# EIA Publications Directory 1997

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**Energy Information Administration** 

National Energy Information Center U.S. Department of Energy Washington, DC 20585

This report was prepared by the Energy Information Administration, the independent statistical and analytical agency within the Department of Energy. The information contained herein should not be construed as advocating or reflecting any policy position of the Department of Energy or any other organization.

#### **Preface**

Enacted in 1977, the Department of Energy (DOE) Organization Act established the Energy Information Administration (EIA) as the Department's independent statistical and analytical agency, with a mandate to collect and publish data and prepare analyses on energy production, consumption, prices, resources, and projections of energy supply and demand. This edition of the *EIA Publications Directory* contains titles and abstracts of periodicals and one-time reports produced by EIA from January through December 1997.

The body of the *Directory* contains citations and abstracts arranged by broad subject categories; metadata, coal, oil and gas, nuclear, electricity, renewable and energy/alternative fuels, multifuel, end-use consumption, models, and forecasts.

Questions concerning publications in the *Directory* should be directed to the National Energy Information Center (NEIC) at (202) 586-8800.

Comments on the *Directory* itself should be directed to Karen Freedman at (202) 586-9254.

# **How to Use the EIA Publications Directory**

**Availability.** This directory contains abstracts and brief ordering information for individual issues of semiannual, annual, biennial, and triennial periodicals, analysis reports, Service Reports, and model documentation. (Service Reports are prepared by EIA upon special request and may be based on assumptions specified by the requestor.) Most publications are available from the National Technical Information Service (NTIS), U.S. Department of Commerce. Contact NTIS at (703) 605-6000 for all specific ordering information.

Periodicals produced more frequently than semiannually -- quarterlies, monthlies, and weeklies -- are listed as single titles. Individual issues are not listed, and no ordering information is given. If the periodical is current, it is available by subscription from the U.S. Government Printing Office (GPO). Contact GPO at (202) 512-1800.

Some recent individual issues are also available from GPO. Most recent issues of current and discontinued periodicals are available from NTIS. For ordering information regarding these periodicals, call NTIS directly. Annual and one-time reports which are available from GPO are indicated with a GPO stock number and price.

**Abstracts.** Publication abstracts are arranged by abstract number within subject categories as listed in the table of contents.

**Subject Index.** The subject index is arranged alphabetically by specific energy terminology. The numbers that follow each entry refer the reader to the related publication abstract.

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#### **Abstracts**

#### MetaData

#### 1 Annual Report to Congress 1996

Section 205 of the Department of Energy Organization Act of 1977 established the Energy Information Administration (EIA). One of the mandates in this legislation is that EIA prepare for Congress an annual report summarizing both activities and information collected and published. EIA's major 1996 accomplishments are profiled in the body of this edition of the Annual Report to Congress. Appendix A contains abstracts of significant reports issued by EIA in 1996, and a chart of all titles and a list of all feature articles published during the year. Appendix B lists contact information for EIA subject matter specialists. Appendix C lists the major laws which form the basis of EIA's legislative mandate.

DOE/EIA-0173(96) Annual Jul 1997 52 pp.

# 2 EIA Information Directory 1996

The National Energy Information Center (NEIC), as part of its mission, provides energy information and referral assistance to Federal, State, and local governments, the academic community, business and industrial organizations, and the general public. The two principal functions related to this task are: 1) operating a general access telephone line, and 2) responding to energy-related correspondence addressed to the Energy Information Administration (EIA). The Energy Information Directory was developed to assist the NEIC staff, in directing inquiries to the proper offices within DOE, other Federal agencies, or energy-related trade associations.

DOE/EIA-0205(96) Annual Jan 1997 104 pp.

#### 3 EIA Information Directory 1997

The National Energy Information Center (NEIC), as part of its mission, provides energy information and referral assistance to Federal, State, and local governments, the academic community, business and industrial organizations, and the general public. The two principal functions related to this task are: 1) operating a general access telephone line, and 2) responding to energy-related correspondence addressed to the Energy Information Administration (EIA). The *Energy Information Directory* was developed to assist the NEIC staff, in directing inquiries to the proper offices within DOE, other Federal agencies, or energy-related trade associations.

DOE/EIA-0205(97) Annual Sep 1997 116 pp.

#### 4 EIA New Releases

The latest available EIA publications and upcoming reports are listed and described in this quarterly publication. Availability and ordering information are provided. News about EIA and other items of interest to users of EIA publications are also included. Beginning in January 1998, EIA will streamline the content and distribution of this publication. Rather than quarterly, this document will now be published monthly, but will be only one to two pages in length. It will contain a listing of information products released that month, with short abstracts and ordering information. It will be available **only** by Internet e-mail (listserve) or broadcast fax.

DOE/EIA-0204 Quarterly Available: NEIC

## 5 EIA Publications Directory 1996

This directory contains abstracts and ordering information for EIA publications released in 1996. The body of the Directory contains citations and abstracts arranged by broad subject categories;

metadata, coal, oil and natural gas, nuclear and uranium, multifuel, electricity, renewable energy and alternative fuels, end-use consumption, models, and forecasting. Each abstract gives the title, report number, publication frequency, date, number of pages, and ordering information. Also included is a comprehensive subject index and description of EIA's products and services.

DOE/EIA-0149(96) Annual Apr 1997 44 pp.

#### 6 Energy Education Resources

This publication is the result of a study undertaken by the National Energy Information Center (NEIC), a service of EIA, to provide its customers with a list of generally available free or low-cost energy-related educational materials for students and educators. This list is updated once a year. Some organizations now make their products available via computer. When available, Internet (Web) and electronic mail (E-mail) addresses were included in this year's edition. Each entry is followed by a number, which is referenced in the subject index in the back of the book.

DOE/EIA-0546(96) Annual Feb 1997 132 pp.

#### Coal

#### 7 Coal Industry Annual 1996

Coal Industry Annual 1996 (CIA) provides comprehensive information about U.S. coal production, number of mines, prices, productivity, employment, productive capacity, and recoverable reserves. U.S. coal production for 1996 and previous years is based on the annual survey EIA-7A, "Coal Production Report." This report presents data on coal consumption, coal distribution, coal stocks, coal prices, coal quality, and emissions for Congress, Federal and State agencies, the coal industry, and the general public. Appendix A contains a compilation of coal statistics for the major coal-producing States. This report does not include coal consumption

data for nonutility power producers that are not in the manufacturing, agriculture, mining, construction, or commercial sectors.

DOE/EIA-0584(96) Annual Nov 1997 272 pp. GPO Stock Number: 061-003-01011-3

GPO Price: \$22.00

#### 8 Quarterly Coal Report

The *Quarterly Coal Report (QCR)* provides comprehensive information about U.S. coal production, distribution, exports, imports, receipts, prices, consumption, distribution, and stocks to a wide audience, including Congress, Federal and State agencies, the coal industry, and the general public. Coke production, consumption, distribution, imports, and exports data are also provided.

DOE/EIA-0121 Quarterly GPO Subscription Price: \$28.00

#### Oil and Natural Gas

#### 9 An Analysis of U.S. Propane Markets Winter 1996-97

This study constitutes an examination of propane supply, demand, and price developments and trends. EIA's approach focused on identifying the underlying reasons for the tight supply/demand balance in the fall of 1996, and on examining the potential for a recurrence of these events next year. Because of the relative lack of public knowledge regarding propane supply, demand, and markets, it was decided that a comprehensive review of background material should be presented along with the study to enhance understanding of the relevant causes and consequences examined. Chapters 2, 3, and 4 of this report comprise an explanation of the fundamentals of propane supply, demand, and markets, largely for those readers not overly

familiar with the industry.

DOE/EIA-SR/OOG/97-01 One-Time Jun 1997 76 pp.

#### 10 Fuel Oil and Kerosene Sales 1996

The Fuel Oil and Kerosene Sales 1996 report provides information, illustrations and State-level statistical data on end-use sales of kerosene; No. 1. No. 2. and No. 4 distillate fuel oil: and residual fuel oil. State-level kerosene sales include volumes for residential, commercial, industrial, farm, and all other uses. State-level distillate sales include volumes for residential, commercial, industrial, oil company, railroad, vessel bunkering, military, electric utility, farm, onhighway, off highway construction, and other uses. State-level residual fuel sales include volumes for commercial, industrial, oil company, vessel bunkering, military, electric utility, and other uses.

DOE/EIA-0535(96) Annual Aug 1997 68 pp. GPO Stock Number: 061-003-01004-1 GPO Price: \$5.50

### 11 International Petroleum Statistics Report

The International Petroleum Statistics Report (IPSR) is a monthly publication that provides current international oil data. This report is published for the use of Members of Congress, Federal and State agencies, industry, and the general public. This report presents data on international oil production, demand, imports, and stocks. The report has four sections. Section 1 contains time series data on world oil production, and on oil demand and stocks in the Organization for Economic Cooperation and Development This section contains annual data (OECD). beginning in 1985, and monthly data for the most recent two years. Section 2 presents an oil supply/demand balance for the world. balance is presented in quarterly intervals for the most recent two years. Section 3 presents data on oil imports by OECD countries. This section contains annual data for the most recent year, quarterly data for the most recent two quarters, and monthly data for the most recent twelve months. Section 4 presents annual time series data on world oil production and oil stocks, demand, and trade in OECD countries.

DOE/EIA-0520 Monthly GPO Subscription Price: \$52.00

#### 12 Motor Gasoline Assessment, Spring 1997

The springs of 1996 and 1997 provide an excellent example of contrasting gasoline market dynamics. In spring 1996, tightening crude oil markets pushed up gasoline prices sharply, adding to the normal seasonal gasoline price increases; however, in spring 1997, crude oil markets loosened and crude oil prices fell, bringing gasoline prices down. This pattern was followed throughout the country except in California. As a result of its unique reformulated gasoline, California prices began to vary significantly from the rest of the country in 1996 and continued to exhibit distinct variations in 1997. In addition to the price contrasts between 1996 and 1997. changes occurred in the way in which gasoline markets were supplied. Low stocks, high refinery utilizations, and high imports persisted through 1996 into summer 1997, but these factors seem to have had little impact on gasoline price spreads relative to average spread.

DOE/EIA-0613 One-Time Jul 1997 76 pp. GPO Stock Number: 061-003-01000-8

GPO Price: \$6.50

#### 13 Natural Gas Annual 1996

The *Natural Gas Annual (NGA)* provides information on the supply and disposition of natural gas to a wide audience including industry, consumers, Federal and State agencies, and educational institutions. The 1996 data are presented in a sequence that follows natural gas

(including supplemental supplies) from its production to its end use. This is followed by tables summarizing natural gas supply and disposition from 1992 to 1996 for each Census Division and each State. Annual historical data are shown at the national level. Two EIA surveys provide most of the information presented in this report -- the mandatory Form EIA-176, "Annual Report of Natural and Supplemental Gas Supply and Disposition," and the Form EIA-895, "Monthly Quantity and Value of Natural Gas Form EIA-176 was submitted by Report." respondents out of an identified universe of operators of fields, well, or natural gas processing plants who distribute gas to end users or transport gas to or across a State border; operators or synthetic natural gas plants; natural gas distributors; natural gas pipeline companies; and companies that operate underground natural gas storage facilities. Form EIA-895 was submitted by the appropriate agencies of the 33 natural gas producing States.

DOE/EIA-0131(96) Annual Sep 1997 260 pp. GPO Stock Number: 061-003-01006-7

GPO Price: \$21.00

#### 14 Natural Gas Monthly

The *Natural Gas Monthly (NGM)* highlights activities, events, and analyses of interest to public and private sector organizations associated with the natural gas industry. Volume and price data are presented each month for natural gas production, distribution, consumption, and interstate pipeline activities. Producer-related activities and underground storage data are also reported. From time to time, the *NGM* features articles designed to assist readers in using and interpreting natural gas information.

DOE/EIA-0130 Monthly GPO Subscription Price: \$83.00

# 15 Oil and Gas Resources of the West Siberian Basin, Russia

Oil and Gas Resources of the West Siberian Basin, Russia is part of the Energy Information Administration's (EIA's) Foreign Energy Supply Assessment Program (FESAP). The primary objective of this study is to assess the oil and gas potential of the West Siberian Basin of Russia. The study does not analyze the costs or technology necessary to achieve the estimates of the ultimate recoverable oil and gas. This is the second report on an oil and gas province in the former Soviet Union. The first, Oil and Gas Resources of the Fergana Basin (Uzbekistan, Tadzhikistan and Kyrgyzstan), was published in January 1995. This study uses reservoir data to estimate recoverable oil and gas quantities which were aggregated to the field level. Field totals were summed to a basin total for discovered fields. An estimate of undiscovered oil and gas, from work of the United States Geological Survey (USGS), was added to give a total basin resource volume. Recent production decline points out Russia's need to continue development of its discovered recoverable oil and gas. Continued exploration is required to discover additional oil and gas that remains undiscovered in the basin.

DOE/EIA-0617 One-Time Dec 1997 228 pp. GPO Stock Number: 061-003-01012-1

GPO Price: \$19.00

# 16 Petroleum Marketing Monthly

The *Petroleum Marketing Monthly (PMM)* provides information and statistical data on a variety of crude oils and refined petroleum products. The publication presents statistics on crude oil costs and refined petroleum products sales for use by industry, government, private sector analysts, educational institutions, and consumers. Data on crude oil include the domestic first purchase price, and the f.o.b. and landed cost of imported crude oil. Refined petroleum product sales include motor gasoline, distillates, residuals, aviation fuels, kerosene, and propane.

DOE/EIA-0380 Monthly GPO Subscription Price: \$94.00

DOE/EIA-0340(96)/1 Annual Jun 1997 182 pp. GPO Stock Number: 061-003-00996-4

GPO Price: \$16.00

#### 17 Petroleum Supply Annual 1996, Volume 1

The Petroleum Supply Annual (PSA) contains information on the supply and disposition of crude oil and petroleum products. The publication reflects data that were collected from the petroleum industry during 1996 through annual and monthly surveys. The PSA is divided into two volumes. This first volume contains three sections: Summary Statistics, Detailed Statistics, and Refinery Capacity; each with final annual data. The summary statistics section contains a summary of the data presented each month in the Petroleum Supply Monthly (PSM). Graphs and tables are provided which show 16 years of data depicting the balance between supply, disposition and ending stocks for various commodities including crude oil, motor gasoline, distillate fuel oil, residual fuel oil, jet fuel, propane/propylene, and liquefied petroleum gases. The detailed statistics section provides 1996 detailed statistics on supply and disposition, refinery operations, imports and exports, stocks, and transportation of crude oil and petroleum products. In most cases, the statistics are presented for several geographic areas -- the United States (50 States and the District of Columbia), five Petroleum Administration for Defense (PAD) Districts, and 12 Refining Districts. At the U.S. and PAD District level, the total volume and the daily rate of activities are presented. The tables contained in the refinery capacity section are compiled from the Form EIA-820 "Biennial Refinery Report." Of particular note are listings of refineries and associated crude oil distillation and downstream capacities by State, as of January 1997, as well as summaries of corporate refinery capacities and refinery storage capacities. In addition, refinery receipts of crude oil by method of transportation for 1996 are provided. Also included are fuels consumed at refineries, and lists of shutdowns, sales, reactivations, and mergers during 1995 and 1996.

#### 18 Petroleum Supply Annual 1996, Volume 2

The *Petroleum Supply Annual (PSA)* contains information on the supply and disposition of crude oil and petroleum products. The publication reflects data that were collected from the petroleum industry during 1996 through annual and monthly surveys. The second volume contains final statistics for each month of 1996, and replace data previously published in the *Petroleum Supply Monthly (PSM)*. The tables in Volumes 1 and 2 are similarly numbered to facilitate comparison between them.

DOE/EIA-0340(96)/2 Annual Jun 1997 608 pp. GPO Stock Number: 061-003-00997-2

GPO Price: \$47.00

#### 19 Petroleum Supply Monthly

The Petroleum Supply Monthly (PSM) is one of a family of four publications reflecting different levels of data timeliness and completeness. Data presented in the PSM describe the supply and disposition of petroleum products in the United States and major U.S. geographic regions. The data series describe production, imports and exports, inter-Petroleum Administration for Defense (PAD) District movements, inventories by the primary suppliers of petroleum products in the United States (50 States and the District of Columbia). The reporting universe includes those petroleum sectors in primary supply. Included are: petroleum refiners, motor gasoline blenders, operators of natural gas processing plants and fractionators, inter-PADD transporters, importers, and major inventory holders of petroleum products and crude oil. When aggregated, the data reported by these sectors approximately represent the consumption of petroleum products in the United States.

DOE/EIA-0109 Monthly GPO Subscription Price: \$85.00

# 20 Petroleum 1996: Issues and Trends

This report addresses the phenomenon of volatility, which involves every aspect of the petroleum sector to differing degrees. More analysis of this and other petroleum-related topics can be conducted using the combination of data collected by EIA and available trade data. What EIA will address in the future, and how, depends on both market developments and on you, customers of the Energy Information Administration and users of this first edition of Petroleum 1996: Issues and Trends. Increasingly. users of the Energy Information Administration's petroleum data and analytical reports have expressed an interest in a recurring report that takes a broad view of the complex interrelationships that comprise an industry and markets accounting for 40 percent of the energy consumed in the United States and ranging from the drilling rig in the oil field to the pump at the local gasoline station. This report comprehensively examines historical trends, and selectively focuses on major issues and the events they represent. It analyzes different dimensions of the industry and related markets in terms of how they relate to a common theme, in this case, the volatility in petroleum markets.

DOE/EIA-0615 One-Time Sep 1997 164 pp. GPO Stock Number: 061-003-01007-5

GPO Price: \$13.00

### 21 U.S. Crude Oil, Natural Gas, and Natural Gas Liquids Reserves Annual Report 1996

The U.S. Crude Oil, Natural Gas, and Natural Gas Liquids Reserves 1996 Annual Report is the 20th report prepared by the Energy Information Administration (EIA) to fulfill its responsibility to gather and report annual proved reserves estimates. The EIA annual reserves report series

is the only source of comprehensive domestic proved reserves estimates. This publication is used by the Congress, Federal and State agencies, industry, and other interested parties to obtain accurate estimates of the Nation's proved reserves of crude oil, natural gas, and natural gas liquids. These data are essential to the development, implementation, and evaluation of energy policy and legislation. This report presents estimates of proved reserves of crude oil, natural gas and natural gas liquids as of December 31, 1996, as well as production volumes for the United States and selected States and State subdivisions for the year 1996. Estimates are presented for the following four categories of natural gas: total gas (wet after lease separation), nonassociated gas and associated-dissolved gas (which are the two major types of wet natural gas), and total dry gas (wet gas adjusted for the removal of liquids at natural gas processing plants). In addition, reserve estimates for two types of natural gas liquids, lease condensate and natural gas plant liquids, are presented. The estimates are based upon data obtained from two annual EIA surveys: Form EIA-23, "Annual Survey of Domestic Oil and Gas Reserves" and Form EIA-64A, "Annual Report of the Origin of Natural Gas Liquids Production." Also included is information on indicated additional crude oil reserves and crude oil, natural and lease condensate reserves in nonproducing reservoirs. A discussion of notable oil and gas exploration and development activities during 1996 is provided.

DOE/EIA-0216(96) Annual Nov 1997 158 pp.

GPO Stock Number: 061-003-01015-6

GPO Price: \$14.00

# 22 Weekly Petroleum Status Report

The Weekly Petroleum Status Report (WPSR) provides timely information on the petroleum supply situation in the context of historical information, selected price, and forecasts. The WPSR is intended to provide up-to-date information to the industry, the press, planners, policymakers, consumers, analysts, and State and

local governments. Shown are the U.S. petroleum balance sheet, refinery activity, stocks, imports, products supplied, and prices. Data cover: refinery inputs, utilization, and production; stocks of crude oil and major products (gasoline, distillate fuel oil, residual fuel oil, etc.) by Petroleum Administration for Defense District; refiner acquisition costs of crude oil; retail selling prices for motor gasoline and residential heating oil; world crude oil prices; and spot market product prices. Strategic Petroleum Reserve data are shown when appropriate. Appendix A presents explanatory notes and Appendix B presents the results of Form EIA-819, "Monthly Oxygenate Telephone Report." Appendix C includes the Winter Heating Fuels Summary.

DOE/EIA-0208 Weekly GPO Subscription Price: \$72.00

#### **Nuclear and Uranium**

# 23 Nuclear Power Generation and Fuel Cycle Report 1997

This report provides information and forecasts important to the domestic and world nuclear and uranium industries. The first chapter presents the current status and projections through 2015 of nuclear capacity and generation for all countries with commercial nuclear power programs. U.S. capacity projections are consistent with those published in the Annual Energy Outlook 1997. Because of its robust growth in nuclear power, a special section on the Far East appears on colored sheets at the back of this chapter. The next chapter contains current information and projections on worldwide uranium requirements, enrichment service requirements and spent fuel discharges from 1997 to 2015. The projections for U.S. spot-market prices, production, and imports are given to 2010. There is also a discussion of the U.S. uranium market analyzing how uranium purchases vary with spot-market prices. Information on deliveries of surplus Russian defense material is also presented in this

The last chapter compares EIA's projections with those of Energy Resource International, Inc; and NAC International. The composition of this report differs from earlier versions. Previous reports contained discussions on current interest issues such as nuclear power plant performance and operations lifetime issues (1995) as well as decommissioning U.S. nuclear power plants (1996). In this report we confine our presentation to discussions of worldwide nuclear capacity, generation and the uranium market. New to Appendix A is a brief account of historical events that lead to the first self-sustaining nuclear reactor experiment. Detailed descriptions of the models used to make the fuel cycle projections are found in Appendix B. Also included in Appendix C are the nuclear generating units ordered in the United States from 1953 to 1996. Appendix F contains detailed reference case forecasts of nuclear fuel cycle requirements along with the low and high case capacity projections.

DOE/EIA-0436(97) Annual Sep 1997 136 pp.

GPO Stock Number: 061-003-01005-9

GPO Price: \$11.00

## 24 Uranium Industry Annual 1996

The Uranium Industry Annual 1996 (UIA) provides current statistical data on the U.S. uranium industry's activities relating to uranium raw materials and uranium marketing. The UIA 1996 is prepared for use by the Congress, Federal and State agencies, the uranium and nuclear electric utility industries, and the public. It contains data for the period 1987 through 2006 as collected on the Form EIA-858, "Uranium Industry Annual Survey." Data collected on the "Uranium Industry Annual Survey" provide a comprehensive statistical characterization of the industry's activities for the survey year and also include some information about industry's plans and commitments for the near-term future. Where aggregate data are presented in the UIA 1996, care has been taken to protect the confidentiality of company-specific information while still conveying accurate and complete statistical data.

DOE/EIA-0478(96) Annual Apr 1997 88 pp. GPO Stock Number: 061-003-00994-8

GPO Price: \$8.00

#### Multifuel

#### 25 Annual Energy Review 1996

The Annual Energy Review 1996 (AER) is a compendium of historical energy statistics. It draws together the most important statistical series from all of the major energy sources, presents them in data tables and graphs, and uses them to create summary statistics for all energy. It is the objective of the Energy Information Administration (EIA) with this report to distill the vast amount of historical data available into clear and well-organized presentations that invite the reader's interest and offer the opportunity to learn about this Nation's energy history in order to prepare for our future. Many of the data series in this report run from 1949 through 1996, providing nearly a half-century of data for analysis of longterm trends.

DOE/EIA-0384(96) Annual Jun 1997 416 pp.

GPO Stock Number: 061-003-00998-1

GPO Price: \$33.00

# 26 Emissions of Greenhouse Gases in the United States 1996

The Energy Information Administration (EIA) is required by the Energy Policy Act of 1992 to prepare a report on aggregate U.S. national emissions of greenhouse gases for the period 1987-1990, with annual updates thereafter. This report is the fifth annual update covering national emissions over the period 1989-1995, with preliminary estimates of emissions for 1996. The estimates contained in this report have been revised from those in last year's report. Emissions estimates for carbon dioxide are reported in metric tons of carbon; estimates for others gases are reported in metric tons of gas.

Chapter 1 of this report briefly recapitulates some background information about global climate changes and the greenhouse effect and discusses important recent developments in global climate change activities. Chapters 2 through 6 cover emissions of carbon dioxide, methane, nitrous oxide, halocarbons, and criteria pollutants, respectively. Chapter 7 describes potential sequestration and emissions of greenhouse gases as a result of land use changes.

DOE/EIA-0573(96) Annual Oct 1997 156 pp.

GPO Stock Number: 061-003-01008-3

GPO Price: \$12.00

#### 27 Mitigating Greenhouse Gas Emissions: Voluntary Reporting

The Voluntary Reporting Program, developed pursuant to Section 1605(b) of the Energy Policy Act of 1992, permits corporations, government agencies, households, and voluntary organizations to report on their emissions of greenhouse gases, and on actions taken that have reduced or avoided emissions or sequestered carbon, to the Energy Information Administration (EIA). second annual report of the Voluntary Reporting Program, describes information provided by the participating organizations on their aggregate emissions and emissions reductions, as well as their emissions reduction or avoidance projects, This information has been through 1995. compiled into a database that includes reports from 142 organizations and descriptions of 967 projects that either reduced greenhouse gas emissions or sequestered carbon. Fifty-one reporters also provided estimates of emissions. and emissions reductions achieved, for their entire organizations.

DOE/EIA-0608(96) Annual Oct 1997 128 pp.

# 28 Monthly Energy Review

The Monthly Energy Review (MER) presents an overview of recent monthly energy statistics. The statistics cover the major activities of U.S.

production, consumption, trade, stocks, and prices for petroleum, natural gas, coal, electricity, and nuclear energy. Also included are international energy and thermal and metric conversion factors. The *MER* is intended for use by Congress, Federal and State agencies, energy analysts, and the general public.

DOE/EIA-0035 Monthly GPO Subscription Price: \$87.00

#### 29 Performance Profiles of Major Energy Producers 1995

This publication examines developments in the operations of the major U.S. energy-producing companies on a corporate level, by major line of business, by major function within each line of business, and by geographic area. This report presents financial and operational data collected on Form EIA-28, "Financial Reporting System (FRS)," for the calendar year 1995. Trends in foreign direct investment in U.S. energy are analyzed for the year 1994. In 1995, 24 companies filed Form EIA-28. The analysis and data presented in this report represent the operations of the FRS companies in the context of their worldwide operations and in the context of the major energy markets which they serve. Both energy and nonenergy developments of these companies are analyzed. Although the focus is on developments in 1995, important trends prior to that time are also featured.

DOE/EIA-0206(95) Annual Jan 1997 192 pp. GPO Stock Number: 061-003-00989-1 GPO Price: \$16.00

#### 30 State Energy Data Report 1995 Consumption Estimates

The State Energy Data Report 1995 (SEDR) provides annual time series estimates of Statelevel energy consumption by major economic sectors. The estimates are developed in the State Energy Data System (SEDS), which is maintained and operated by the Energy Information Administration (EIA). The goal in maintaining

SEDS is to create historical time series of energy consumption by State that are defined as consistently as possible over time and across sectors. SEDS exists for two principal reasons: (1) to provide State energy consumption estimates to Members of Congress, Federal and State agencies, and the general public and (2) to provide the historical series necessary for EIA's energy models. The SEDR presents estimates of annual energy consumption at the State and national levels by major economic sector and by principal energy type for 1960 and 1970 through 1995. Included in the report are documentation describing how the estimates were made for each type of energy, the source references for all input data, and a summary of changes from the State Energy Data Report 1994 published in October 1996.

DOE/EIA-0214(95) Annual Dec 1997 548 pp. GPO Stock Number: 061-003-01013-0 GPO Price: \$43.00

# 31 State Energy Price and Expenditure Report 1994

The State Energy Price and Expenditure Report 1994 (SEPER) presents energy price and expenditure estimates individually for the 50 States and the District of Columbia and in aggregate for the United States. The price and expenditure estimates developed in the State Energy Price and Expenditure Data System (SEPEDS) are provided by energy source and economic sector and are published for the years 1970 through 1994. Data for all years are available on personal computer diskettes, CD-ROM, and via Internet.

DOE/EIA-0376(94) Annual Jun 1997 460 pp. GPO Stock Number: 061-003-00995-6 GPO Price: \$35.00

# **Electricity**

# 32 The Changing Structure of the Electric Power Industry: An Update

The purpose of this report, which is intended for both lay and technical readers, is twofold. First, it is a basic reference document that provides a comprehensive delineation of the electric power industry and its traditional structure, which has been based upon its monopoly status. Second, it describes the industry's transition to a competitive environment by providing a descriptive analysis of the factors that have contributed to the interest in a competitive market, proposed legislative and regulatory actions, and the steps being taken by the various components of the industry to meet the challenges of adapting to and prevailing in a competitive environment. In order to facilitate the presentation, the report is divided into two parts. Part I provides a historical overview of the electric power industry -- a requisite piece to the changing structure puzzle. Before the transitional state of the current industry can be fully comprehended, it is necessary to understand the conventional roles of the components of electricity supply and factors that have affected them from the beginning, including legislative and regulatory mandates, advancing technologies, and fluctuating economic conditions. To that end, the overview section presents an abridged version of the industry's history, touching on the events that have had the most profound effect on its structure. included is an in-depth look at the industry's current structure and its generating, transmitting, and distributing components. The substantially involved subject of utility and nonutility organizational entities and their roles and relationships is examined in detail to provide an essential basic understanding of the supply component terms used throughout this report. Major legislation that has had the most profound impact on the structure of the industry over the years is discussed, and the discussion is accompanied by a table summarizing each law's requirements along with additional laws that have had significant effects on power suppliers. The

entirety of Part I was designed to be a convenient handbook that can be continually referenced to answer questions concerning the fundamentals of the electric power industry. Part II addresses the current restructuring issues and events. It outlines the forces behind the drive to restructure. The legislative proposals for reform and restructuring that have been introduced into the U.S. Congress are cited and summarized, and the Federal and State roles in promoting competition through regulatory reform are described. The issue of stranded costs -- that is, the costs utilities have prudently incurred to serve their customers but which cannot be recovered if the customers choose other electricity suppliers -- are examined. Strategies to recover such costs are discussed, along with the question of who will bear the costs. In addition, Part II presents a detailed discussion of industry plans and developments that are emerging as a direct result of the move toward competition, including strategies to lower costs and other actions planned or already taken by major investor-owned utilities to prepare for competition. Likewise, the tactics of public utilities and cooperative utilities are examined.

DOE/EIA-0562(96) One-Time Jan 1997 196 pp. GPO Stock Number: 061-003-00982-4

GPO Price: \$15.00

# 33 The Effects of Title IV of the Clean Air Act Amendments of 1990 on Electric Utilities: An Update

The Clean Air Act Amendments of 1990 address numerous air quality problems in the United States that were not entirely covered in earlier legislation. One of these problems is acid rain caused by sulfur dioxide (SO<sub>2</sub>) and nitrogen oxides (NO<sub>x</sub>) emissions from fossil-fueled electric power plants and, to a lesser extent, from other industrial and transportation sources. Title IV of the Act created a two-phased plan, administered by the U.S. Environmental Protection Agency (EPA), to reduce acid rain in the United States. Phase I runs from 1995 through 1999, and Phase

II, which is more stringent Phase I, begins in 2000. Title IV contains a table listing 261 generating units that are required to comply with Phase I. They are generally referred to by EPA as Table 1 units. Most of these units are coal fired with relatively high emissions. An additional 174 units are participating in Phase I based on the rules established by EPA, allowing a utility to designate substitution or compensating units as part of their Phase I compliance plans. Therefore, 435 units are now considered Phase I units. More than 2,000 units will be affected by Phase II. This report updates and expands a report published by the Energy Information Administration in 1994 titled, Electric Utility Phase I Acid Rain Compliance Strategies for the Clean Air Act Amendments of 1990; it describes the strategies used to comply with the Acid Rain Program in 1995, the effect of compliance on SO<sub>2</sub> emissions levels, the cost of compliance, and the effects of the program on coal supply and demand.

DOE/EIA-0582(97) One-Time Mar 1997 128 pp. GPO Stock Number: 061-003-00990-5

GPO Price: \$9.50

#### 34 Electric Power Annual 1996, Volume 1

The Electric Power Annual (EPA) presents a summary of electric power industry statistics at national, regional, and State levels. The objective of the publication is to provide industry decisionmakers, government policy-makers, analysts, and the general public with data that may be used in understanding U.S. electricity markets. Volume 1 focuses on U.S. electric utilities and contains final 1996 data on net generation and fossil fuel consumption, stocks, receipts, and cost; preliminary 1996 data on generating unit capability, and retail sales of electricity, associated revenue, and the average revenue per kilowatthour of electricity sold. Additionally, information on net generation from renewable energy sources and on the associated generating capability is included in Volume 1 of the EPA. Data published in the Electric Power Annual Volume 1 are compiled from three statistical forms filed monthly and two forms filed annually by electric utilities.

 $DOE/EIA\text{-}0348(96)/1 \ Annual \ Aug \ 1997 \ 72 \ pp.$ 

GPO Stock Number: 061-003-01003-2

GPO Price: \$5.50

#### 35 Electric Power Monthly

The *Electric Power Monthly (EPM)* presents monthly electricity statistics for a wide audience including Congress, Federal and State agencies, the electric utility industry, and the general public. The purpose of this publication is to provide energy decisionmakers with accurate and timely information that may be used in forming various perspectives on electric issues that lie ahead. The EIA collected the information in this report to fulfill its data collection and dissemination responsibilities as specified in the Federal Energy Administration Act of 1974 (Public Law 93-275) as amended.

DOE/EIA-0226 Monthly

GPO Subscription Price: \$89.00

#### 36 Electricity Prices in a Competitive Environment: Marginal Cost Pricing of Generation Services and Financial Status of Electric Utilities

The report contains five chapters. Chapter 1 includes a description of the events that led to current initiatives to restructure the electric power industry, as well as a discussion of the institutional and structural changes that will be required to support the competitive pricing of electricity. Chapter 2 describes the analysis assumptions and methodology. Chapter 3 discusses the uses and results of the analysis, including a comparison of electricity prices under regulation and prices under competition and a discussion of the sensitivities of the results to key parameters in the analysis cases. Chapter 4 contains an analysis of the cash flow implications

of the new competitive prices for utilities. Chapter 5 includes a conclusion and a final word on the limitations of the analysis. The Appendices provide technical descriptions of the methodology used to calculate competitive electricity prices. This report is intended for a general audience. It should be of particular interest to public utility analysts, policy and financial analysts, investment firms, trade associations, Federal and State regulators, and legislators.

DOE/EIA-0614 One-Time Aug 1997 126 pp. GPO Stock Number: 061-003-01002-4 GPO Price: \$10.00

# 37 Electricity Reform Abroad and U.S. Investment

Over the past few years, several nations have initiated electricity industry reform and privatization efforts. Argentina, Australia, and the United Kingdom (UK) are among those countries at the forefront of such efforts. undertaken in these three countries are especially important because they have in many ways become models for reforms carried out elsewhere. From the perspective of the United States (and other countries considering electricity reform), these three nations are often viewed as laboratories in which the efficiency of particular electricity reform policy choices are being tested. For this reason, we have referred to these reforms as "experiments". In reality, however, these reforms represent firm policy measures adopted by the countries involved. This report reviews and analyzes the recent electricity reforms in these countries in an attempt to better understand how different models of privatization and reform have worked in practice. This report also analyzes the motivations of the U.S. companies who have invested in the electricity industries of Argentina, Australia, and the UK. These countries have become the largest targets of U.S. foreign investment in electricity. American electricity investment in the newly-privatized electricity industries of Australia and the UK far exceed all other U.S. electricity investment abroad. Companies from the United States were also the largest investors in Argentina's recently-privatized electric utility industry. This report utilized two calculations of foreign investment. One is the foreign investment series produced by the U.S. Department of Commerce. The other is based on transactions (compiled from the financial press) in Argentine, Australian, and U.K. electric utilities. The electricity reform and privatization experiences reviewed in this report may offer some insight as to how the U.S. electricity industry might develop as a result of recent domestic reform efforts and deregulation at both the State and national levels.

DOE/EIA-0616 One-Time Oct 1997 124 pp. GPO Stock Number: 061-003-01009-1

GPO Price: \$9.50

#### 38 Electric Sales and Revenue 1995

Information is provided on electricity sales, associated revenue, average revenue per kilowatthour sold, and number of consumers throughout the United States. The data provided in the *Electric Sales and Revenue* are presented at the national, Census division, State, and electric utility levels. The information is based on annual data reported by electric utilities for the calendar year ending December 31, 1995. In the private sector, users of the Electric Sales and Revenue include researchers, analysts, and member of the electric power industry community. Other users include financial and investment institutions, economic development organizations, special interest groups, lobbyists, electric power associations, and the news media. In the public sector, users include analysts, researchers, statisticians, and other professionals engaged in regulatory, policy, and program activities for Federal, State, and local governments. Congress, and other special government groups also use information on general trends related to electricity at State and national levels. Data in this report are used in analytical studies to evaluate new legislation and regulatory alternatives and to forecast demand for electric power.

DOE/EIA-0540(95) Annual Jan 1997 240 pp.

GPO Stock Number: 061-003-00987-5

GPO Price: \$19.00

#### 39 Electric Sales and Revenue 1996

Information is provided on electricity sales, associated revenue, average revenue per kilowatthour sold, and number of consumers throughout the United States. The data provided in the *Electric Sales and Revenue* are presented at the national, Census division, State, and electric utility levels. The information is based on annual data reported by electric utilities for the calendar year ending December 31, 1996. In the private sector, users of the Electric Sales and Revenue include researchers, analysts, and members of the electric power industry community. Other users include financial and investment institutions, economic development organizations, special interest groups, lobbyists, electric power associations, and the news media. In the public sector, users include analysts, researchers, statisticians, and other professionals engaged in regulatory, policy, and program activities for Federal, State, and local governments. Congress, and other special government groups also use information on general trends related to electricity at State and national levels. Data in this report are used in analytical studies to evaluate new legislation and regulatory alternatives and to forecast demand for electric power.

DOE/EIA-0540(96) Annual Dec 1997 246 pp. GPO Stock Number: 061-003-01020-2

GPO Price: \$19.00

#### 40 Financial Statistics of Major U.S. Investor-Owned Electric Utilities 1995

The Financial Statistics of Major U.S. Investor-Owned Electric Utilities publication presents summary and detailed financial accounting data on the investor-owned electric utilities. The objective of the publication is to provide Federal and State governments, industry, and the general public with current and historical data that can be

used for making policy and decisions relating to investor-owned electric utility issues. Financial statistics for major investor-owned electric utilities have been compiled and published annually since 1938 to satisfy the requirements for accurate, readily available data regarding the electric power industry. The format was designed to be used by a variety of private, electric power industry, and government users. The publication contents and format have evolved over the years to better serve the needs and requirements of the targeted audience. The Financial Statistics of Major U.S. Investor-Owned Electric Utilities publication provides information about the financial results of operations of investor-owned electric utilities for use by government, industry, electric utilities, financial organizations and educational institutions in energy planning. In the private sector, the readers of this publication are researchers and analysts associated with the financial markets, the policymaking and decisionmaking members of electric utility companies, and economic development organizations. Other organizations that may be interested in the data presented in this publication include manufacturers of electric power equipment and marketing organizations. In the public sector, the readers of this publication include analysts, researchers, statisticians, and other professionals engaged in regulatory, policy, and program areas. These individuals are generally associated with the Congress, other legislative bodies, State public service commissions, universities, and national strategic planning organizations.

 $DOE/EIA\text{-}0437(95)/1 \ Annual \ Jan \ 1997 \ 628 \ pp.$ 

GPO Stock Number: 061-003-00980-8

GPO Price: \$45.00

#### 41 Financial Statistics of Major U.S. Investor-Owned Electric Utilities 1996

The Financial Statistics of Major U.S. Investor-Owned Electric Utilities publication presents summary and detailed financial accounting data on the investor-owned electric utilities. The objective of the publication is to provide Federal and State governments, industry, and the general public with current and historical data that can be used for making policy and decisions relating to investor-owned electric utility issues. Financial statistics for major investor-owned electric utilities have been compiled and published annually since 1938 to satisfy the requirements for accurate, readily available data regarding the electric power industry. The format was designed to be used by a variety of private, electric power industry, and government users. The publication contents and format have evolved over the years to better serve the needs and requirements of the targeted audience. The Financial Statistics of Major U.S. Investor-Owned Electric Utilities publication provides information about the financial results of operations of investor-owned electric utilities for use by government, industry, electric utilities, financial organizations and educational institutions in energy planning. In the private sector, the readers of this publication are researchers and analysts associated with the financial markets, the policymaking and decisionmaking members of electric utility companies, and economic development organizations. Other organizations that may be interested in the data presented in this publication include manufacturers of electric power equipment and marketing organizations. In the public sector, the readers of this publication include analysts, researchers, statisticians, and other professionals engaged in regulatory, policy, and program areas. These individuals are generally associated with the Congress, other legislative bodies, State public service commissions, universities, and national strategic planning organizations.

DOE/EIA-0437(96)/1 Annual Dec 1997 632 pp. GPO Stock Number: 061-003-01017-2 GPO Price: \$49.00

#### *4*2 Financial Statistics of Major U.S. Publicly Owned Electric Utilities 1995

The 1995 edition of the Financial Statistics of Major U.S. Publicly Owned Electric Utilities publication presents 5 years (1991 through 1995) of summary financial data and current year detailed financial data on the major publicly owned electric utilities. The objective of this publication is to provide Federal and State governments, industry, and the general public with current and historical data that can be used for policymaking and decisionmaking purposes related to publicly owned electric utility issues.

DOE/EIA-0437(95)/2 Annual Jul 1997 572 pp. GPO Stock Number: 061-003-00992-1

GPO Price: \$46.00

#### *43* Inventory of Power Plants in the United States As of January 1, 1996

The Inventory of Power Plants in the United States As of January 1, 1996 provides annual statistics on generating units operated by electric utilities in the United States (the 50 States and the District of Columbia). Statistics presented in this report reflect the status of generating units as of January 1, 1996. The publication also provides a 10-year outlook for generating unit additions. Data summarized in this report are useful to a wide audience including Congress; Federal and State agencies; the electric utility industry; and the general public. Data presented in this report were assembled and published by the EIA to fulfill its data collection and dissemination responsibilities as specified in the Federal Energy Administration Act of 1974 (Public Law 93-275) as amended.

DOE/EIA-0095(96) Annual Jan 1997 416 pp. GPO Stock Number: 061-003-00983-2

GPO Price: \$29.00

## 44 U.S. Electric Utility Demand-Side Management 1995

The report presents comprehensive information on electric power industry demand-side management (DSM) activities in the United States at the national, regional, and utility levels. objective of the publication is to provide industry decision makers, government policy makers, analysts, and the general public with historical data that may be used in understanding DSM as it relates to the U.S. electric power industry. The first chapter, "Profile: U.S. Electric Utility Demand-Side Management," presents a general discussion of DSM, its history, current issues, and a review of key statistics for the year. Subsequent chapters present discussions and more detailed data on energy savings, peak load reductions and costs attributable to DSM. In the private sector, the majority of users are researchers, analysts, and ultimately the policymaking and decisionmaking members of electric utility companies. Financial and investment institutions, economic development organizations interested in new power plant construction, special interest groups, lobbyists, electric power associations, and the news media are all prospective users of the U.S.Electric Utility Demand-Side Management report. In the public sector, users include analysts, researchers, statisticians, and other professionals engaged in regulatory, policy, and program activities for Federal, State, and local governments. The Congress, other legislative bodies, State public service commissions, and other government groups share an interest in general trends and specific DSM data. This report can be used in analytic studies to evaluate new or existing legislation.

DOE/EIA-0589(95) Annual Feb 1997 108 pp.

# 45 U.S. Electric Utility Demand-Side Management 1996

The report presents comprehensive information on electric power industry demand-side management (DSM) activities in the United States at the national, regional, and utility levels. The objective of the publication is to provide industry

decision makers, government policy makers, analysts, and the general public with historical data that may be used in understanding DSM as it relates to the U.S. electric power industry. The first chapter, "Profile: U.S. Electric Utility Demand-Side Management," presents a general discussion of DSM, its history, current issues, and a review of key statistics for the year. Subsequent chapters present discussions and more detailed data on energy savings, peak load reductions and costs attributable to DSM. In the private sector, the majority of users are researchers, analysts, and ultimately the policymaking and decisionmaking members of electric utility companies. Financial and investment institutions, economic development organizations interested in new power plant construction, special interest groups, lobbyists, electric power associations, and the news media are all prospective users of the U.S.Electric Utility Demand-Side Management report. In the public sector, users include analysts, researchers, statisticians, and other professionals engaged in regulatory, policy, and program activities for Federal, State, and local governments. The Congress, other legislative bodies, State public service commissions, and other government groups share an interest in general trends and specific DSM data. This report can be used in analytic studies to evaluate new or existing legislation.

DOE/EIA-0589(96) Annual Dec 1997 108 pp. GPO Stock Number: 061-003-01021-1

GPO Price: \$9.00

# Renewable Energy & Alternative Fuels

### 46 Alternatives to Traditional Transportation Fuels 1996

Interest in the alternative transportation fuels (ATF's) has increased in recent years due to the drives for cleaner air and less dependence upon foreign oil. This report, *Alternatives to Traditional Transportation Fuels* 1996, provides information on ATF's, as well as the vehicles that

consume them. This report has its roots in Section 503 of the Energy Policy Act of 1992 (EPACT), which directs the Energy Information Administration (EIA) to provide the U.S. Department of Energy (DOE) and the Congress with the following information on alternativefueled vehicles (AFV's) and ATF's: (1) the number, type, and geographic distribution of AFV's in use; (2) the consumption of ATF's and "replacement fuels"; (3) the number and type of AFV's "made available". Section 503 further specifies that information about these subjects is to be provided annually for the "current" and "following" years; i.e., the most recent historical year and an outlook for the next year. Since EPACT was passed in response to concerns about energy security (occasioned by the 1991 Persian Gulf conflict), its focus is on energy efficiency and improving domestic energy supplies. Clean air data and issues related to transportation fuels (except for requiring DOE to report on the greenhouse gas emissions resulting from ATF consumption) are addressed in the Clean Air Act Amendments of 1990 and are not discussed in this report.

DOE/EIA-0585(96) Annual Dec 1997 72 pp. GPO Stock Number: 061-003-01016-4

GPO Price: \$6.00

# 47 Analysis of Carbon Stabilization Cases

This study was undertaken at the request of the U.S. Department of Energy (DOE), Office of Policy and International Affairs (PO). Carbon mitigation and climate change are issues that must be addressed on a global scale by the international community. This study contributes to the analytical process by examining the impact of several carbon stabilization scenarios on the U.S. energy-economy. One set of cases extensively analyzes the impacts on the U.S. system assuming that carbon stabilization is achieved without the benefit of flexible international trading policies. The second sensitivity estimates the impacts on the U.S. energy-economy system of a much lower carbon value that may be realized under more flexible trading and other comprehensive

approaches. Each member of the international community is expected to evaluate its options in a similar way prior to signing any international commitment to control carbon emissions. International emissions trading and a comprehensive approach to greenhouse gases are key elements of the U.S. position within the current international trading and a comprehensive approach to greenhouse gases are key elements of the U.S. position within the current international negotiations on climate. The DOE Office of Policy and International Affairs was a participant in the analytical effort of the Interagency Analysis Team (IAT) studying the economic effects of global climate change policies in the United States. DOE/PO requested the analysis of several carbon policy scenarios using the National Energy Modeling System (NEMS) to examine how carbon stabilization could be achieved by 2010 and beyond.

DOE/EIA-SR-OIAF/97-01 One-Time Oct 1997 112 pp.

#### 48 Renewable Energy Annual 1996

This report, the Renewable Energy Annual 1996, is the second in a series of annual reports published by the Energy Information Administration (EIA) to provide current information on renewable energy worldwide. In so doing, this report updates the information presented in the Renewable Energy Annual 1995 and further documents and explains renewable energy information provided in EIA's Annual Energy Review 1995. In addition, this report extends the scope of the previous issue by providing descriptive information on various segments of the renewable energy industry and discussions of new or ongoing renewable energy projects, as well as discussions of emerging economic and legal issues that affect the industry. It covers the following energy sources: biomass, geothermal, wind, and solar. While hydropower is a renewable energy resource, it is also regarded as a "conventional" energy source because it has furnished a significant amount of electricity for more than a century. Therefore, this report discusses hydropower as it contributes to total

renewable energy consumption, but does not address hydropower as an individual energy source. Also, EIA collects data only on terrestrial systems. Satellite and military applications are not included in this report. The biomass sections of this report include updated information similar to that published in EIA's *Estimates of U.S. Biomass Energy Consumption 1992*. The solar sections include information similar to that previously published in *Solar Collector Manufacturing Activity 1993*. EIA has discontinued publishing the latter two reports.

DOE/EIA-0603(96) Annual Apr 1997 200 pp. GPO Stock Number: 061-003-00991-3

GPO Price: \$16.00

# **End-Use Consumption**

## 49 Household Vehicles Energy Consumption 1994

Household Vehicles Energy Consumption 1994 reports on the results of the 1994 Residential Transportation Energy Consumption Survey (RTECS). The RTECS is a national sample survey that has been conducted every 3 years since 1985. For the 1994 survey, more than 3,000 households that own or use some 6,000 vehicles provided information to describe vehicle stock, vehicle-miles traveled, energy end-use consumption, and energy expenditures for personal vehicles. The survey results represent the characteristics of the 84.9 million households that used or had access to vehicles in 1994 nationwide. (An additional 12 million households neither owned nor had access to vehicles during the survey year.) To be included in the RTECS survey, vehicles must be either owned or used by household members on a regular basis for personal transportation, or owned by a company rather than a household, but kept at home, regularly available for the use of household members. Most vehicles included in the RTECS are classified as "light-duty vehicles" (weighing less than 8,500 pounds). However, the RTECS also includes a very small number of "other" vehicles, such as motor homes and larger trucks

that are available for personal use. The survey results have implications for the overall fuel economy of the United States and the amount of motor gasoline consumed. The increase in the number of minivans, sport-utility vehicles, and pickup trucks may depress overall fleet fuel economy, because these vehicles are subject to the fuel economy standards for light trucks and consume more fuel per mile traveled. Fuel economy is increased, however, by the retirement of older vehicles that are less fuel efficient than newer models. Passenger cars built afer 1979 showed a dramatic increase in fuel economy, which rose 3 miles per gallon between 1979 and 1980 and then increased steadily -- though less dramatically -- throughout the 1980's. Fuel economy has leveled off in the 1990's. In 1991, 35 million vehicles, or 23 percent of the total vehicle stock, were from model year 1979 or earlier. By 1994, that number had dropped to 20 million, or 13 percent of the vehicle stock. Those older vehicles tend to be driven fewer miles than the new vehicles that replaced them, according to Therefore, although older the survey data. vehicles tend to consume more fuel per mile, their effect on the fleet average is mitigated by the fact that they are driven fewer miles.

DOE/EIA-0464(94) Triennial Jul 1997 136 pp. GPO Stock Number: 061-003-01001-6

GPO Price: \$10.00

# 50 Manufacturing Consumption of Energy 1994

Manufacturing Consumption of Energy 1994 provides estimates on energy consumption in the manufacturing sector of the U.S. economy. The estimates are based on data from the 1994 Manufacturing Energy Consumption Survey (MECS). The MECS, administered by the Energy Information Administration (EIA), is the most comprehensive source of national-level data on energy-related information about the manufacturing industries. To determine how energy is used in the manufacturing sector, EIA gathers information from a national representative sample of the manufacturing establishments that transform input materials or substances into new

products, assemble components, or perform blending operations. In 1994, of the approximately 380 thousand manufacturing establishments in the United States, the MECS sample represented about 250 thousand of the largest establishments. Those establishments account for approximately 98 percent of U.S. economic output from manufacturing and an expected similar proportion of manufacturing The amount of energy an energy use. establishment uses is collected for all of its operations and not solely for the amount of energy used in manufacturing its product. The 1994 MECS is EIA's fourth survey of the manufacturing sector. Previous manufacturing surveys were conducted in 1986, 1989, and 1992 (for reporting years 1985, 1988, and 1991, respectively). The next manufacturing survey will be conducted for reporting year 1998, with subsequent surveys being conducted every 4 years thereafter.

DOE/EIA-0512(94) Triennial Dec 1997 542 pp.

GPO Stock Number: 061-003-01018-1

GPO Price: \$41.00

## **Models**

#### 51 EIA Model Documentation: NEMS Integrating Module Documentation Report

Publication of this document is supported by Public Law 93-275, Federal Energy Administration Act of 1974, Section 57.b.1 (as amended by Public Law 94-385, Energy Conservation and Production Act). In particular, this report is designed to meet EIA's model documentation standards established in accordance with these laws. For documentation purposes, the individual components of NEMS are considered distinct models and documented While the NEMS integrating individually. module is a distinct component of NEMS, the integrating module is not by itself, a model. Rather, it is a component of the overall NEMS model and implements specific aspects of the

overall modeling methodology that are not documented elsewhere. The documentation is organized accordingly.

DOE/EIA-M057(97) One-Time Mar 1997 93 pp.

#### 52 EIA Model Documentation: Petroleum Market Model of the National Energy Modeling System

The purpose of this report is to define the objectives of the Petroleum Market Model (PMM), describe its basic approach, and provide detail on how it works. This report is intended as a reference document for model analysts, users, and the public. Documentation of the model is in accordance with EIA's legal obligations to provide adequate documentation in support of its models (Public Law 94-385, Section 57.b.2).

DOE/EIA-M059(97) One-Time Mar 1997 300 pp.

#### 53 EIA Model Documentation: Coal Market Module of the National Energy Modeling System

This report documents the objectives and the conceptual and methodological approach used in the development of the National Energy Modeling System's (NEMS) Coal Market Module (CMM) used to develop the Annual Energy Outlook 1997 (AEO97). This report catalogues and describes the assumptions, methodology, estimation techniques, and source code of CMM's two submodules. These are the Coal Production Submodule (CPS) and the Coal Distribution Submodule (CDS). This document has three purposes. It is a reference document providing a description of CMM for model analysts and the public. It meets the legal requirement of the Energy Information Administration (EIA) to provide adequate documentation in support of its statistical and forecast reports (Public Law 93-275, Federal Energy Administration Act of 1974, Section 57.b.1), as amended by Public Law 94-385). Finally, it facilitates the continuity in model

development by providing documentation from which energy analysts can undertake model enhancement, data updates, and parameter refinements as future goals to improve the quality of the module.

DOE/EIA-M060(97) One-Time Mar 1997 159 pp.

#### 54 EIA Model Documentation: Natural Gas Transmission and Distribution Model of the National Energy Modeling System

This report documents the archived version of the Natural Gas Transmission and Distribution Model (NGTDM) that was used to produce the natural gas forecasts used in support of the Annual Energy Outlook 1997, DOE/EIA-0383(97). The purpose of this report is to provide a reference document for model analysts, users, and the public that defines the objectives of the model, describes its basic design, provides detail on the methodology employed, and describes the model inputs, outputs, and key assumptions. intended to fulfill the legal obligation of the EIA to provide adequate documentation in support of its models (Public Law 94-385, Section 57.b.2). This report represents Volume I of a two-volume set. The version of the model used in support of the Annual Energy Outlook 1995, Volume II reported on model performance, detailing convergence criteria and properties, results of sensitivity testing, comparison of model outputs with the literature and/or other model results, and major unresolved issues. A second volume was not produced for the Annual Energy Outlook 1996 version.

DOE/EIA-M062/1(97) One-Time Mar 1997 150 pp.

# 55 EIA Model Documentation: Documentation of the Oil and Gas Supply Module (OGSM)

The purpose of this report is to define the

objectives of the Oil and Gas Supply Model (OGSM), to describe the model's basic approach, and to provide detail on how the model works. This report is intended as a reference document for model analysts, users, and the public. It is prepared in accordance with the Energy Information Administration's (EIA) legal obligation to provide adequate documentation in support of its statistical and forecast reports (Public Law 93-275, Section 57.b.2).

DOE/EIA-M063(97) One-Time Mar 1997 247 pp.

#### 56 EIA Model Documentation: Industrial Sector Demand Module of the National Energy Modeling System

This report documents the objectives, analytical approach, and development of the National Energy Modeling System (NEMS) Industrial Demand Model. The report catalogues and describes model assumptions, computational methodology, parameter estimation techniques, and model source code. This document serves three purposes. First, it is a reference document providing a detailed description of the NEMS Industrial Model for model analysts, users, and the public. Second, this report meets the legal requirement of the Energy Information Administration (EIA) to provide adequate documentation in support of its models (Public Law 94-385, Section 57.b.2). Third, it facilitates continuity in model development by providing documentation from which energy analysts can undertake model enhancements, data updates, and parameter refinements as future projects.

DOE/EIA-M064(97) One-Time Mar 1997 125 pp.

## 57 Model Documentation Report: Industrial Sector Demand Module of the National Energy Modeling System

This report documents the objectives, analytical approach, and development of the National Energy Modeling System (NEMS) Industrial Demand Model. The report catalogues and describes model assumptions, computational methodology, parameter estimation techniques, and model source code. This document serves three purposes. First, it is a reference document providing a detailed description of the NEMS Industrial Model for model analysts, users, and the public. Second, this report meets the legal requirement of the Energy Information Administration (EIA) to provide adequate documentation in support of its models (Public Law 94-385, Section 57.b.2). Third, it facilitates continuity in model development by providing documentation from which energy analysts can undertake model enhancements, data updates, and parameter refinements as future projects.

DOE/EIA-M064(98) One-Time Dec 1997 114 pp.

## 58 Model Documentation Report: Macroeconomic Activity Module (MAM) of the National Energy Modeling System

This report documents the objectives, analytical approach, and development of the National Energy Modeling System (NEMS) Macroeconomic Activity Module (MAM) used to develop the Annual Energy Outlook for 1997 (AEO97). The report catalogues and describes the module assumptions, computations, methodology, parameter estimation techniques, and mainframe source code. This document serves three purposes. First, it is a reference document providing a detailed description of the NEMS MAM used for the AEO 1997 production runs for model analysts, users, and the public. Second, this report meets the legal requirement of the Energy Information Administration (EIA) to provide adequate documentation in support of its models (Public Law 94-385, Section 57.b.2). Third, it facilitates continuity in model development by providing documentation from which energy analysts can undertake model enhancements, data updates, and parameter refinements as future projects.

DOE/EIA-M065(97) One-Time Feb 1997 100 pp.

### 59 Model Documentation Report: Commercial Sector Demand Module of the National Energy Modeling System

This report documents the objectives, analytical approach and development of the National Energy Modeling System (NEMS) Commercial Sector Demand Module. This report catalogues and describes the model assumptions, computational methodology, parameter estimation techniques, model source code, and forecast results generated through the synthesis and scenario development based on these components. This document serves three purposes. First, it is a reference document providing a detailed description for model analysts, users, and the public. Second, this report meets the legal requirement of the Energy Information Administration (EIA) to provide adequate documentation in support of its models (Public Law 93-275, Section 57.b.1). Third, it facilitates continuity in model development by providing documentation from which energy analysts can undertake model enhancements, data updates, and parameter refinements as future projects.

DOE/EIA-M066(97) One-Time Feb 1997 200 pp.

### 60 Model Documentation Report: Residential Sector Demand Module of the National Energy Modeling System

This report documents the objectives, analytical approach, and development of the National Energy Modeling System (NEMS) Residential Sector Demand Module. The report catalogues and describes the model assumptions, computational methodology, parameter estimation techniques, and FORTRAN source code. This

document serves three purposes. First, it is a reference document that provides a detailed description for energy analysts, other users, and the public. Second, this report meets the legal requirement of the Energy Information Administration (EIA) to provide adequate documentation in support of its statistical and forecast reports according to Public Law 93-275, Section 57.b.1. Third, it facilitates continuity in model development by providing documentation from which energy analysts can undertake model enhancements, data updates, and parameter refinements.

DOE/EIA-M067(97) One-Time Jan 1997 179 pp.

#### 61 Model Documentation Report: Residential Sector Demand Module of the National Energy Modeling System

This is the fourth edition of the Model Documentation Report: Residential Sector Demand Module of the National Energy Modeling System (NEMS). It reflects changes made to the module over the past year for the Annual Energy Outlook 1998. Since last year, several new enduse services were added to the module including: Clothes washers, dishwashers, furnace fans, color televisions, and personal computers. Also, as with all NEMS modules, the forecast horizon has been extended to the year 2020. columns were added to the detailed technology database. One column relates the water heating energy savings associated with the use of more efficient clothes washers and dishwashers and the other specifies the use of furnace fans with central This report space conditioning systems. documents the objectives, analytical approach, and development of the National Energy Modeling System (NEMS) Residential Sector The report catalogues and Demand Module. describes the model assumptions, computational methodology, parameter estimation techniques, and FORTRAN source code. This document serves three purposes. First, it is a reference document that provides a detailed description for energy analysts, other users, and the public.

Second, this report meets the legal requirement of the Energy Information Administration (EIA) to provide adequate documentation in support of its statistical and forecast reports according to Public Law 93-275, Section 57.b.1. Third, it facilitates continuity in model development by providing documentation from which energy analysts can undertake model enhancements, data updates, and parameter refinements.

DOE/EIA-M067(98) One-Time Dec 1997 212 pp.

#### 62 EIA Model Documentation: Electricity Market Module Electricity Fuel Dispatch

This report documents the National Energy Modeling System Electricity Fuel Dispatch Submodule (EFD), a submodule of the Electricity Market Module (EMM) as it was used for EIA's Annual Energy Outlook 1997. It replaces previous documentation dated March 1994 and subsequent yearly update revisions. This report catalogues and describes the model assumptions, computational methodology, parameter estimation techniques, model source code, and forecast results generated through the synthesis and scenario development based on these components. This document serves four purposes. First, it is a reference document providing a detailed description of the model for reviewers and potential users of the EFD including energy experts at the Energy Information Administration (EIA), other Federal agencies, state energy agencies, private firms such as utilities and consulting firms, and non-profit groups such as consumer and environmental groups. Second, this report meets the legal requirement of the Energy Information Administration (EIA) to provide adequate documentation in support of its statistical and forecast reports (Public Law 93-275, Section 57.b.1). Third, it facilitates continuity in model development by providing documentation which details model enhancements that were undertaken for AEO97 and since the previous documentation. Last, because the major use of the EFD is to develop forecasts, this documentation explains the calculation, major

inputs and assumptions which were used to generate the *AEO97*.

DOE/EIA-M068-D(97) One-Time Mar 1997 97 pp.

#### 63 Model Documentation: Renewable Fuels Module of the National Energy Modeling System

This report documents the objectives, analytical approach, and design of the National Energy Modeling System (NEMS) Renewable Fuels Module (RFM) as it relates to the production of the Annual Energy Outlook 1997 (AEO97) forecasts. The report catalogues and describes modeling assumptions, computational methodologies, data inputs, and parameter estimation techniques. A number of offline analyses used in lieu of RFM modeling components are also described. This document report serves three purposes. First, it is a reference document for model analysts, model users, and the public interested in the construction and application of the RFM. Second, it meets the legal requirement of the Energy Information Administration (EIA) to provide adequate documentation in support of its models (Public Law 93-275, Federal Energy Administration Act of 1974, Section 57.b.1). Finally, such documentation facilitates continuity in EIA model development by providing information sufficient to perform model enhancements and data updates as part of EIA's ongoing mission to provide analytical and forecasting information systems.

DOE/EIA-M069(97) One-Time Apr 1997 166 pp.

## 64 EIA Model Documentation: Transportation Sector Model of the National Energy Modeling System

Over the past year, several modifications have been made to the NEMS Transportation Model, incorporating greater levels of detail and analyses in modules previously represented in the aggregate or under a profusion of simplifying assumptions. This document is intended to amend those sections of the Model Documentation Report (MDR) which describe these superseded modules. Significant changes have been implemented in the LDV Fuel Economy Model, the Alternative Fuel Vehicle Model, the LDV Fleet Module, and the Highway Freight Model. The relevant sections of the MDR have been extracted from the original document, amended, and are presented.

DOE/EIA-M070(97) One-Time Mar 1997 108 pp.

# **Forecasting**

#### 65 Annual Energy Outlook 1998

The Annual Energy Outlook 1998 (AEO98) is the first AEO with projections to 2020. Key issues for the forecast extension are trends in energy efficiency improvements, the effects of increasing production and productivity improvements on energy prices, and the reduction in nuclear generating capacity. Projections in AEO98 also reflect a greater shift to electricity market restructuring. Restructuring is address through several changes that are assumed to occur in the industry, including a shorter capital recovery period for capacity expansions decisions and a revised financial structure that features a higher cost of capital as the result of higher competitive risk. Both assumptions tend to favor less capitalintensive generation technologies, such as natural gas, over coal or base load renewable technologies. The forecasts include specific restructuring plans in those regions that have announced plans. California, New York, and New England are assumed to begin competitive pricing The provisions of the California legislation for stranded cost recovery and price caps are incorporated. In New York and New England, stranded cost recovery is assumed to be phased out by 2008.

DOE/EIA-0383(98) Annual Dec 1997 240 pp.

GPO Stock Number: 061-003-01014-8

GPO Price: \$23.00

#### 66 International Energy Outlook 1997

The International Energy Outlook 1997 (IEO97) presents an assessment by the Energy Information Administration (EIA) of the outlook for international energy markets through 2015. This report is an extension of the EIA's Annual Energy Outlook 1997 (AEO97), which was prepared using the National Energy Modeling System (NEMS). U.S. projections appearing in the IEO97 are consistent with those published in the AEO97. *IEO*97 is provided as a statistical service to energy managers and analysts, both in government and in the private sector. The projections are used by international agencies, Federal and State government, trade associations, and other planners and decisionmakers. They are published pursuant to the Department of Energy Organization Act of 1977 (Public Law 95-91, Section 205.c). The IEO97 projections are based on U.S. and foreign government policies in effect on October 1, 1996.

DOE/EIA-0484(97) Annual Apr 1997 196 pp. GPO Stock Number: 061-003-00993-0

GPO Price: \$13.00

# 67 Issues in Midterm Analysis and Forecasting 1997

Issues in Midterm Analysis and Forecasting 1997 (Issues) presents a series of seven papers, which cover topics in analysis and modeling that underlie the Annual Energy Outlook 1997 (AEO97), as well as other significant issues in midterm energy markets. AEO97, DOE/EIA-0383(97), published in December, presents national forecasts of energy production, demand, imports, and prices through the year 2015 for five cases -- a reference case and four additional cases that assume higher and lower economic growth and higher and lower world oil prices than in the reference case. The forecasts were generated using the Energy Information Administration's (EIA) National Energy Modeling System (NEMS). The papers included in *Issues* describe underlying analyses for the projections in *AEO97* and other analytical products of EIA's Office of Integrated Analysis and Forecasting. This provides public access to analytical work done in preparation for the midterm projections and to other unpublished analyses. Specific topics were chosen for their relevance to current energy issues or to highlight modeling activities in NEMS.

DOE/EIA-0607(97) Annual Jul 1997 136 pp. GPO Stock Number: 061-003-00999-9

GPO Price: \$11.00

### 68 Short-Term Energy Outlook Quarterly Projections

The Short-Term Energy Outlook Quarterly Projections (STEO) presents quarterly forecasts of energy supply, demand, stock, and prices for each quarter. The forecasts are produced by using the Short-Term Integrated Forecasting System, which uses two principal driving variables; a macroeconomic forecast and world oil price assumptions. The three projections for petroleum supply and demand are based on low, middle, and high economic growth scenarios that incorporate high, middle and low crude oil price trajectories. The tables and discussion refer primarily to the middle, or base case scenario and to the domestic situation. Other cases which examine the sensitivity of total petroleum demand to varying assumptions about prices, weather and economic activity are presented. The petroleum outlook includes data projections of domestic crude oil production, motor gasoline, distillate fuel oil, residual fuel oil, and other products and inventories. Also included are natural gas, coal and electric power projections. Additionally, the international petroleum situation is discussed.

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**Quarterly Coal Report (QSCR).** Statistics on U.S. coal production, consumption, exports and imports, and stocks are provided by quarter for the most recent quarter and for previous years. Consumption and stocks are reported by end-use sector, and annual production trends are reported by State.

*Updated* 60 days after the end of the quarter.

#### Oil and Gas

#### Heating Fuel Data (HFUL).

Heating fuel data contain the most recent weekly/monthly data on production, imports, stocks, and residential and wholesale prices for residential heating fuels.

Updated every Thursday at 5 p.m., October through March, and the second week of the month April through September.

Oxygenate Data (OXYDATA). Statistics by month on fuel ethanol, methyl tertiary butyl ether (MTBE), and methanol production, stocks, and amount blended into motor gasoline are reported. Data are by PAD District and for the total United States.

*Updated approximately 15 working days after the end of the month.* 

#### Weekly Petroleum Status Report (WPSR).

The latest U.S. petroleum balance sheet and the last five weeks of *Weekly Petroleum Status Report* data are reported. Data include domestic crude oil production, petroleum imports and exports, crude input to refineries, petroleum products supplied for consumption, and petroleum stocks.

Updated on Wednesdays (Thursdays in event of holidays) at 9 a.m., eastern time.

**PSM State Stocks (STKS).** The most recent month's data on refinery, bulk terminal, and natural gas plant stocks of selected petroleum products (product specific) by PAD District and State are reported.

Updated on the 20th of the month.

**Petroleum Marketing Report (PMMR).** Statistical data for the current three months and the reference month one year ago on crude oil and petroleum product prices and sales volumes are reported. Data are for the United States and by PAD District.

*Updated on the 20th of the month.* 

Weekly On-Highway Diesel Prices (DIESLPRC). Weekly data by U.S. average and PAD District of the retail, on-highway, self service, cash price (including taxes) of diesel fuel are included. Prices are historical back to March 21, 1994.

Updated on Monday at 5:00 p.m, eastern time.

#### Weekly Retail Gasoline Prices (GASOLINE).

Weekly data by U.S. average and PAD District of retail, unleaded regular, self service, cash price (including taxes) for motor gasoline are included. *Updated on Tuesday at 5:00 p.m.*, *eastern time*.

**Natural Gas Monthly (NGMR).** Data for the most recent five months on natural gas supply and disposition and prices are reported. Data are at the national level for supply and disposition, consumption by consuming sector and price, and at the State level for end-use sector deliveries and price to end users.

Updated on the 20th of the month.

#### EIA Press Releases

The full text of the latest press releases from EIA is included.

Updated as new press releases are issued.

#### Monthly Petroleum Imports

Contains monthly data for the current reporting year and annualized data for the prior reporting years on crude oil and petroleum product imports into the United States. Data include the name of the importer of record, commodity imported, port of entry, quantity imported, percent sulfur by weight, API gravity, and processing company and location.

*Updated monthly.* 

#### Petroleum Supply Monthly

Statistical data on the U.S. daily average supply and disposition of petroleum; crude oil production by State and PAD District; imports of petroleum into the United States by country of origin; and petroleum stocks by PAD District are reported. Data are primarily for the most recent month. Most of the tables reported in the *Petroleum Supply Monthly* are included.

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#### http://www.eia.doe.gov

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The Energy InfoDisc allows the user to view and search more than 200 data, analysis, and forecasting reports and directories published over the previous 12 months. In addition, users can access EIA's extensive energy databases and specialized applications to generate their own individualized energy databases. Each issue highlights new products and any changes or enhancements to the CD. The Energy InfoDisc provides information about EIA's mission and goals as the primary source of statistical energy information to the public and provides a directory of EIA's energy experts by area of expertise. Contacts for other Federal statistical programs are also included.

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EIA databases containing monthly and annual time series cover most aspects of energy supply and demand. Energy analysis applications allow users to examine selected aspects of EIA energy data, analyses, and forecasts and to display or tabulate the data in other ways for their own analysis.

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The Energy InfoDisc is issued quarterly. The single issue price in the United States, Canada, and Mexico is \$45. Outside these areas, the price per issue is \$60. An annual subscription of four quarterly issues is \$100 in the United States, Canada, and Mexico and \$160 outside these areas. The Energy InfoDisc is distributed by STAT•USA, a U.S. Department of Commerce information service for business, economic, and trade professionals, through a cooperative agreement with EIA. To order, call 1-800-STAT•USA, or (202) 482-1986. To find out more about the Energy InfoDisc and its contents, contact NEIC by phone: (202) 586-8800 or by Internet E-Mail: infoctr@eia.doe.gov.

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