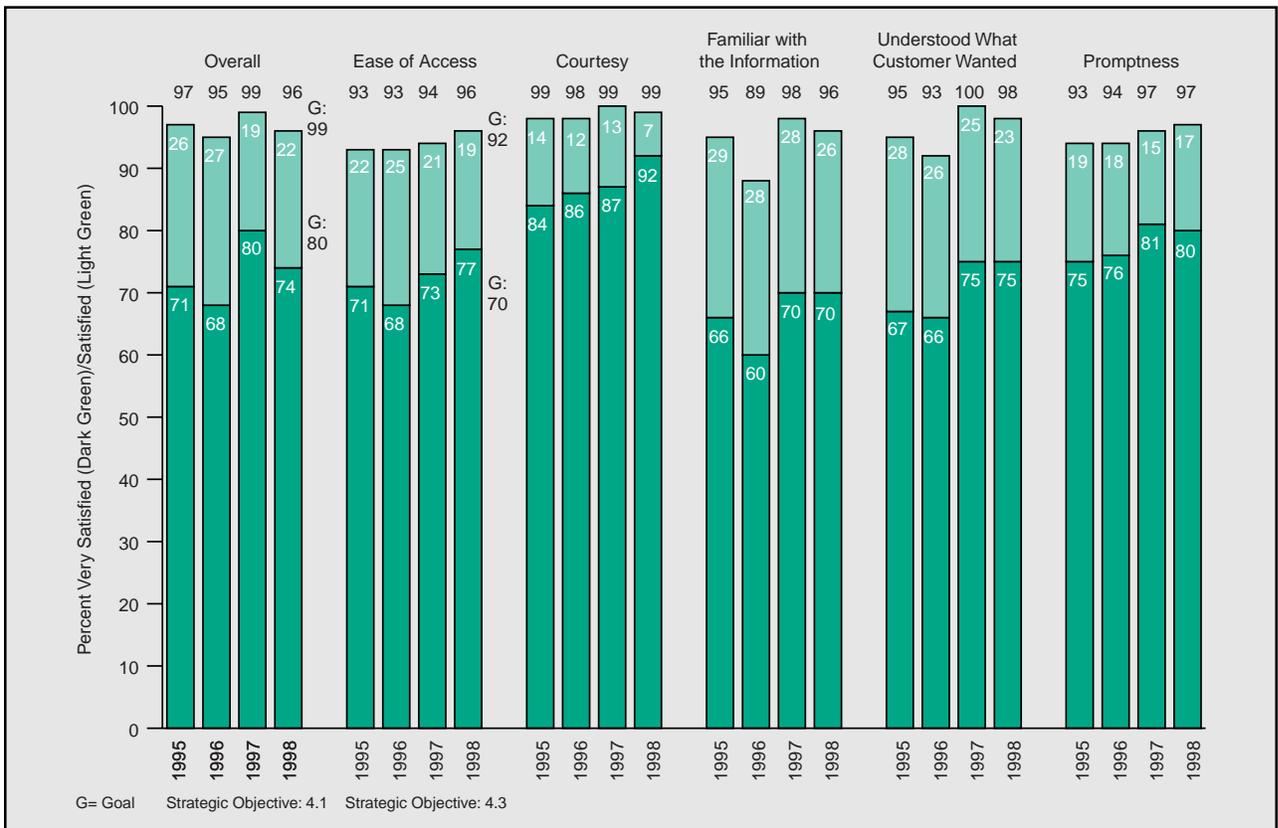


Figure 7.1-1 Customer Satisfaction with Service

very good and good combined. In addition to maintaining high satisfaction levels, our service has dazzled (very satisfied) 74% of our customers. When compared to other parts of DOE (Figure 7.1-2), EIA's overall customer satisfaction ratings for 1997 show EIA as a leader in customer satisfaction in DOE. Our highest service attribute ratings are for understanding what the customers want (100% and 98% for 1997 and 1998) and courtesy (99% for 1997 and 1998). Courtesy is also the attribute of service that dazzles customers the most (87% and 92% very satisfied in 1997 and 1998). When compared to other Federal agencies, this service attribute rating of 99% satisfaction in 1997 shows that EIA is a close second to the Federal Aviation Administration, which is the benchmark in courtesy (Figure 7.1-3).

EIA Has the Highest Overall Customer Satisfaction Rating in DOE

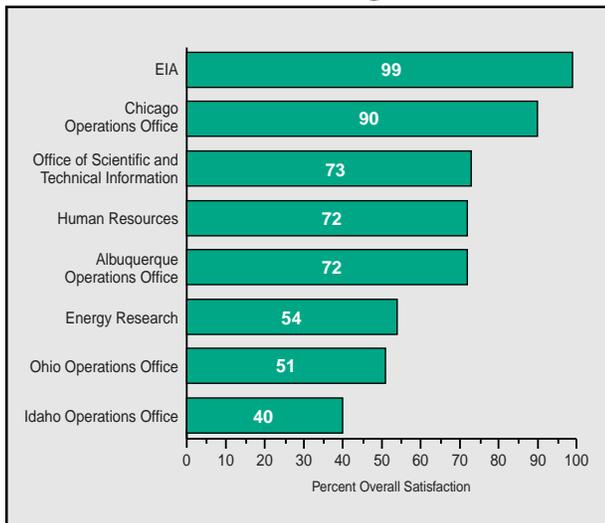


Figure 7.1-2 Customer Satisfaction within DOE (1997 Survey Results)

In terms of the quality of all EIA's products, telephone customer satisfaction ratings overall are also high (86% to 94%) over the four years (Figure 7.1-4). The percent of customers in the last 2 years who were dazzled ranged from 40% (for timeliness) to 71% (for relevance.) Two aspects, relevance and timeliness, each improved by over 20 percentage points (statistically significant at the 93% and 94% confidence levels, respectively). Furthermore, a one-time question in 1997 was added (at the request of DOE's Office of Quality Management) which showed that 87% of telephone customers trusted EIA to provide a quality product to a great extent or completely.

The 1997 satisfaction results on the product attribute of timeliness achieved for the Listserv, Web site and CD-ROM customer surveys (Figure 7.1-5) show that Listserv subscription customers, who have our products automatically delivered to them by e-mail, are the most satisfied (95%) with timeliness. Similarly, 83% of Web site customers are also satisfied. CD-ROM subscription customers, who receive new updated CD-ROMs quarterly, are the least satisfied (49%) with timeliness.

EIA specifically targeted timeliness as a key area of product quality improvement, given the relatively low satisfaction ratings in 1995 and 1996 (76% and 72%, respectively). EIA's success in improving customer satisfaction with timeliness is shown in Figure 7.1-6, which reveals that we met and exceeded the 2002 strategic goal this year, 4 years ahead of schedule!

CD-ROM, Listserv, and Web site customers also have told us (Figure 7.1-7) that EIA's products met their needs (95%, 91% and 86%, respectively). The proportion of customers who said our products were easy to use was fairly high for Web site customers (98% for yes or somewhat) and CD-ROM customers (92%). However, as shown in Figure 7.1-8, only 68% of CD-ROM customers responded with an unqualified yes and we followed up on the results, as described in Section 3.2.c.

FAA and EIA—Benchmarks In Customer Satisfaction with Courtesy

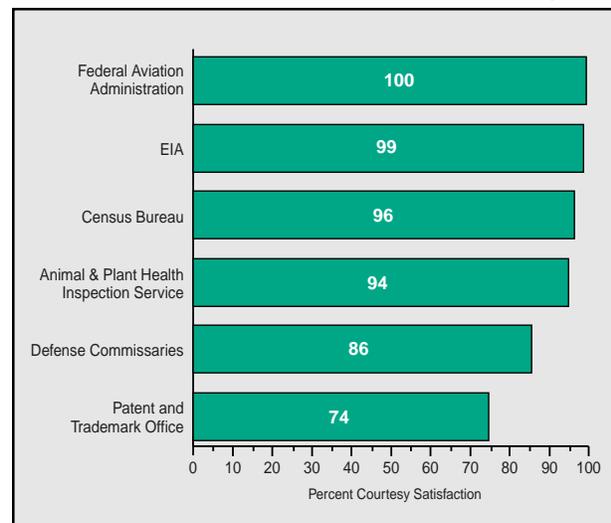


Figure 7.1-3 Customer Satisfaction with Federal Agencies (1997 Survey Results)

EIA Has High Customer Satisfaction with Product Quality, with Increasing Numbers of “Dazzled” Customers

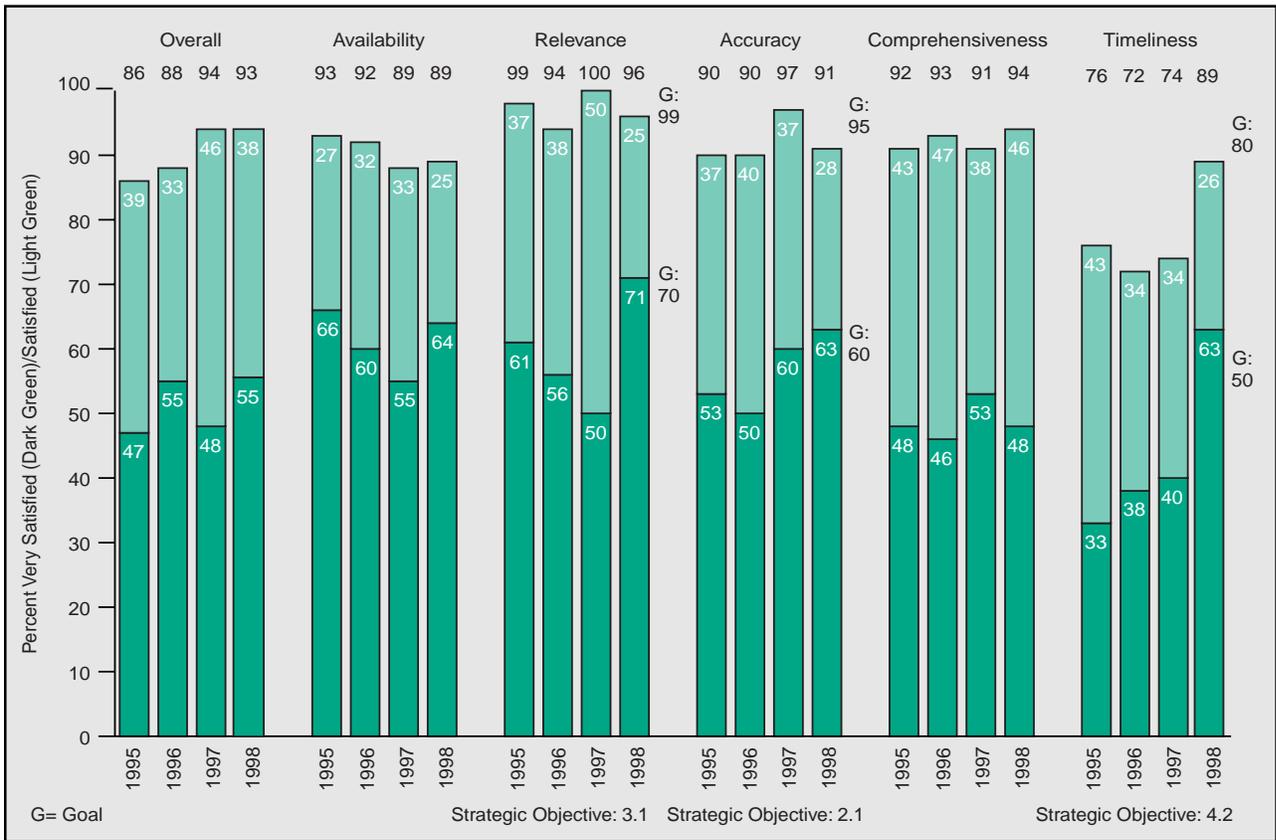


Figure 7.1-4 Satisfaction with Information Quality

Listserv Customers Are the Most Satisfied with Timeliness

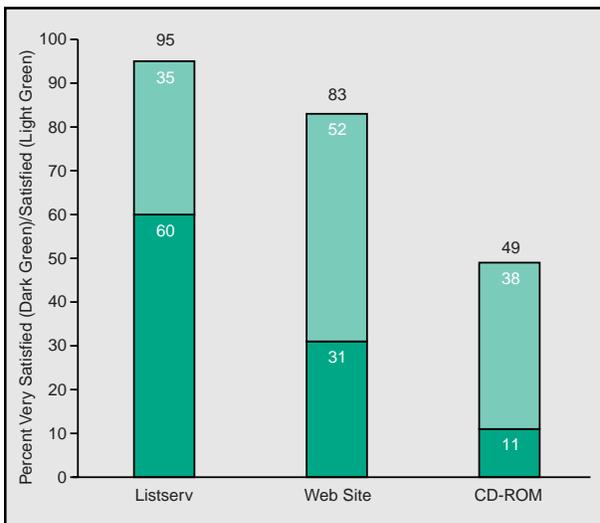


Figure 7.1-5 Satisfaction with Timeliness by Mode of Access

EIA Exceeds 2002 Goal on Timeliness Satisfaction Four Years Early

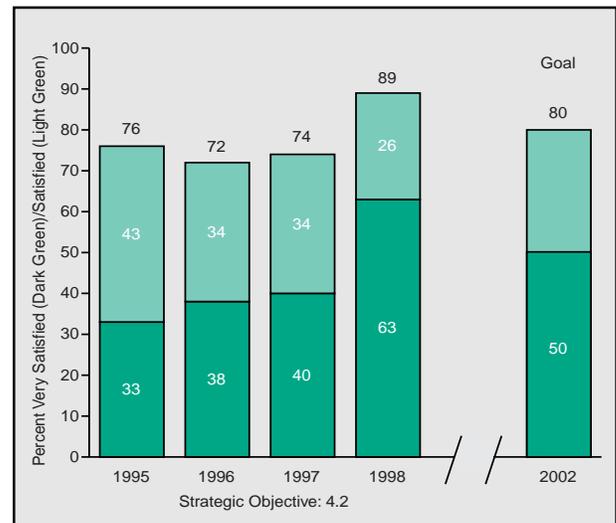


Figure 7.1-6 Satisfaction with Overall Timeliness

***EIA Products “Meet Needs”
for Most Users***

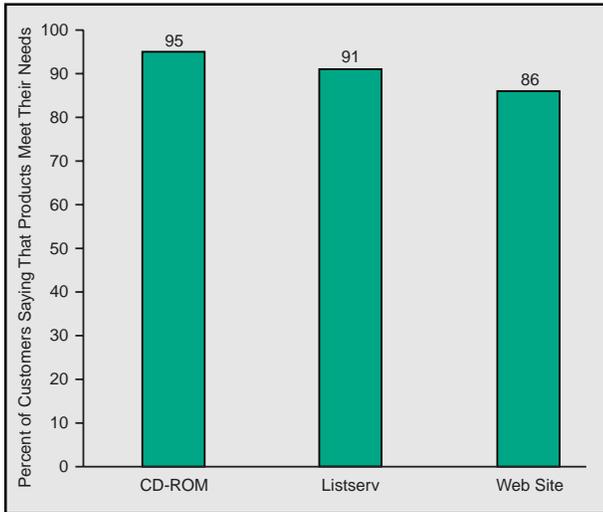


Figure 7.1-7 Satisfaction with “Meets Needs” by Mode of Access

We also ask our customers which quality attributes of our products are most important to them. The results, exemplified by telephone customers (Figure 7.1-9), tell us that accuracy of our products is the most important attribute (26%). We continue to monitor accuracy closely (Section 7.5) through other performance measures, to ensure that accuracy ratings do not go down as ratings on timeliness (19%) go up.

***Telephone Customers Rate Accuracy as
the Most Important Product Attribute***

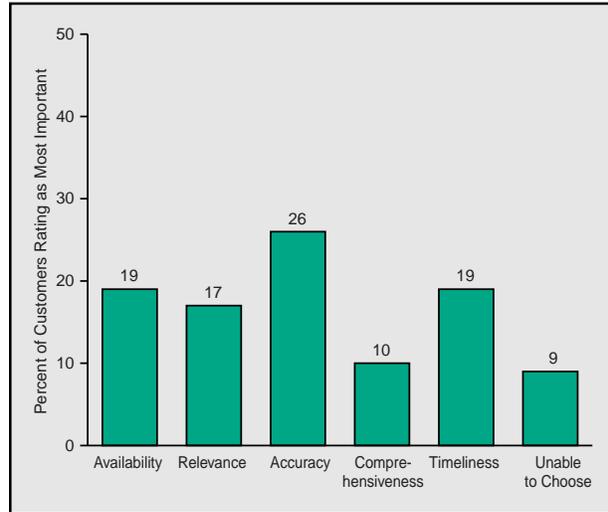


Figure 7.1-9 Most Important Attribute: Telephone

The specific attributes associated with using our CD-ROM, another example, have varying levels of customer satisfaction (Figure 7.1-10). While viewing publications and printing information from the CD-ROM had high ratings (83% and 81% satisfied or very satisfied, respectively), ratings on our search mechanism (49%) and linkage from the CD-ROM directly to our Web site (59%) revealed them as areas needing improvement.

***EIA Products Are
“Easy to Use”***

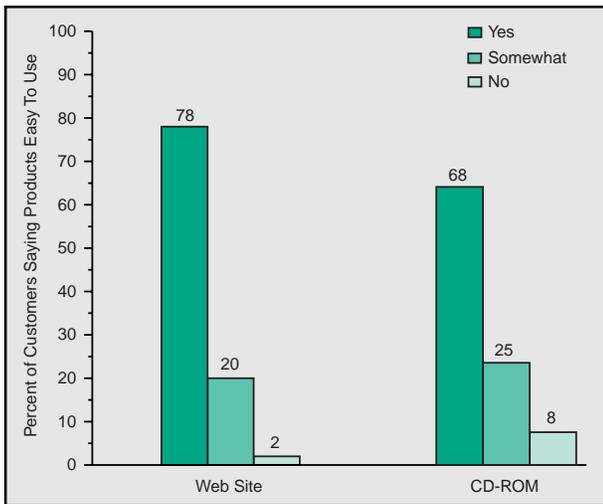


Figure 7.1-8 Satisfaction with “Easy to Use” by Product

***CD-ROM Users Satisfied with Viewing
and Printing Capabilities but Not Search***

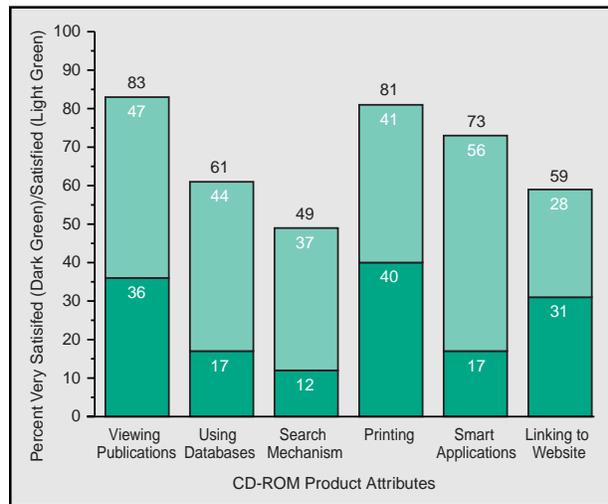


Figure 7.1-10 Satisfaction with Attributes: CD-ROM

We responded by advertising and explaining the CD-ROM link to the Web site and by enhancing its search techniques. We let the customers know we were listening and responding.

Also, we have focused on understanding our customers' continuing preference for paper copy versus electronic access. Three-quarters of NEIC publication subscribers replied that they continue to want paper copy even if the information they needed were available electronically. Telephone customers over the 4-year period showed virtually no drop in their desire for paper (from 66% to 59%). We have responded by continuing to offer paper copy to our customers.

7.2 Overall Financial and Performance Results

Over the past 4 years, EIA has dramatically increased its market share (measured by numbers of customers) through an aggressive program to expand dissemination of our information products both electronically and through the mass media. This increased use of electronic technology (Internet, CD-ROMs, Listserv) for product dissemination has led to an explosive growth in the number of customers for our data and in the breadth of its distribution. Figure 7.2-1 shows the growth in unique monthly users (individuals who contact the site during each month are only counted once, regardless of how many times they visit, which

provides a more accurate count of how many actual customers we have), not including EIA employees. Figures 7.2-2 and 7.2-3 show similar growth in Web site file access and ListServ mailings.

EIA Web Users Continue to Set Usage Records

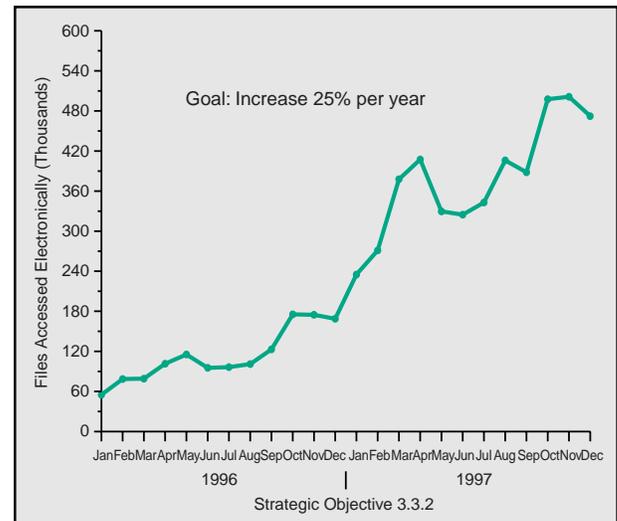


Figure 7.2-2 Files Accessed Electronically

One result of the increase in the electronic availability of our information has been a small reduction in the public contacts with the National Energy Information Center because customers are now able to get what they want directly (Figure 7.2-4).

Explosion in EIA Web Site Customers Over the Last Two Years

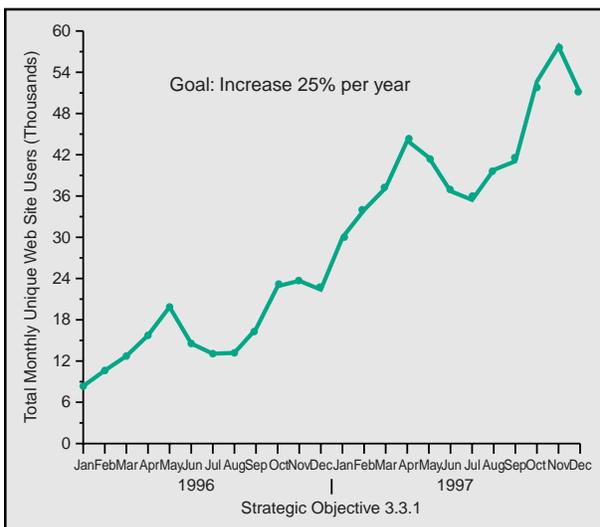


Figure 7.2-1 Web Site Customer History

Listserv (E-mail) Customers Increased 4x Last Year

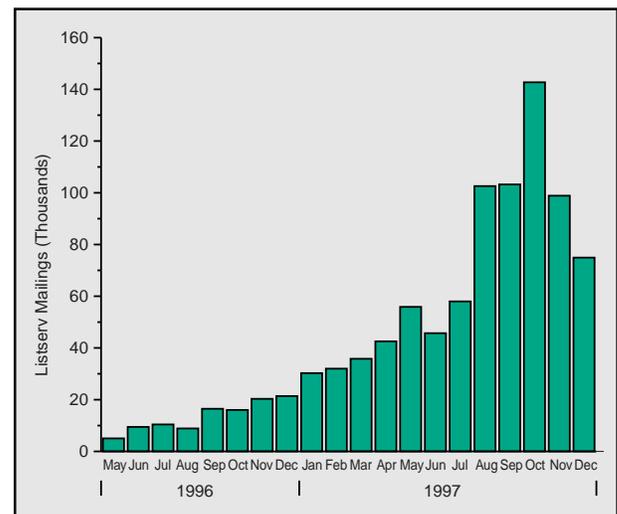


Figure 7.2-3 Listserv Customers

Phone and Walk-In Customers Still Numerous, Though Declining

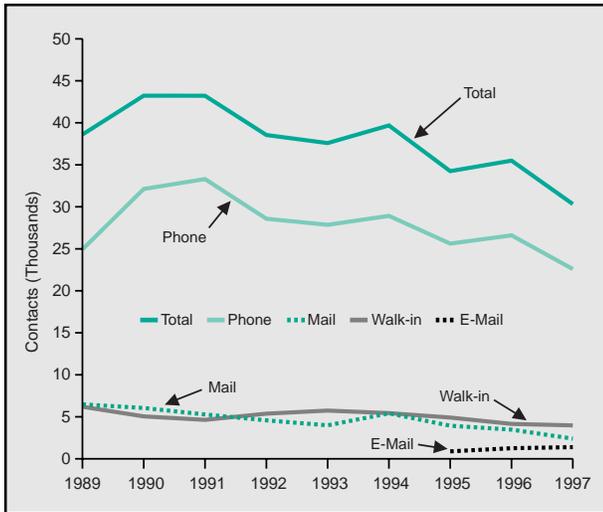


Figure 7.2-4 National Energy Information Center Contacts by Type

Another result of our expanded use of electronic dissemination is a 35% reduction in the number of paper publications (Figure 7.2-5) and a 50% reduction in publication printing costs since 1994, with dollar savings of over \$500,000 per year (Figure 7.2-6).

We have made use of the technological revolution in our work practices within the agency to significantly enhance productivity through the widespread use of electronic tools supporting employee work processes.

EIA Has Reduced the Number of Its Paper Publications

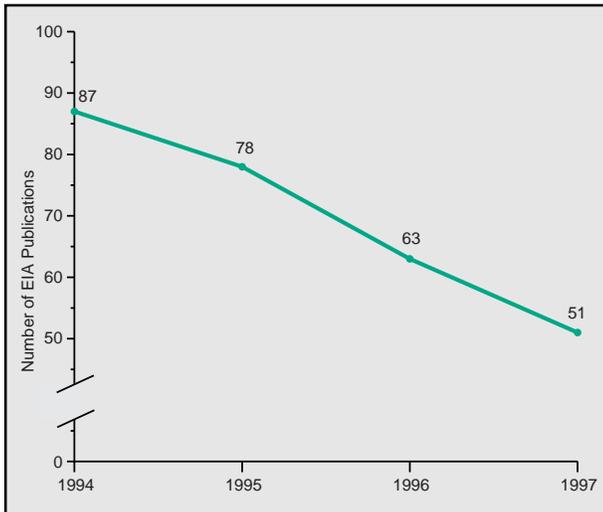


Figure 7.2-5 Number of EIA Publications

EIA Reduces Printing Costs by 50%

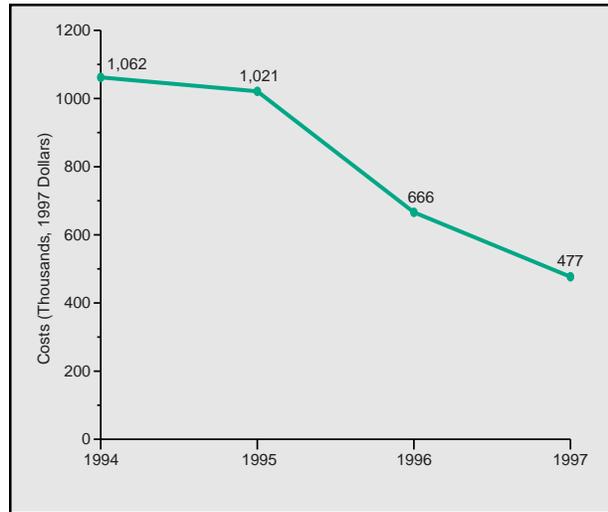


Figure 7.2-6 Printing Costs

For example, virtually every EIA employee has a personal computer at his or her workstation, and is networked throughout the organization for routine e-mail and Intranet use.

EIA has generated major financial savings in other areas, as well. We have reduced our administrative overhead costs (space, telephones, supplies, copying, etc.) by 24% since 1995, achieving \$2.2 million in overhead cost savings (Figure 7.2-7) by tightening up on

EIA's Overhead Costs Are Down by \$2.2M Per Year

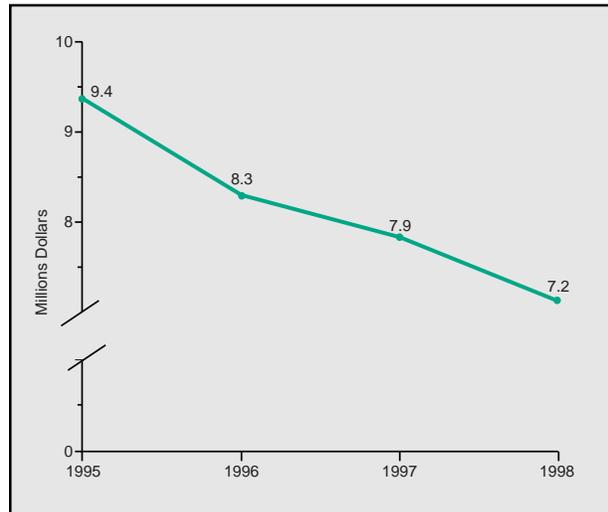


Figure 7.2-7 EIA Overhead Costs History

the management of administrative services, such as space usage. We have managed the consolidation of space to achieve savings far in excess of that corresponding to staff reductions (Figure 7.2-8). We have further improved our cost management with a 44 percent reduction in uncosted obligations between 1994 and 1997, compared to the DOE total of 38 percent.

EIA Takes Up Less Space and Saves Money

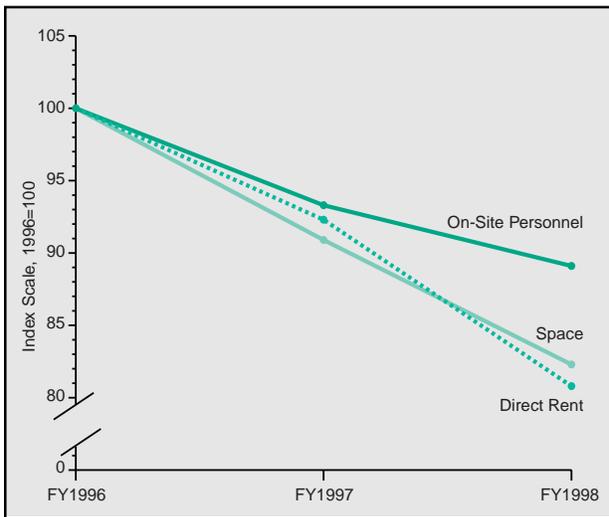


Figure 7.2-8 EIA Rent Costs History

As a result of these efforts, EIA has been able to successfully accommodate reductions in appropriations in each of the last four years. We are the only statistical agency to absorb significant budget reductions over this time period, yet we have one of the smallest budgets among those agencies (Figures 7.2-9 through 7.2-11).

EIA's Budget Is Down 23% from 1994

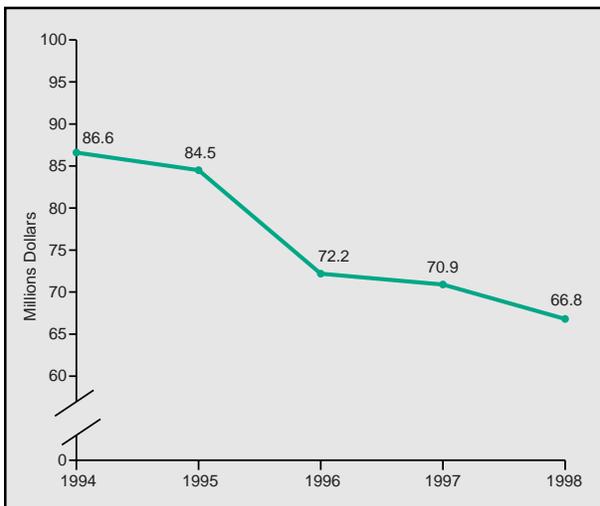


Figure 7.2-9 EIA Budget History

EIA Stands Alone In Achieving Significant Budget Savings

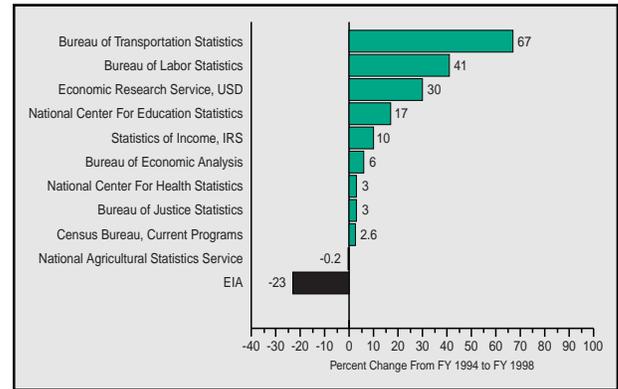


Figure 7.2-10 Changes in Budgets of Statistical Agencies (1994 to 1998)

We have also absorbed significant Federal staff reductions driven by National Performance Review goals and DOE's personnel ceiling targets. The work formerly done by these employees was not shifted to contractors; in fact we absorbed even greater reductions (48% to 23%) in contractor staff levels (Figure 7.2-12).

EIA has taken seriously the National Performance Reviews goal of doing more with less. We have accommodated reduced funding and staffing while enlarging our customer base through the use of technology and mass media, and we expect to continue to improve in the future.

EIA Budget Small Compared to Other Federal Statistical Agencies

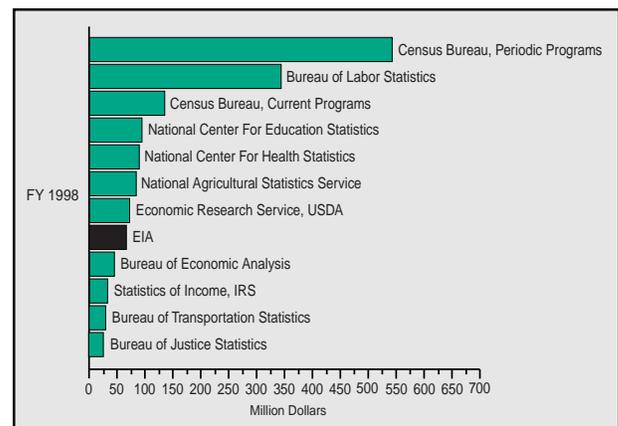


Figure 7.2-11 Budgets for Statistical Agencies

EIA Achieves Major Staff Reductions

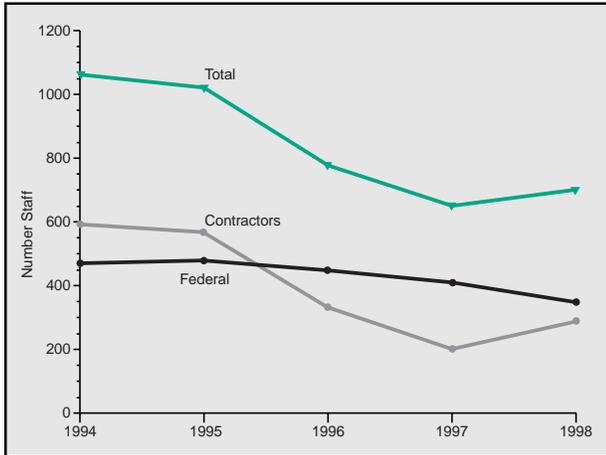


Figure 7.2-12 EIA Workforce History

7.3 Human Resource Results

An Administrator who actively supports modern management principles and DOE's National Performance Review downsizing goals have caused significant human resource results in EIA during the last four years. We have achieved streamlining and downsizing goals while improving the workplace. Without involuntary separations, we have reduced total Federal staffing by 23% (Figure 7.2-12) while expanding our product line and customer base. All of our offices have reorganized to gain efficiencies from work teams in which employees are less supervised and more autonomous. There are now four times as many employees for each supervisor as there were in 1993 (Figure 7.3-1) and most employees are no more than two layers away from the Administrator. Through surveys, our employees indicate that EIA is doing better in workplace issues than the average of eight other Federal statistical agencies.

Our employees said they understand EIA's mission, value EIA's work and don't think their work is boring. This is a vast improvement over the results of our first organizational climate survey in 1994 when many employees did not take pride in their jobs or appreciate the importance of EIA's mission (Figures 7.3-2, 7.3-3 and Box in Section 5).

EIA Exceeds NPR 11:1 Target for Staff to Supervisor Ratio

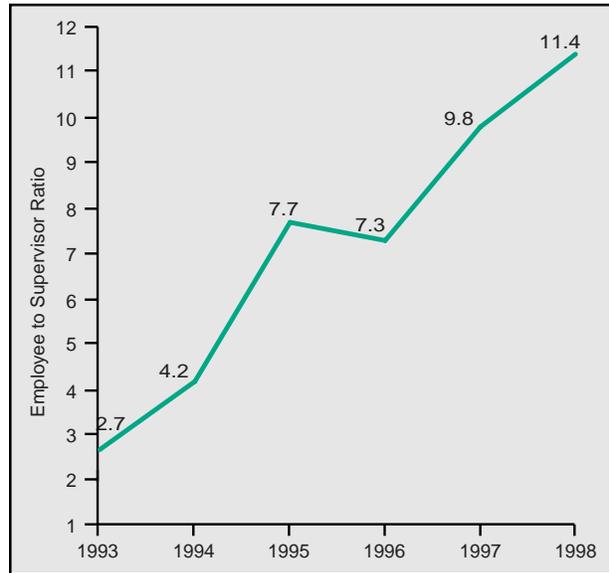


Figure 7.3-1 EIA Supervisory Ratio History

EIA's strong customer satisfaction surveying program (Section 3) and customer feedback and follow-up mechanisms reinforce the principle of customer service with our employees. Our staff feel that our customers are satisfied with EIA's products and services, and, in fact, our employees themselves rate our products very good (Figure 7.3-4).

Employees Know the Role of EIA



Figure 7.3-2 Mission Understanding

***Employees Like to Come to Work
In the Morning***

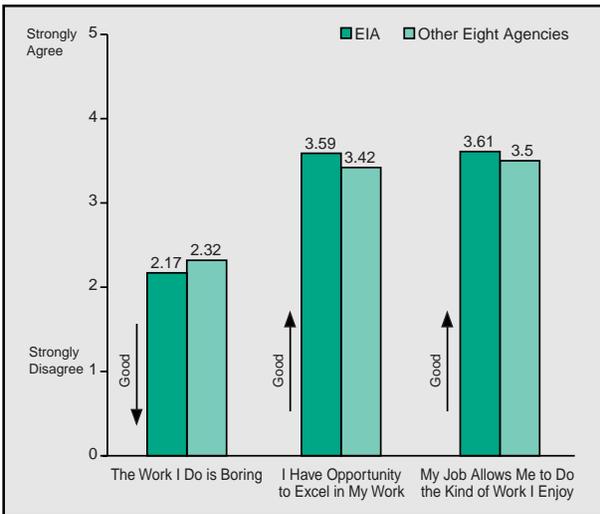


Figure 7.3-3 Job Satisfaction

***Special Act Cash Awards
More Than Double***

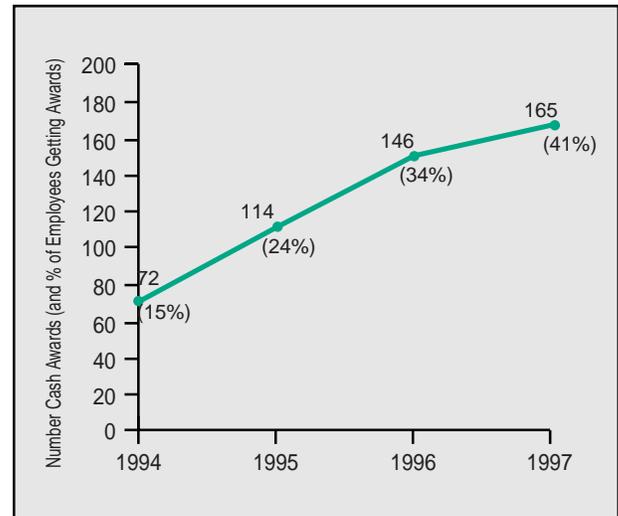


Figure 7.3-5 Special Act Cash Awards

The number of awards to recognize special acts has more than doubled since 1994 and the percentage of staff receiving special awards has increased from 15% to 41% (Figure 7.3-5). EIA has consistently rated its employees well over the years, with over 90% receiving a performance bonus for outstanding or highly successful performance. Cash awards and performance bonuses totaled about \$800,000 in 1997, an increase of 115% from 1994.

Our employees, like employees at other statistical agencies, are generally not satisfied with rewards and recognition, despite significant increases in awards over the last 4 years. Our Quality Council is studying this now. On the other hand, employees are much more satisfied with their level of pay and benefits (Figure 7.3-6).

***Employees Perceptions Mirror
Customer Satisfaction Business Results***

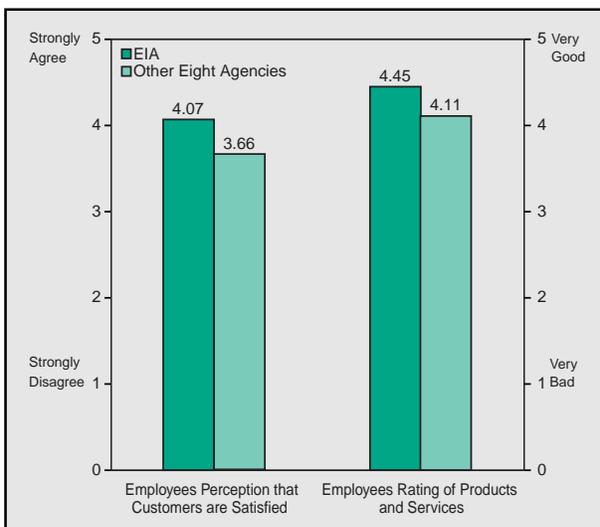


Figure 7.3-4 Employees' Perceptions of Customer Satisfaction and Quality

***EIA Employees Satisfied with Pay and
Benefits But Less Satisfied with Awards***

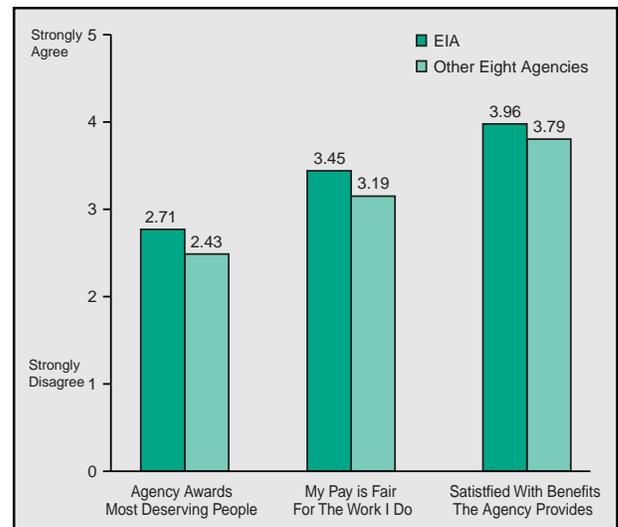


Figure 7.3-6 Satisfaction with Rewards/Pay/Benefits

Our strategic plan objective to support our employees in acquiring training is being measured in four ways (Figure 2-3). Our massive efforts to train all EIA staff in quality activities and behavior change at the start of our improvement efforts are reflected in the dramatic increase in courses taken in 1993, 1994 and 1995 (Figure 7.3-7). Currently EIA employees average about two courses per person per year.

**Quality Courses Spike Up
EIA Training Efforts**

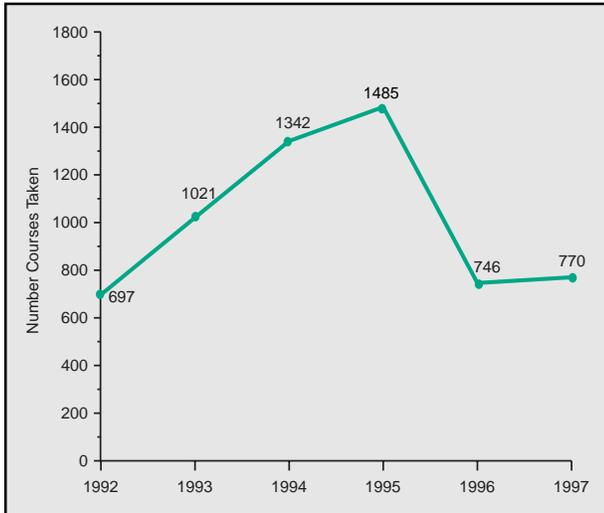


Figure 7.3-7 Training Courses Taken

We are delivering much of our training now through internal seminars—a fourfold increase since 1994 (Figure 7.3-8). About half of the formal courses previously offered have been replaced by seminars and training

The New Wave for Training: Do It Yourself

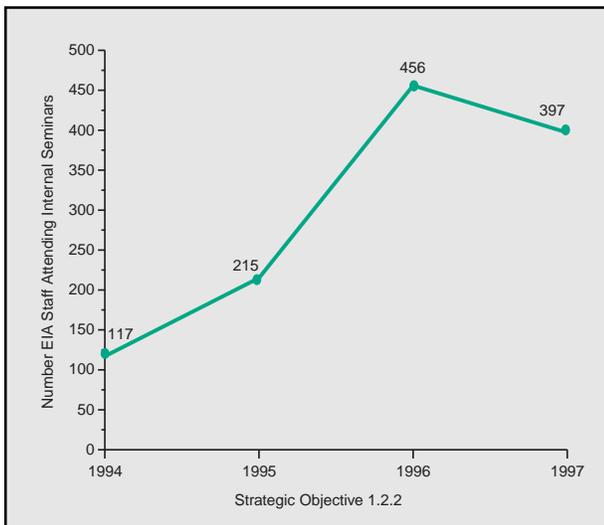


Figure 7.3-8 In-House Seminars

delivered by in-house staff. In support of Strategic Plan Objective 1.2, the percent of staff who are meeting core competency requirements in the areas of computer skills and teamwork has increased more than fourfold from 15% to 65% since 1994.

This greater emphasis on training is paying off. We are currently on schedule to increase our employees' level of satisfaction with getting the training they need (Figure 7.3-9), having already achieved 40% of the increase necessary to meet our 2002 goal.

**EIA On Track to Achieve Employee
Training Satisfaction Goal**

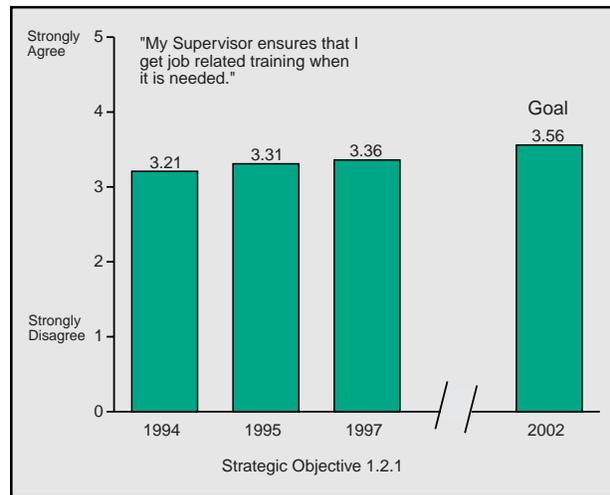


Figure 7.3-9 Satisfaction with Training

EIA employees agree with actions taken by leaders to improve job security in a downsizing environment. EIA leaders have achieved a difficult balance between encouraging people to leave to avoid involuntary reductions-in-force, while taking steps to improve the workplace for those remaining. Our employees appreciate these efforts by their leaders, much of it accomplished by keeping employees informed of changes (Figure 7.3-10).

EIA employees, along with employees at the other eight statistical agencies, agree with factors contributing to a good work climate (Figure 7.3-11). A very proactive on-site employee health facility most likely contributed to the higher score for promoting a healthy lifestyle. Also contributing to a positive work climate, EIA and other statistical agencies scored well on factors addressing diversity, with especially high scores for accommodating people with disabilities, prevent-

**Employees Appreciate EIA's
"No RIF" Policy**

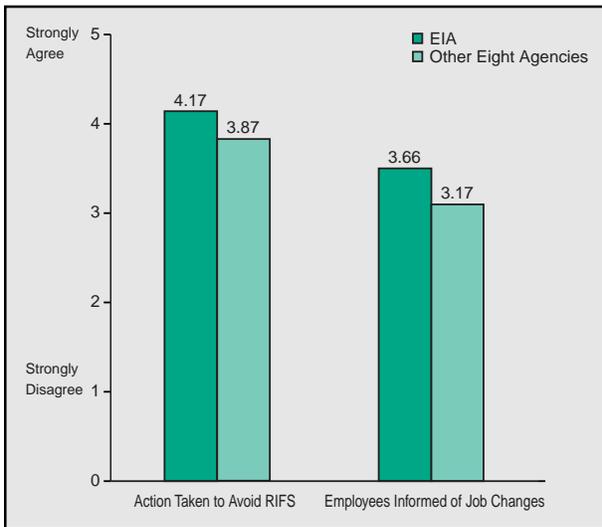


Figure 7.3-10 Job Security

ing sexual harassment, and working well with people of different backgrounds.

Even higher scores were received by EIA and its sister statistical agencies on factors addressing personal needs (Figure 7.3-12). Over 70% of EIA employees take advantage of some form of flexible work schedule (Figure 7.3-13).

The organizational climate survey results presented above demonstrate that EIA employees think EIA is

You Have A Friend In EIA

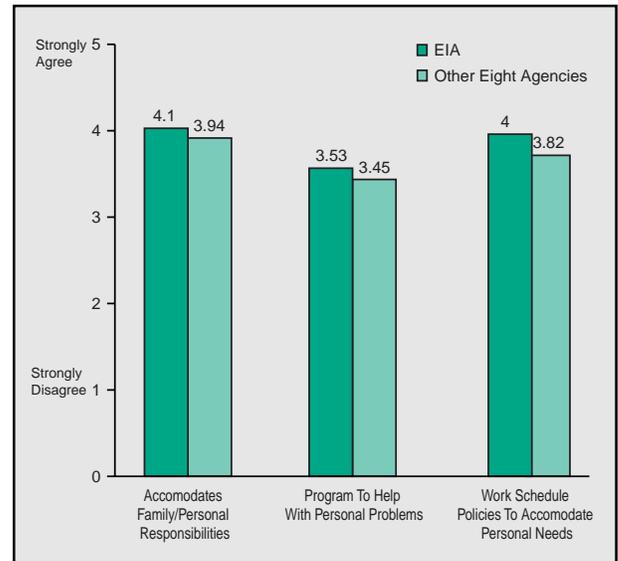


Figure 7.3-12 Personal Needs

a pretty good place to work. These results are very important for EIA because they contribute to a workforce committed to producing the quality products necessary to achieve high levels of usage and customer satisfaction. Retaining these employees is important and our attrition rates are a measure of the bottom line of our human resource results. Our turnover rate of staff not eligible for retirement is low, averaging about 4% over the past three years (Figure 7.3-14). We have met downsizing requirements primarily by offering buyouts. While buyouts were offered to all employees,

In EIA, The Climate Is Good

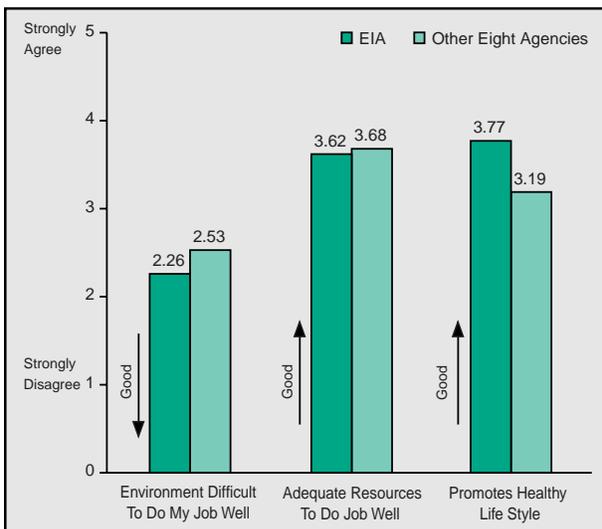


Figure 7.3-11 Work Climate

**Many Employees Enjoy Flexible
Work Schedules**

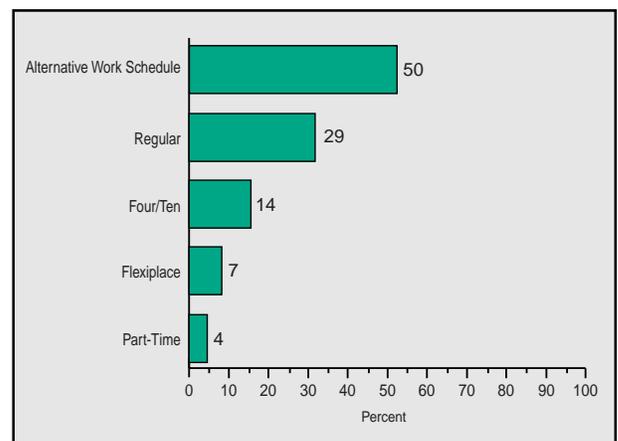


Figure 7.3-13 Flexible Work Schedules

only employees eligible to retire chose to depart. For the most part, our middle aged and younger employees have chosen to remain with EIA.

Normal Attrition Remains Low

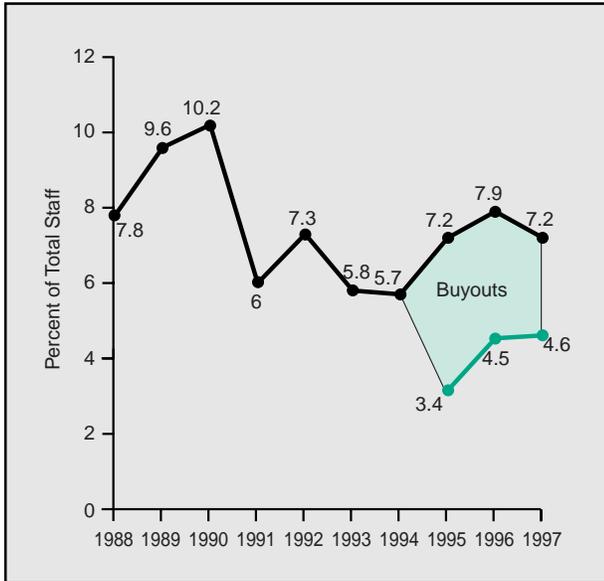


Figure 7.3-14 Attrition Rates

7.4 Supplier and Partner Results

Our primary suppliers are our survey respondents and support services contractors. We keep track of the total burden hours that our surveys place on respondents and make changes to keep it level or dropping. For example, when the Energy Policy Act of 1992 required us to collect new information on greenhouse gases and alternative fuel vehicles, we reduced requirements in ongoing surveys on coal, electric power and petroleum supply, so that our 1997 burden is the same as our 1994 level—562,000 hours.

We have become more demanding of the performance of our support services contractors as our resources have shrunk. From 1992 to 1995, EIA was one of the few DOE organizations to have a formal contractor evaluation in place to give quantitative and qualitative feedback to our contractors. In 1995, a more rigorous set of performance criteria was instituted along with improved training for our technical monitors. As a result, the score for one contractor (out of 11) dropped significantly in 1996, driving the average score down (Figure 7.4-1). The option for that contract was not exercised by EIA, reinforcing the expectation of improved performance by the other contractors. In addition, while the number of contractors

Contractor Evaluations Average Between Good and Excellent

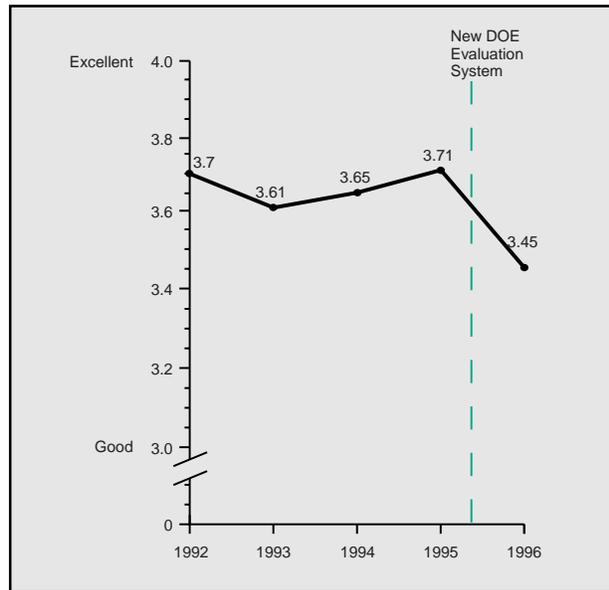


Figure 7.4-1 Contractor Performance Evaluation Average Scores

with a better evaluation than the previous year dropped from four to one, the percentage of all contractors with the same or better evaluation remained in the 70-75% range (Figure 7.4-2). To meet the goals in our strategic plan, we will continue to expect excellent performance from our contractors.

Rigorous Criteria Show Effect on Contract Evaluations Over Time

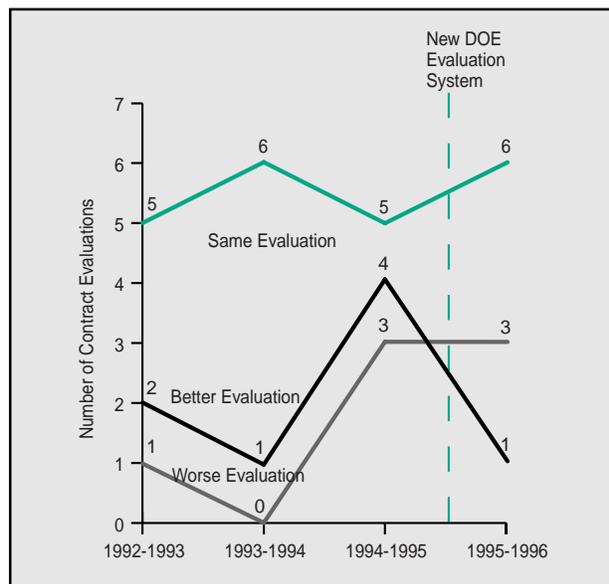


Figure 7.4-2 Contract Evaluation Changes

7.5 Organization-Specific Results

EIA's major output is energy information whose purpose (outcome) is to promote sound policymaking, efficient markets and public understanding. To get these results, our information products must be accurate (Figures 7.5-2-7.5-9), timely (Figures 7.5-10-7.5.11), relevant (Figure 7.5-12), and accessible (Figure 7.5-1). We approximate overall achievement of our mission by measuring product usage and customer satisfaction levels. We track usage levels in many ways (e.g., number of publications mailed out; number of Web site file downloads; unique customers and the products they use; number of Listserv recipients; number of telephone inquiries; and number of media citations.) We measure customer satisfaction through surveys and focus groups. All of the results indicate two basic trends: both our customer satisfaction ratings and our usage levels are high and getting higher (Sections 7.1 and 7.2). This has occurred during a period in which our costs have dropped significantly (Figure 7.5-1). For example, the CNEAF Coal Intact Process Improvement Team streamlined the *Quarterly Coal Report* production processes, reducing staff hours to produce the report from 200 hours per quarter to 131, including reducing one four-hour process to just two minutes saving \$42,000 per year. The Uranium Data Team, which produces the *Uranium Industry Annual*, improved timeliness by 40 percent with no loss in quality. After surveying its customers, the team

EIA Is Doing More with Less

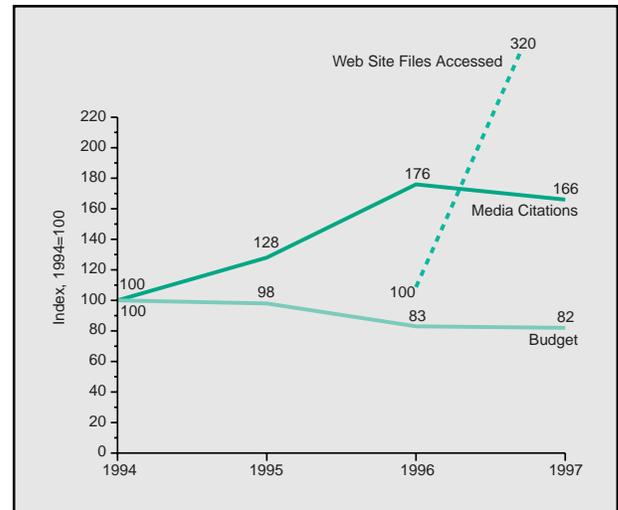


Figure 7.5-1 EIA Budget, Web Site Accesses, Media Citations

that produces the *Weekly Petroleum Status Report* is saving \$40,000 per year by eliminating first class mailings; it learned that customers concerned about timeliness get the information electronically. The release schedule for the *Annual Energy Outlook* was moved up two months (from January to November) while actually improving quality. The cycle time for distributing the survey "Annual Report of Public Electric Utilities" was reduced, resulting in savings of 320 contractor hours (about \$12,000 per year).

Response Rates Are High for EIA Surveys

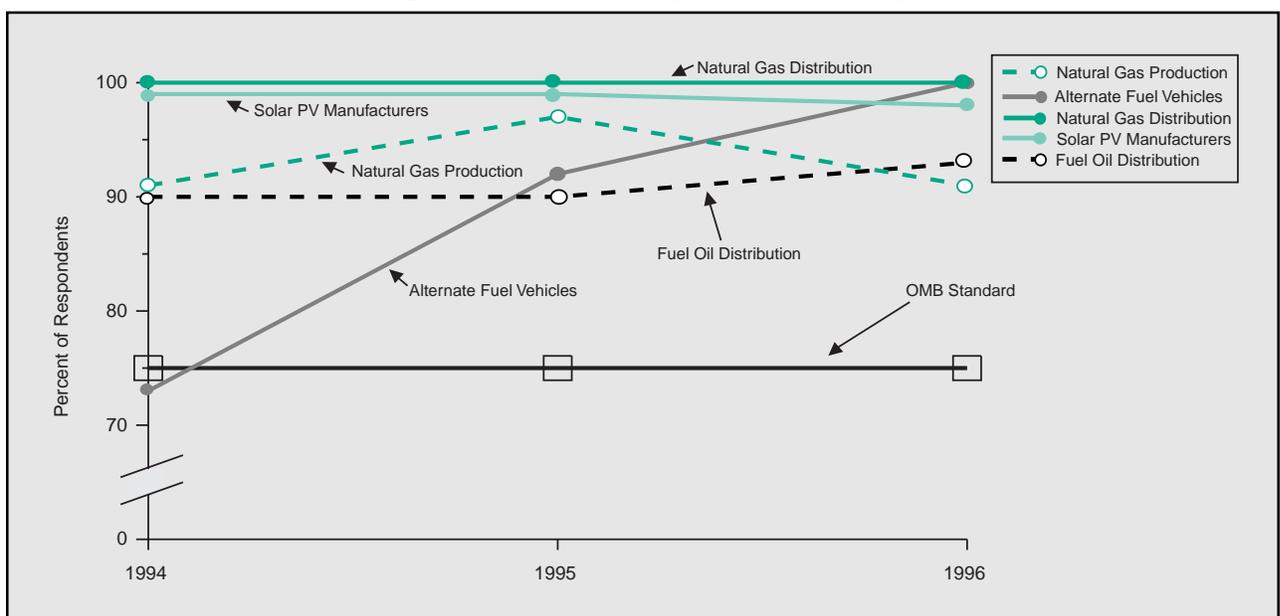


Figure 7.5-2 Response Rates for Annual Surveys

We have continued to provide accurate and timely energy information to our customers. For survey respondents, the measures that we watch most carefully are response rates and revision errors of individual surveys. The response rates to our surveys continue to be very high (Figure 7.5-2). High response rates are essential to the accuracy of the resultant information. In the last three years only one of EIA's 83 surveys has ever fallen below the OMB standard of 75% response rate. It occurred in 1995 when a new survey was fielded, but the response rate for that survey was 92% in 1996 and 100% in 1997. In fact, over the last few years, we have improved the accuracy of many of our data products, as measured by percent revision error. For survey data, percent revision error is the percent difference between first published data values (what customers see first) and final published values (which reflect corrections made by us and our data suppliers.) For example, Figures 7.5-3, 4, 5, 6 and 7 contain accuracy results for individual surveys in petroleum marketing, petroleum supply, coal, natural gas and electricity. (The latest accuracy results are for 1995 and 1996 because final reconciliation of data revisions occurs 12-21 months after the close of the reporting year.)

The accuracy of our petroleum marketing and supply data are well within acceptable limits. These data series are of particular importance in educating the public about the workings of petroleum and petroleum product prices. Variations in motor gasoline and heat-

ing oil prices often raise questions about pricing mechanisms and industry collusion. Our data can help show the relationship between product supply and prices, and help consumers understand the economics of the petroleum market.

Coal data are normally well within acceptable limits; however, the EIA-5 data show significant variations because of the small size of the universe. The survey is of all coke plants in the United States, a total of less than 30. When any one respondent submits a correction to previously submitted data, as occurred in the third quarter of 1996, a sizable change is magnified in the revision error rate.

Our natural gas data have suffered from industry restructuring. This restructuring has led to the entry and departure of nontraditional companies in the market, significant corporate reorganization and consolidation, and an increased emphasis on increasing shareholder value. These factors have influenced the companies' record-keeping operations and their ability to assemble information required for EIA's surveys. Also, it has become much harder to know of companies which should participate in our surveys. Redesign of the surveys to address these difficulties is underway. In addition, downsizing and retrenchment within State governments has impacted the states' ability to provide information on which to build engineering and analytic estimates of natural gas production

Petroleum Marketing Data More Accurate

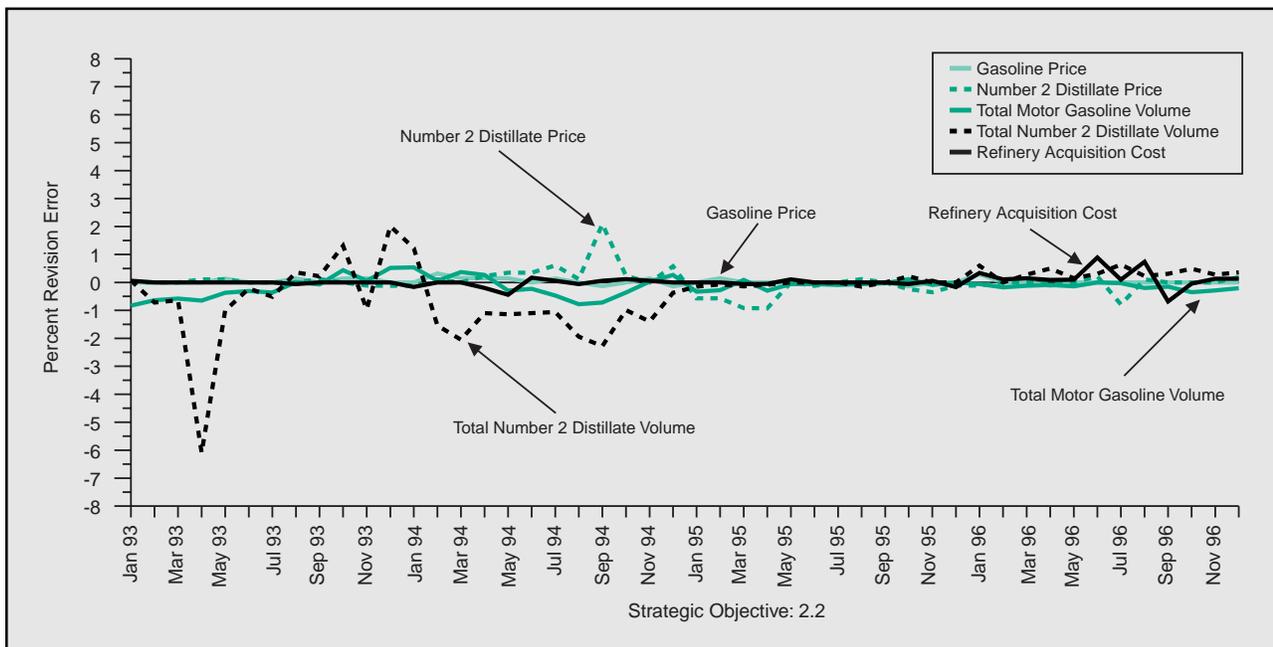


Figure 7.5-3 Accuracy — Petroleum Marketing Data

Petroleum Supply Data More Accurate

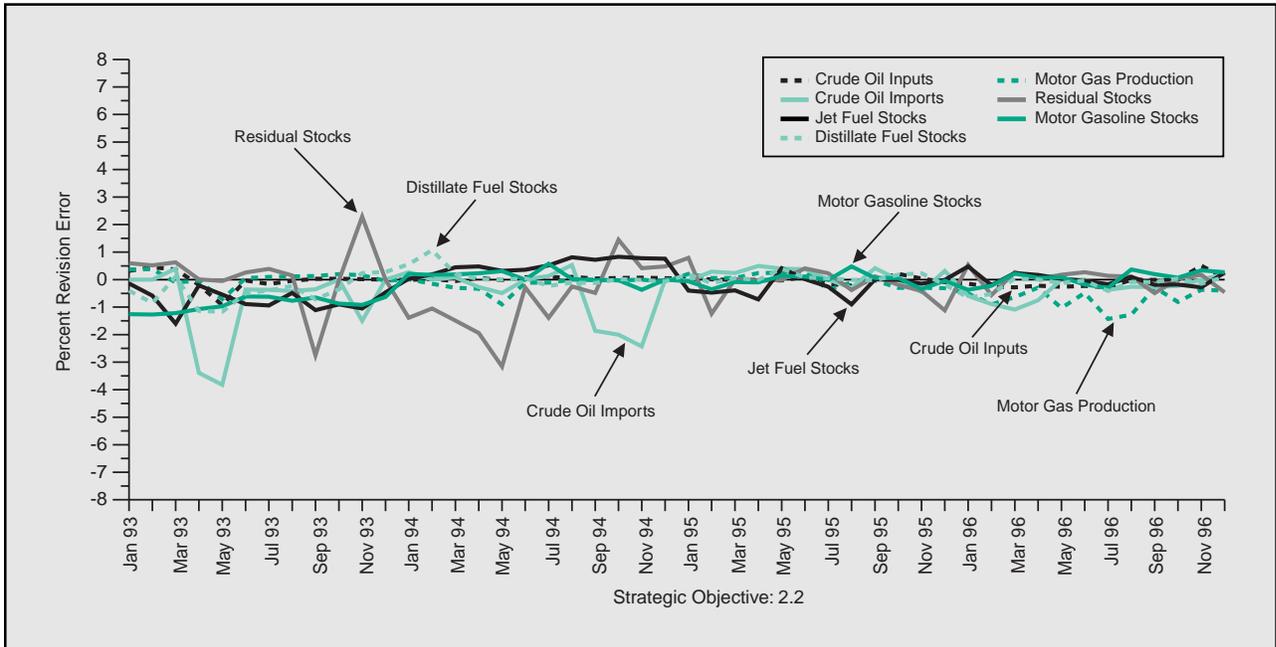


Figure 7.5-4 Accuracy — Petroleum Supply Data

volumes and wellhead prices. Alternative means of preparing these estimates are being explored.

We recognize that we face problems of a similar nature in the electric power arena. Deregulation is underway in some States, and legislation at the national level is being considered. The effect on our data accu-

racy has so far been minimal (Figure 7.5-7). Although the spike for oil consumption appears large in Figure 7.5-7, it is not significant since oil is used for only 6 percent of net electricity generation in the United States.

We also measure the accuracy of our forecasts, although there is more uncertainty associated with forecasts.

Accuracy of Most Coal Data High

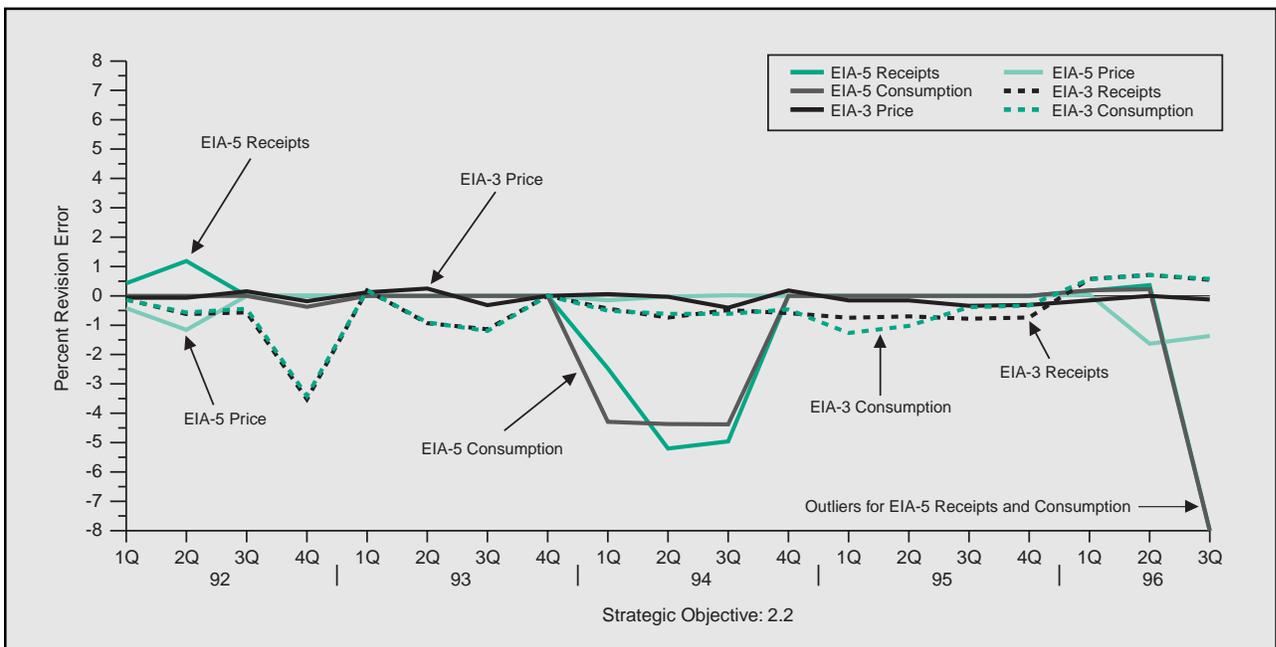


Figure 7.5-5 Accuracy — Coal Data

Restructuring Affects Natural Gas Data Accuracy

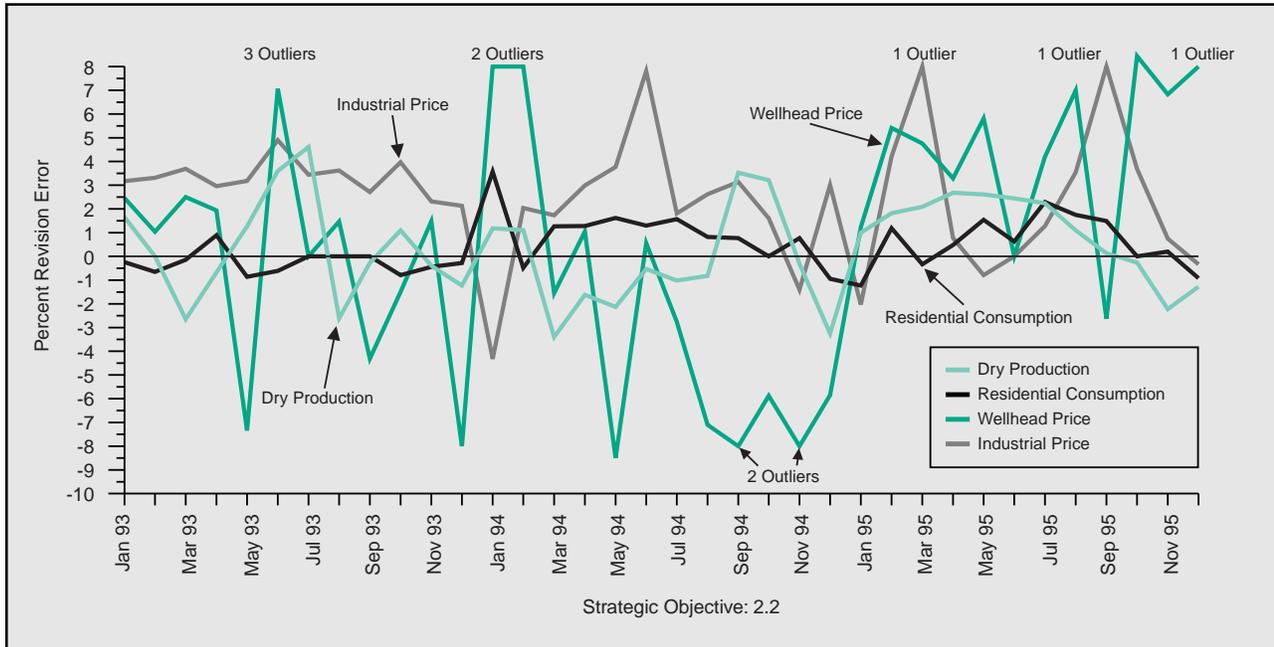


Figure 7.5-6 Accuracy — Natural Gas Data

Figure 7.5-8 shows percent revision error for four petroleum price categories published in the *Short-Term Energy Outlook (STEO)*. (For forecasts, revision error is the percent difference between predicted and actual values.) EIA benchmarks its forecasts to the forecasts of other organizations and makes comparisons of prior year forecasts to what actually happened (Figure 7.5-9).

We are improving the timeliness of our information with increased use of electronic dissemination from our Web site and a Listserv e-mail distribution (Figures 7.2.1 - 7.2-3), as well as by working to release our printed publications earlier (Figures 7.5-10 and 7.5-11.)

EIA has dramatically increased the distribution of its

Restructuring Affects Electric Power Data Accuracy

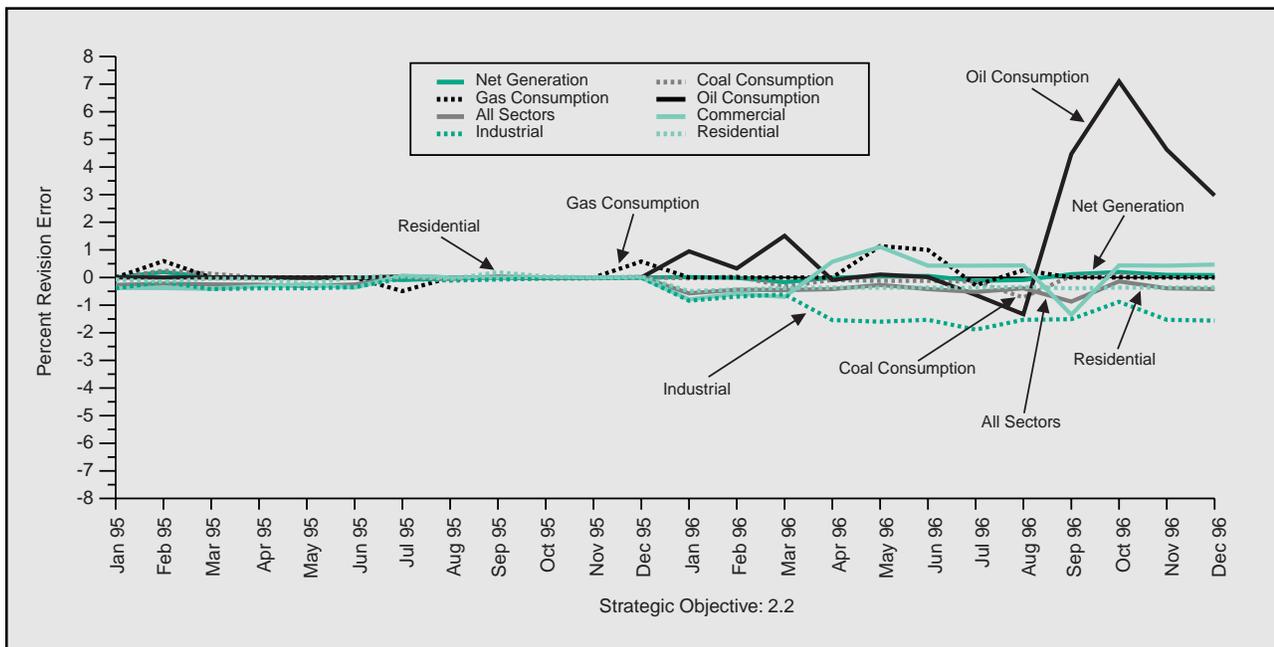


Figure 7.5-7 Accuracy — Electric Power Data

Short-Term Price Projections Fluctuate

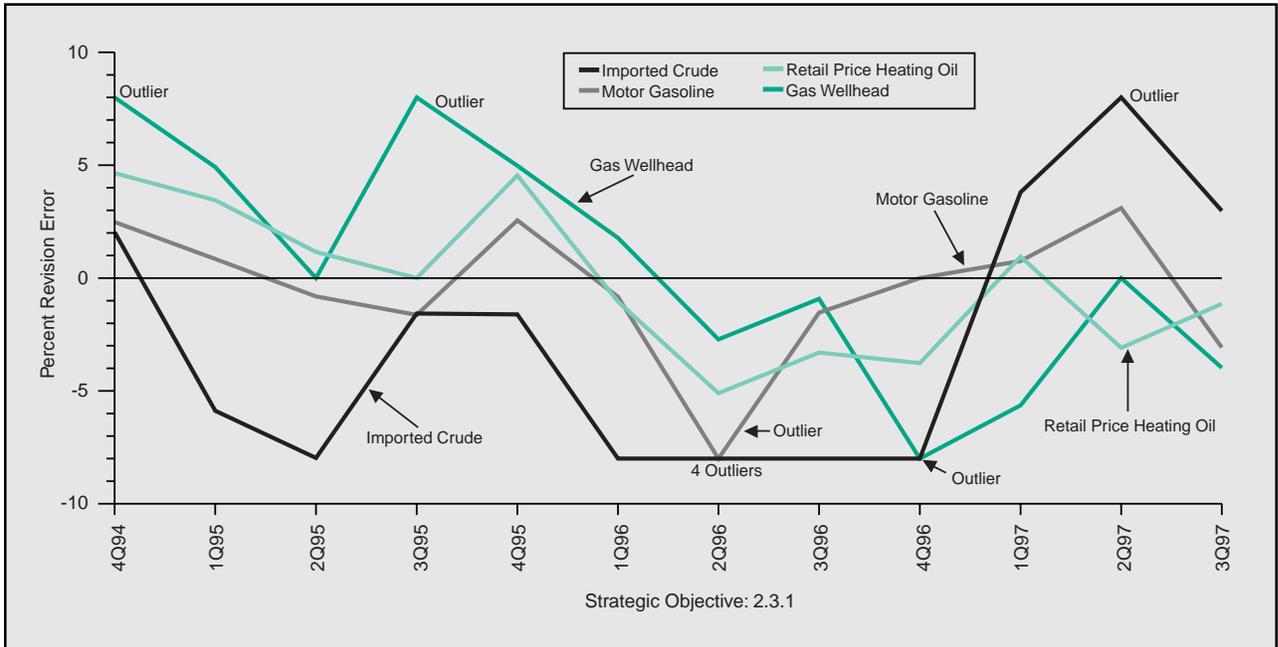


Figure 7.5-8 STEO Petroleum Prices Forecast Accuracy

information by becoming the dependable source of objective energy information for the media, enabling our product to be spread widely with minimal cost to the agency (Figure 7.5-12). Major media outlets include the *New York Times*, *Washington Post*, *USA Today*, *Los Angeles Times*, and *Wall Street Journal*, which have

a combined daily circulation of over 6 million. In addition, the *Washington Post*, *USA Today*, and Cable News Network (CNN) have, in the past, included hot links to the EIA Web site as supplements to their online articles. Reporters often seek background information from EIA, even if there is no attribution

There Are No Facts About the Future

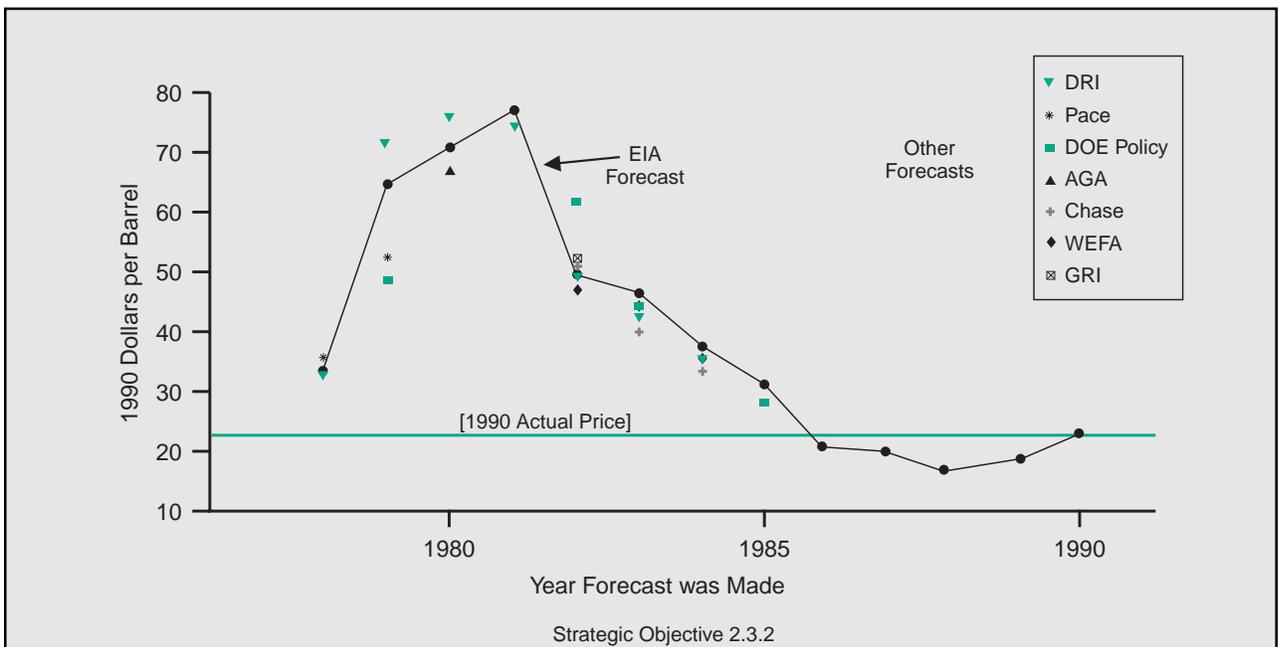


Figure 7.5-9 Mid-term World Oil Price Forecasts for 1990 (1990 Dollars per Barrel)

**Timeliness of Printed Annuals
Improving**

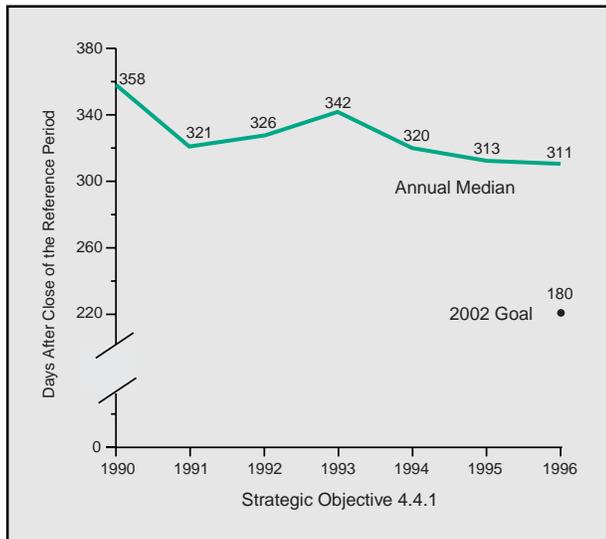


Figure 7.5-10 Date of Issue of Paper Products Following Close of Reporting Period: Annual Publications

in the final article. As noted earlier in this section, public concern about price volatility in gasoline markets led to the increases in media citations shown in Figure 7.5-12 in the spring of 1996.

Perhaps the area most difficult to quantify is the impact of our data on the policy development process.

**Timeliness of Printed Quarterlies
and Monthlies Improving**

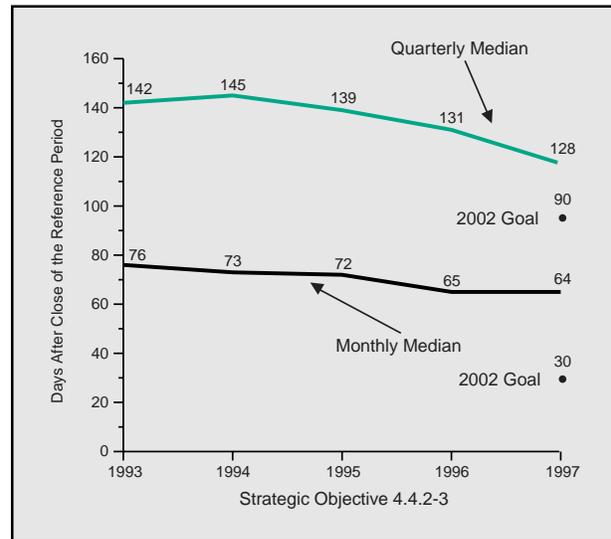


Figure 7.5-11 Date of Issue of Paper Products Following Close of Reporting Period: Quarterly and Monthly Publications

We do have substantial evidence that our advice is sought prior to legislative action. Most recently, as the restructuring of the electric power industry has moved to the forefront of the energy debate, our briefing on how the industry works has been presented to staff members of more than 50 U.S. Senators. The Administrator was requested to testify before the Energy and

EIA Often Cited in the Media

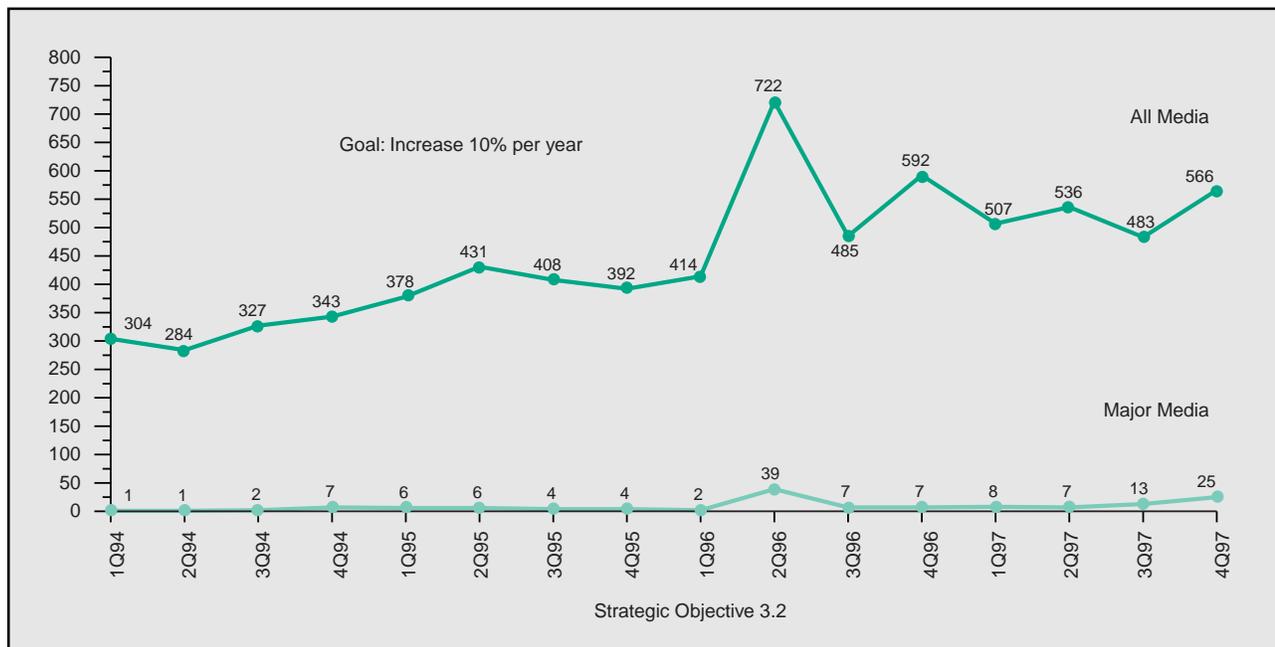


Figure 7.5-12 Citations of EIA Information in Media

Power Subcommittee of the House of Representatives on the subject. Our brochure "The Restructuring of the Electric Power Industry—A Capsule of Issues and Events," which clarifies the complex issues involved, is one of the most popular files on our Web site, and we have distributed over 2000 printed copies.

We have also been requested by the Chairman and ranking minority member of the House Science Committee to prepare a study on the cost and economic impact of proposed reductions in greenhouse gas emis-

sions, in accordance with the recently completed Kyoto agreement. We believe that the inclusion of our policy-neutral input on these major issues will help result in informed debate and sound policy decisions.

In summary, in the last four years EIA has increased its customer base and their satisfaction levels, its product quality and timeliness, while undergoing serious budget reductions. Our goal is to maintain and improve our results between now and 2002.

Our Web Site

Short-Term Energy Outlook
U. S. Energy and World Oil Forecasts Through 1999
EIA Energy Information Administration

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Coal
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The example shown is the home page for the *Short-Term Energy Outlook*, allowing users to access all parts of the document.

Our InfoCard

Energy INFOcard

United States (1996)

Production (crude oil, NGL, refined products)(MMbbl)	8.3
Net imports (crude oil & refined products)(MMbbl)	8.5
Other sources (refinery gain, alcohol, other)(MMbbl)	1.5
Consumption (20% of world total) (MMbbl)	18.3
Dependence on foreign oil (net imports/consumption)	46%
Recoverable resources (yrs of current production)	72
Share of US oil consumption for transportation	66%
Real world oil price (1996\$/bbl) 1961 (peak):\$62 1996:\$21	

PETROLEUM

Production (dry gas) (2nd in world to Russia) (bcf)	18.8
Consumption (28% of world total) (bcf)	22.0
Consumers: Industrial (incl. home ptas, electric & gas)	49%
residential 24%, commercial 19%, electric utilities 12%	
Share of consumption from Canadian imports	13%
Recoverable resources (yrs of current production)	68
Real world price (1996\$/Mcf) \$2.17 vs. \$3.88 in 1983	

NATURAL GAS

Production (2nd in world after China) (billion tons)	1.08
Share produced from surface mining	47%
Exports as percent of production	9%
Electricity generation share of consumption	8%
Productivity: 5.7 tonnes per hour vs 1.8 U.S.-hr in 1970	
Recoverable reserves (yrs of current production)	250+

COAL

Utility net generation (billion kilowatt-hours)	3.08
Coal 56%, Nuclear 22%, Gas 9%, Hydro 11%, Oil 2%	
Nonutility net generation (billion kilowatt-hours)	403
Gas 53%, Coal 19%, Wood & Waste 15%, Oil 8%	
Hydro 4%, Geothermal 3%, Wind 1%, Other 7%	
Sales: residential 35%, commercial 29%, industrial 33%	
Emissions (million tons): CO ₂ -2553, SO ₂ -13, NO _x -9	
Coal fired: 77% 94% 82%	
Oil & gas fired: 18% 8% 16%	
Biomass fired: 5% 1% 1%	

ELECTRICITY

Units: MMbbl = million barrels per day, Mcf = thousand cubic feet
 \$/Mcf = million cubic feet, kWh = kilowatt-hour
 Most recent annual data available as of 12/15/97
 Source: Energy Information Administration
 U.S. Department of Energy

World (1996)

NUCLEAR

Number of operable generating units	110
Capacity (million kilowatts)	101
Capacity Factor	76% in 1996 vs. 57% in 1986

RENEWABLE ENERGY

Consumption (quadrillion Btu)	7.4
Hydropower 53%, Wood 30%, Waste 7%	
Other (ethanol, geothermal, solar, wind) 7%	
Renewable share of total energy consumption	8%

TOTAL ENERGY and EFFICIENCY OF USE

Total Primary Energy Production (quadrillion Btu)	73
Total Consumption (quadrillion Btu)	94
Decline in Energy/GDP ratio since 1973	1.6%/yr
Annual consumption per capita (million Btu)	354
Heated by: Gas 53%, Elect. 26, Oil 12, Propane 5, Wood 3%	
H. vehicle miles traveled (trillion): 1983(15.1) 1994(19.8)	
Total stock of cars and other vehicles in household use	97

World (1996)

Primary energy production (quadrillion Btu)	375
Coal 25%, Gas 22%, Oil 39%, Hydro 7%, Nuclear 6%	
(Disputed renewables, primarily firewood, are not included)	
World energy consumption (quadrillion Btu)	375
US 25%, China 10%, Russia 7, Japan 6, Germany 4%	
Energy-related carbon emissions:	
OECD (19% of world population in 1996)	59%
Oil production (million bbl/day)	54
10% OPEC 42%, Persian Gulf 27%	
share of electricity (selected countries):	
W. Europe 20%, China 8, Japan 7, Russia 6%	
rd nuclear electricity generation (5 largest):	
nce 16%, Japan 12, Germany 7, Russia 5%	
price (regular \$/gal) (selected countries):	
Japan 3.85, Australia 2.12, US 1.23	
oil: 1.80 million; 1 Mcf gas: 1.03 million;	
wood: 1 cent dry hardwood 21.5 million	
please contact the National Energy	
401-605-8800 or infoctr@eia.doe.gov	
www.eia.doe.gov	

This free quick-reference card provides the most recent annual domestic and international data available.

GLOSSARY

AEO: Annual Energy Outlook

AOP: Annual Operating Plan

ATS: Automated Tracking System

BLS: Bureau of Labor Statistics

BR: Business reengineering

CCAPS: Common Collection and Processing System

CNEAF: Office of Coal, Nuclear, Electric and Alternate Fuels

DOE: Department of Energy

E-mail: Electronic Mail

EIA Today: EIA's Monthly Newsletter

EIA: Energy Information Administration

EMEU: Office of Energy Markets and End Use

EPUB: Electronic Publication System

FTP: File Transfer Protocol

GPRA: Government Performance and Results Act

GS: General Schedule

HR: Office of Human Resources and Administration

InfoCard: EIA product that contains summary energy information

ITG: Information Technology Group

JAD: Joint Application Design

Listserv: Electronic mailing list

NCES: National Center for Education Statistics

NEIC: National Energy Information Center

NEMS: National Energy Modeling System

NTEU: National Treasury Employees Union

O&G: Office of Oil and Gas

OIAF: Office of Integrated Analysis and Forecasting

OMB: Office of Management and Budget

ORM: Office of Resource Management

Quick Guide: Card that lists EIA phone & fax numbers

SMG: Statistics and Methods Group

Web Site: World Wide Web Site

WEFA: Wharton Energy Forecasting Associates

WESTAT: A consulting firm

