

Domestic and International Energy Data Collection for Energy Market Analysis Needs



Joint Organizations Data Initiative 13th Regional Training Workshop

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U. S. Energy Information Administration

May 19, 2016, Beijing, China

U. S. Energy Information Administration (EIA)

- Established in 1977 as an independent statistics and analysis agency within the U. S. Department of Energy. All products are prepared independently of policy consideration and free to public
- Collects, analyzes, and disseminates independent and impartial energy information to promote sound policymaking, efficient markets, and public understanding of energy and its interaction with the economy and the environment
- By law, data, analyses, and forecasts provided by EIA are independent of approval by any other officer or employee of the U. S. government
- Budget \$117 million, FY 2014
- Employees about 370

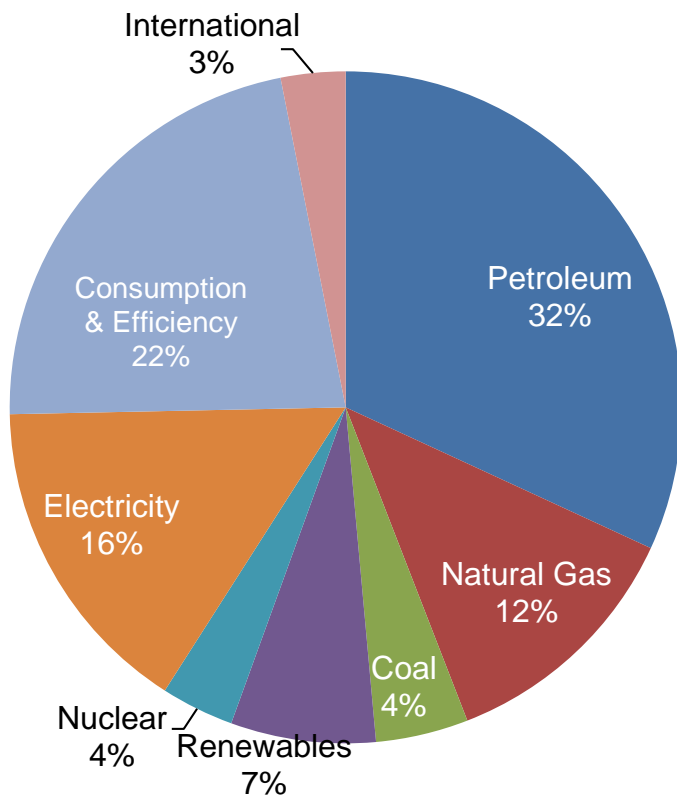
Location:

1000 Independence Avenue, SW, Washington, DC 20585, USA

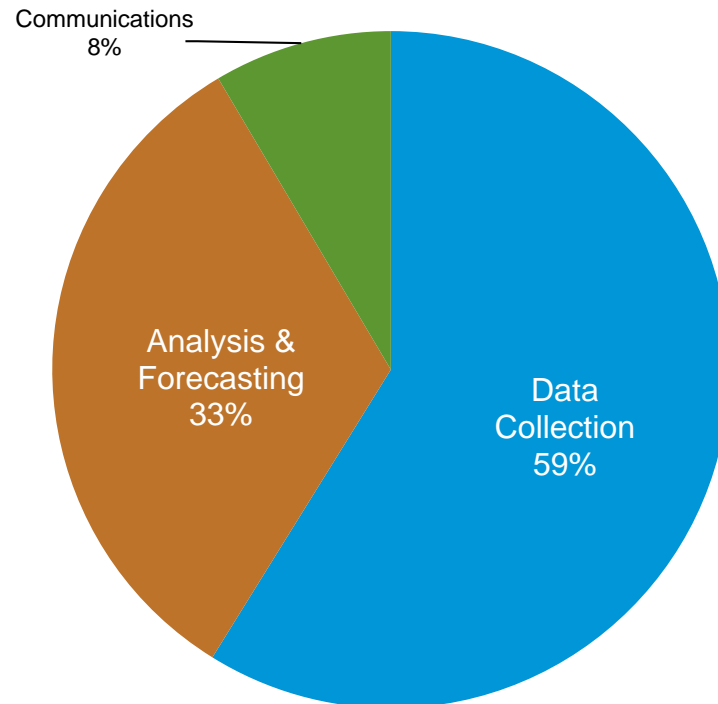


Distribution of EIA resources by sector and function

EIA Resources by Sector



EIA Resources by Function



Mandatory Data Collection Authority

- Federal Energy Administration (FEA) Act of 1974
 - Mandated establishment of the National Energy Information System.
 - Created mandate to collect, assemble, evaluate, and analyze energy information by categorical groupings established by the Administrator.
 - Provided data collection enforcement authority for gathering data from energy producing and major consuming firms.
- Department of Energy (DOE) Organization Act of 1977
 - Created EIA and provides a broad scope to establish a central, comprehensive, and unified energy data and information program.
 -a central, comprehensive, energy data and information program which will collect, evaluate, analyze, and disseminate data and information relevant to energy resource reserves, energy production, demand, and technology, and related economic and statistical information, to meet demands in the near and longer term future for the Nation's economic and social needs.

Mandatory Protection of Privacies & Confidentialities

- Law requires EIA to protect data suppliers' identities and their proprietary information
- EIA provides confidentiality for individually identifiable or business sensitive data
- Fair treatment of data providers, not overburden public
- Military fuel storage and stock information are excluded and protected
- Transparent with the use and purpose of the data collection and the methods of the survey

EIA's data collection system integrates all energy sectors

Reserves, production, & trade

Crude oil

Natural gas

Natural gas liquids

Coal

Uranium

Renewable

Transformation, distribution, & storage

Petroleum & biofuel refiners
& terminals

Natural gas storage & distribution

Electricity generation & distribution

End-use consumption

Commercial

Residential

Industrial

Transportation



Complete list of EIA's active surveys and forms are available at www.eia.gov/survey/

EIA relies on surveys to collect energy data

- EIA operates about 70 data surveys
 - Petroleum (28)
 - Natural gas (12)
 - Electric power (11)
 - Alternative Fuel (2)
 - Renewables (2)
 - Coal (5)
 - Uranium and nuclear fuel (5)
 - Energy end use consumption (3)
 - Finance/environment/other (4)

FORM EIA-800
WEEKLY REFINERY AND FRACTIONATOR REPORT

This report is mandatory under the Federal Energy Administration Act of 1974 (Public Law 93-275). Failure to comply may result in criminal fines, civil penalties and other sanctions as provided by law. For further information concerning sanctions and data protections see the provision on sanctions and the provision concerning the confidentiality of information in the instructions. Title 18 USC 1001 makes it a criminal offense for any person knowingly and willingly makes to any Agency or Department of the United States any false, fictitious, or fraudulent statements as to any matter within its jurisdiction.

PART 1. RESPONDENT IDENTIFICATION DATA

PART 2. SUBMISSION/RESUBMISSION INFORMATION

Please complete all date fields.

Mo Day Year

REPORT PERIOD:

EIA ID NUMBER:

If any Respondent Identification Data has changed since the last report, enter an "X" in the box:

Company Name: _____

Doing Business As: _____

Site Name: _____

Terminal Control Number (TCN): _____

Physical Address of Contact (e.g., Street Address, Building Number, Floor, Suite): _____

City: _____ State: ____ Zip: _____ - _____

Mailing Address of Contact (e.g., PO Box, RR): If the physical and mailing addresses are the same, only complete the physical address.

If this is a resubmission, enter an "X" in the box:

A completed form must be received by 5 p.m. Eastern Time on the Monday following the end of the report period.

Forms may be submitted using one of the following methods:

Email: OOG.SURVEYS@eia.doe.gov

Fax: (202) 586-1076

Secure File Transfer:
<https://signon.eia.doe.gov/upload/noticeoog.jsp>

Electronic Transmission:
For the PC Electronic Data Reporting Option (PEDRO) software, call (202) 586-9659. (See Form instructions, pg 1.)

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FORM EIA-800
 WEEKLY REFINERY AND FRACTIONATOR REPORT

REPORTING PERIOD: Month: Day: Year: EIA ID NUMBER: RESUBMISSION:

Quantities entered below should be the weekly equivalent of those reported monthly to the Energy Information Administration by your company on Form EIA-810 "Monthly Refinery Report" or Form EIA-816, "Monthly Natural Gas Plant Liquids Report."

PART 3. REFINERY AND FRACTIONATOR ACTIVITY (Thousand Barrels)

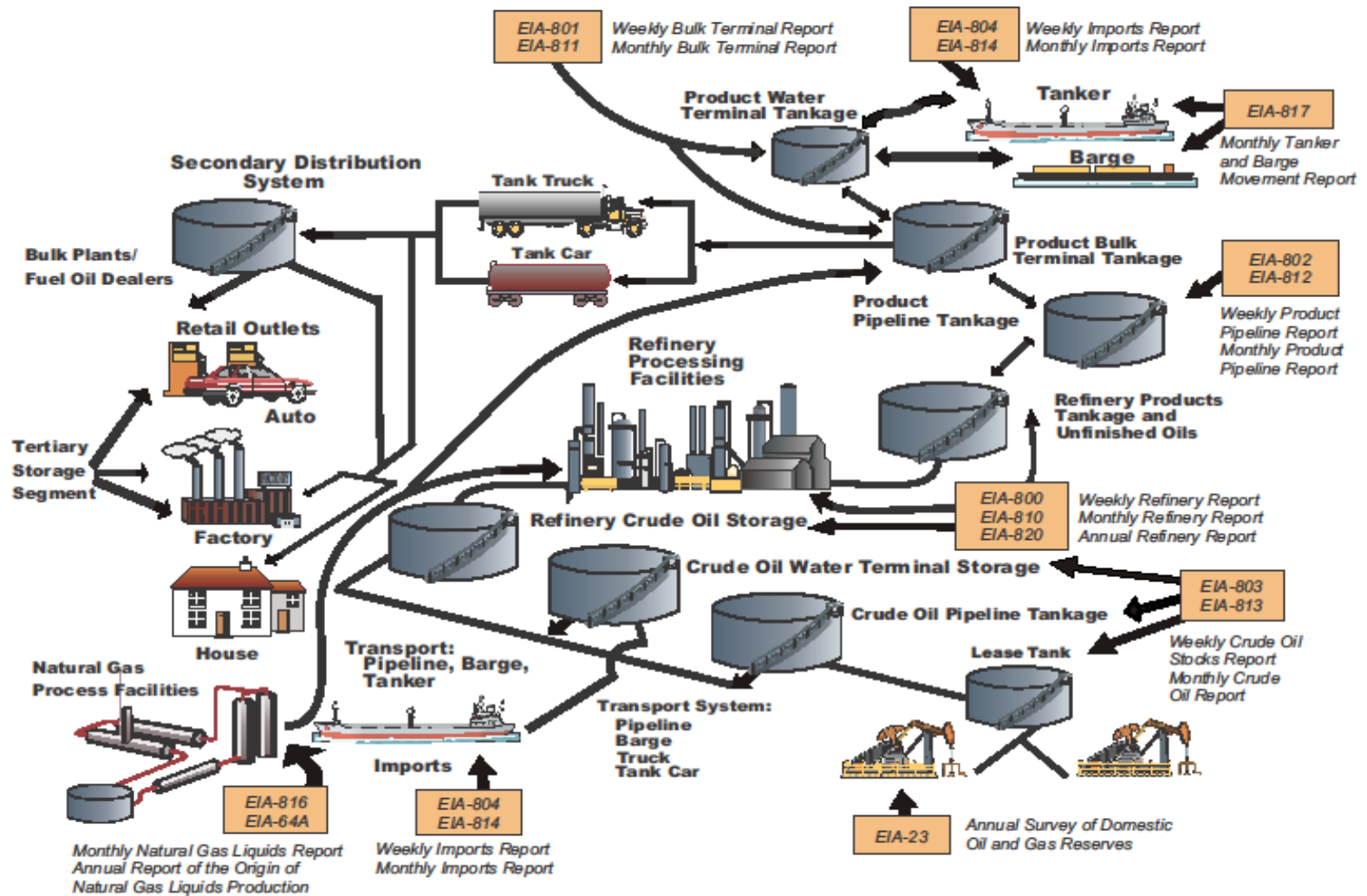
Item Description	Product Code	Input	Production	Ending Stocks
Gross Input to Atmospheric Crude Oil Distillation Units	990			
Total Input, (net, see instructions)	001			
Crude Oil	050			
Natural Gas Plant Liquids (NGPL) and Liquefied Refinery Gases (LRG)*:	242			
Propane/Propylene	246			
Unfinished Oils	812			
Fuel Ethanol	141			
Finished Motor Gasoline:				
Reformulated, Blended with Fuel Ethanol	125			
Reformulated, Other	127			
Conventional, Blended with Fuel Ethanol:				
Ed55 and Lower	166			
Greater than Ed55	149			
Conventional, Other	130			
Motor Gasoline Blending Components:				
Reformulated Blendstock for Oxygenate Blending (RBOB)	118			
Conventional Blendstock for Oxygenate Blending (CBOB)	139			
Gasoline Treated as Blendstock (GTAB)	117			
All Other Motor Gasoline Blending Components	138			
Kerosene	311			
Kerosene-Type Jet Fuel:	213			
Commercial	217			
Military	218			
Distillate Fuel Oil:				
15 ppm sulfur and under	465			
Greater than 15 ppm to 500 ppm sulfur (incl.)	466			
Greater than 500 ppm sulfur	467			
Residual Fuel Oil	511			
Asphalt and Road Oil	931			

* Includes propane, propylene, ethane, ethylene, normal butane, butylene, isobutane, isobutylene, and pentanes plus.

Data Sharing Activities

- EIA only uses the survey data for statistical purposes
- Share company level data with other government agencies for statistical and non-statistical uses
- Some of the agency's data sharing activities are non-statistical but are vital for informed policy making decisions on energy policy
- Provide access for researchers for statistical uses only

PETROLEUM SUPPLY DATA COLLECTION



Weekly Petroleum Surveys

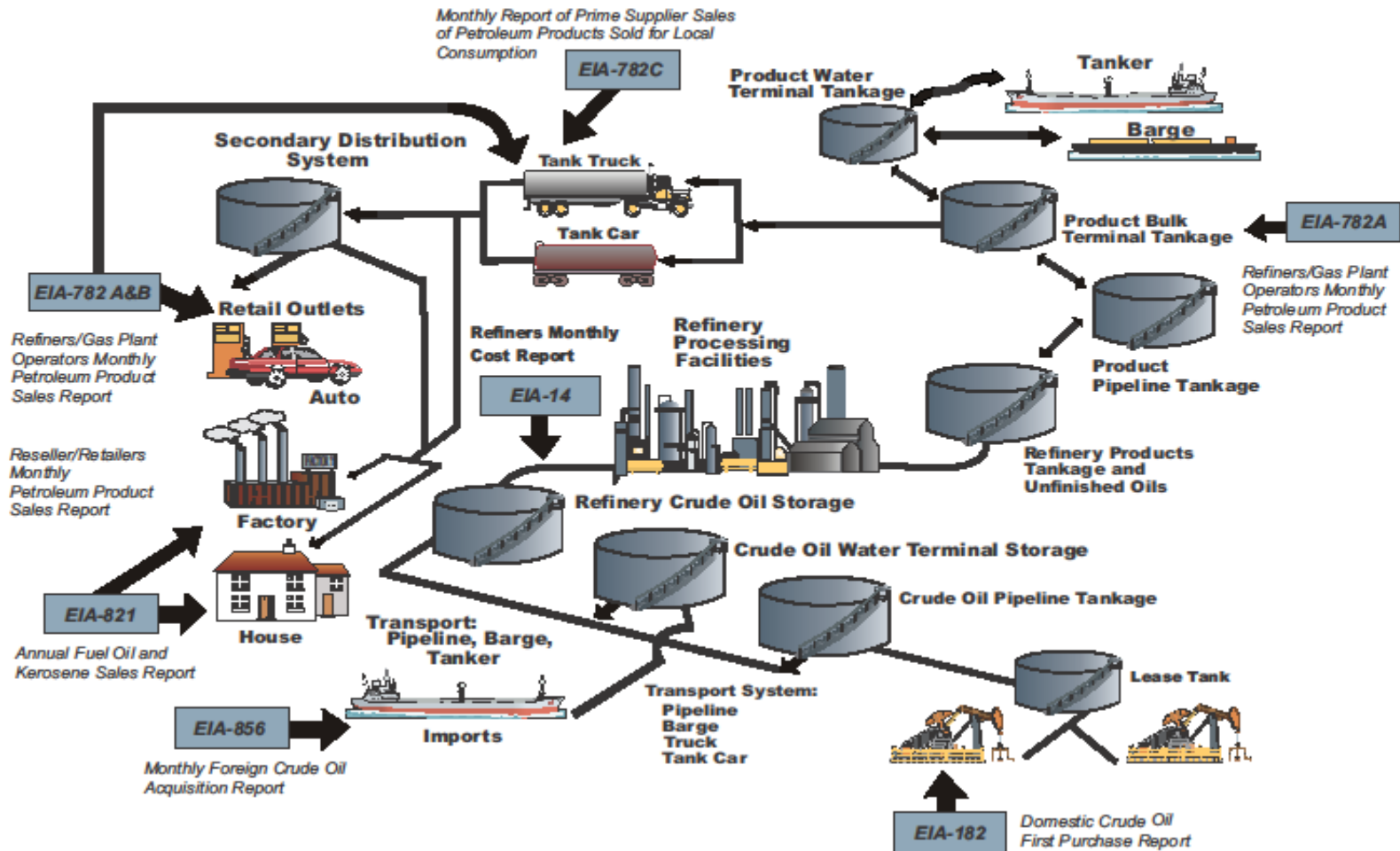
- 10 surveys for Weekly Petroleum Status Report
- [EIA-800, Weekly Refinery and Fractionator Report](#)
- [EIA-801, Weekly Bulk Terminal Report](#)
- [EIA-802, Weekly Product Pipeline Report](#)
- [EIA-803, Weekly Crude Oil Stocks Report](#)
- [EIA-804, Weekly Imports Report](#)
- [EIA-805, Weekly Bulk Terminal and Blender Report](#)
- [EIA-809, Weekly Oxygenate Report](#)
- [EIA-877, Winter Heating Fuels Telephone Survey](#) (*from October through March*)
- [EIA-878, Motor Gasoline Price Survey](#)
- [EIA-888, On-Highway Diesel Fuel Price Survey](#)

Monthly Petroleum Supply Surveys

10 Surveys for Petroleum Supply Monthly

- [EIA-22M, Monthly Biodiesel Production Survey](#)
- [EIA-810, Monthly Refinery Report](#)
- [EIA-812, Monthly Product Pipeline Report](#)
- [EIA-813, Monthly Crude Oil Report](#)
- [EIA-814, Monthly Imports Report](#)
- [EIA-815, Monthly Bulk Terminal and Blender Report](#)
- [EIA-816, Monthly Natural Gas Liquids Report](#)
- [EIA-817, Monthly Tanker and Barge Movement Report](#)
- [EIA-819, Monthly Oxygenate Report](#)
- [EIA-856, Monthly Foreign Crude Oil Acquisition Report](#)

PETROLEUM MARKETING DATA COLLECTION



Monthly Petroleum Marketing Surveys

- [EIA-14, Refiners' Monthly Cost Report](#)
- [EIA-182, Domestic Crude Oil First Purchase Report](#)
- [EIA-782A, Refiners'/Gas Plant Operators' Monthly Petroleum Product Sales Report](#)
- [EIA-782B, Resellers'/Retailers' Monthly Petroleum Product Sales Report](#)
(Suspended)
- [EIA-782C, Monthly Report of Prime Supplier Sales of Petroleum Products Sold for Local Consumption](#)

Annual Petroleum Surveys

- **Annual:**
- [EIA-23L, Annual Survey of Domestic Oil and Gas Reserves \(Field Version\)](#)
- [EIA-23S, Annual Survey of Domestic Oil and Gas Reserves \(Summary Version\)](#) **(Suspended)**
- [EIA-64A, Annual Report of the Origin of Natural Gas Liquids Production](#)
- [EIA-820, Annual Refinery Report](#)
- [EIA-821, Annual Fuel Oil and Kerosene Sales Report](#)

Activities Performed for Petroleum Statistics

- Weekly Petroleum Statistics
 - supply and disposition balance
 - estimate field production and exports
- Petroleum Supply Statistics
 - supply and disposition balance
 - exports data from U.S. Census Bureau and revised field production
 - crude oil quality, refinery operations, inter-regional movements
 - refinery, biofuels, and storage capacities
- Petroleum Marketing Statistics
 - weekly, monthly, and annual prices of crude oil and selected petroleum products
 - monthly and annual sales volumes of selected petroleum products
 - sales data provide demand estimates by state
 - distillate fuel oil sales by end use sector (currently suspended)

Petroleum Supply Data Characteristics

- Weekly Data
 - Emphasis is on timely release within days of report period end.
 - Best used as an early indicator of trends.
 - Typically based on sample surveys and estimates.
- Monthly Data
 - Typically released within 60 days after the end of the report period.
 - Accuracy is generally improved relative to weekly data.
 - Usually based on a complete census of in-scope operators.
 - Monthly data add detail not available from weekly reports.
- Annual Data
 - Includes monthly revisions, and considered the most accurate data.
 - Some data are only available annually (e.g. refinery capacity, reserves).

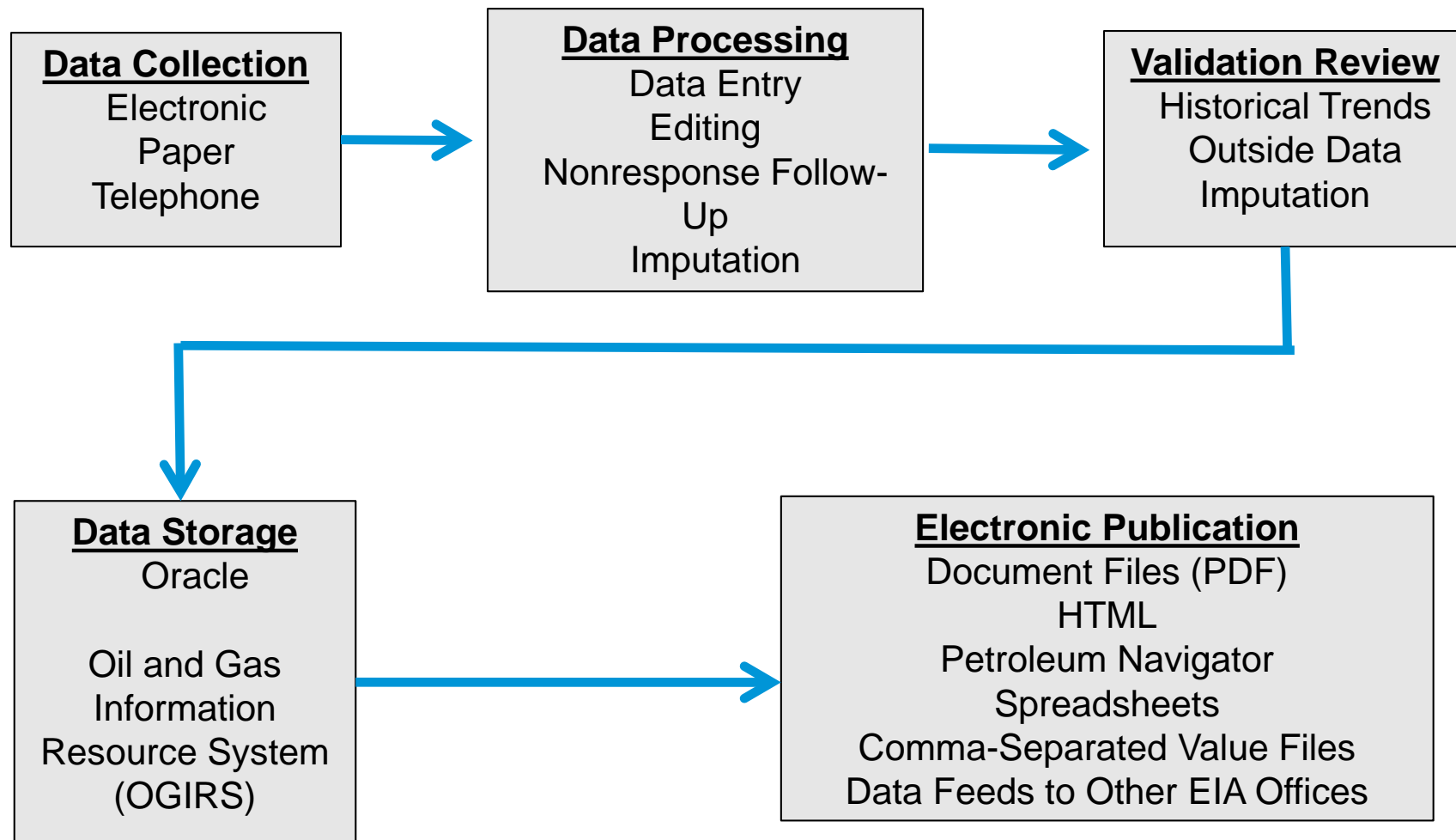
Survey Group of Energy Activities

- Supply surveys - small number of companies in industry
 - Relatively easy to list and survey all companies
 - Usually dominated by large companies
- Marketing surveys - large number of companies
 - Constructing list is difficult, expensive
 - Cost and quality result in probability based samples
- Consumption surveys (collecting use of energy, characteristics of use)
 - Millions of consumers, very difficult to list
 - Large sample sizes

General Business Process

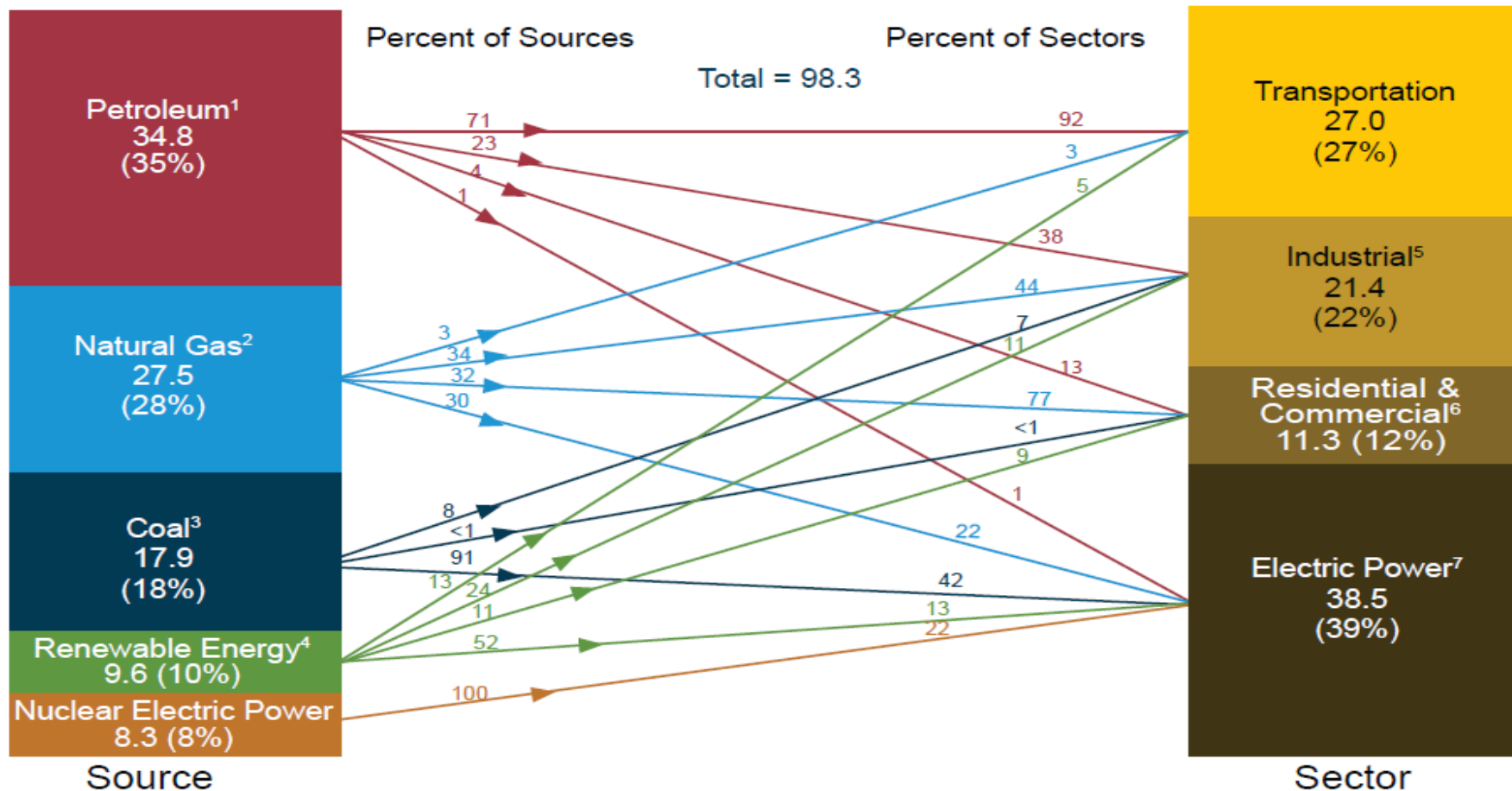
- Current EIA statistical programs were independently developed, deployed, and managed
 - The programs follow the U.S. Office of Management and Budget (OMB) [Standards and Guidelines for Statistical Surveys](#)
 - [EIA specific standards](#) are being developed to supplement the OMB standards
- Key elements of the current statistical process:
 - Planning: Survey forms need clearance from OMB
 - Development: Frame and sample designing
 - Operations:
 - Data editing and reviewing
 - Imputation, estimation, modeling, weighting
 - Disclosure protection
 - Reporting (aggregated data)
 - Evaluation

Overview of Data Collection Activities



Primary Energy Consumption by Source and Sector, 2014

(Quadrillion Btu)



Source: U.S. Energy Information Administration, Monthly Energy Review

Petroleum Navigator is among our primary means of disseminating petroleum data.

Independent Statistics & Analysis
eia U.S. Energy Information Administration

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Tools ▾ Learn About Energy ▾ News ▾

A-Z Index

PETROLEUM & OTHER LIQUIDS

OVERVIEW DATA ANALYSIS & PROJECTIONS GLOSSARY FAQs

Crude Oil Stocks at Tank Farms & Pipelines

(Thousand Barrels)

Period: Monthly ▾

[Download Series History](#) [Definitions, Sources & Notes](#)

Area	Nov-10	Dec-10	Jan-11	Feb-11	Mar-11	Apr-11	View History
U.S.	235,529	218,546	232,021	238,726	241,646	247,151	1981-2011
East Coast (PADD 1)	863	889	943	923	1,092	974	1981-2011
Midwest (PADD 2)	78,470	83,620	84,957	89,819	91,562	90,039	1981-2011
Cushing, OK	35,143	37,832	38,620	39,552	42,310	40,926	2004-2011
Gulf Coast (PADD 3)	116,739	97,960	111,572	110,411	113,982	118,473	1981-2011
Rocky Mountain (PADD 4)	12,519	11,963	11,980	12,010	11,060	11,724	1981-2011
West Coast (PADD 5)	26,938	24,114	22,569	25,563	23,950	25,941	1981-2011

-- = No Data Reported; -- = Not Applicable; **NA** = Not Available; **W** = Withheld to avoid disclosure of individual company data.

Notes: Stocks are reported as of the last day of the month. Totals may not equal sum of components due to independent rounding. See Definitions, Sources, and Notes link above for more information on this table.

Release Date: 6/29/2011
 Next Release Date: Last Week of July 2011

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U.S. Department of Energy
 1000 Independence Ave., SW
 Washington, DC 20585

eia

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U.S. Annual Petroleum Supply and Disposition, 2015 (million barrels per day)

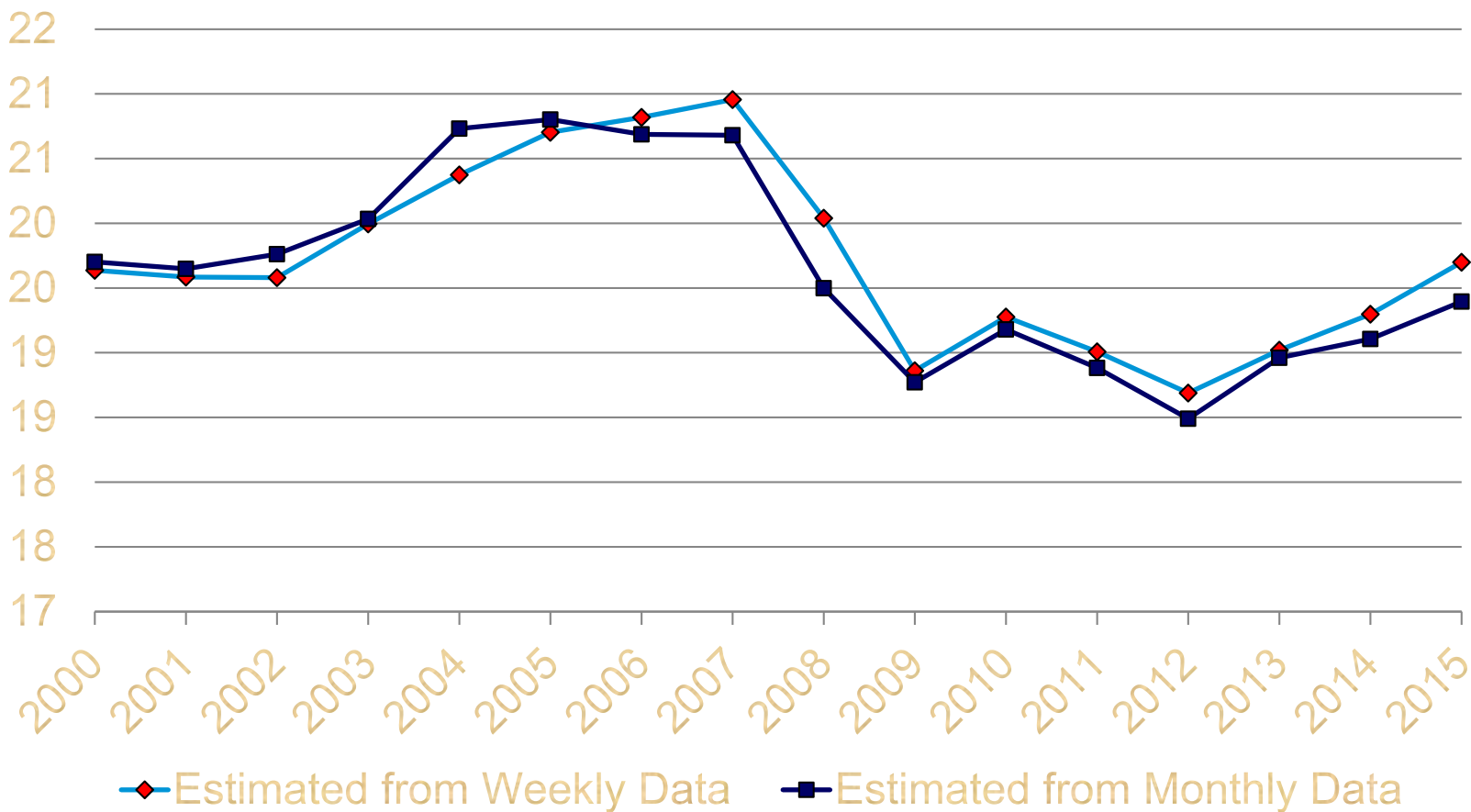
(+) Field Production	12.7
Crude Oil	9.4
Natural Gas Plant Liquids	3.3
(+) Renewable Fuels and Oxygenate Production	1.1
(+) Refinery and Blender Net Production	19.9
(+) Imports	9.4
(+) Adjustments (balancing items)	0.3
(-) Stock Change	0.4
(-) Refinery and Blender Input	18.9
(-) Exports	4.8
(=) Product Supplied	19.4

Note: Totals may not add due to independent rounding.

Source: U.S. Energy Information Administration, Petroleum Monthly Supply

Comparison of U.S. Annual Oil Demand Estimated as Product Supplied using Weekly and Monthly Data

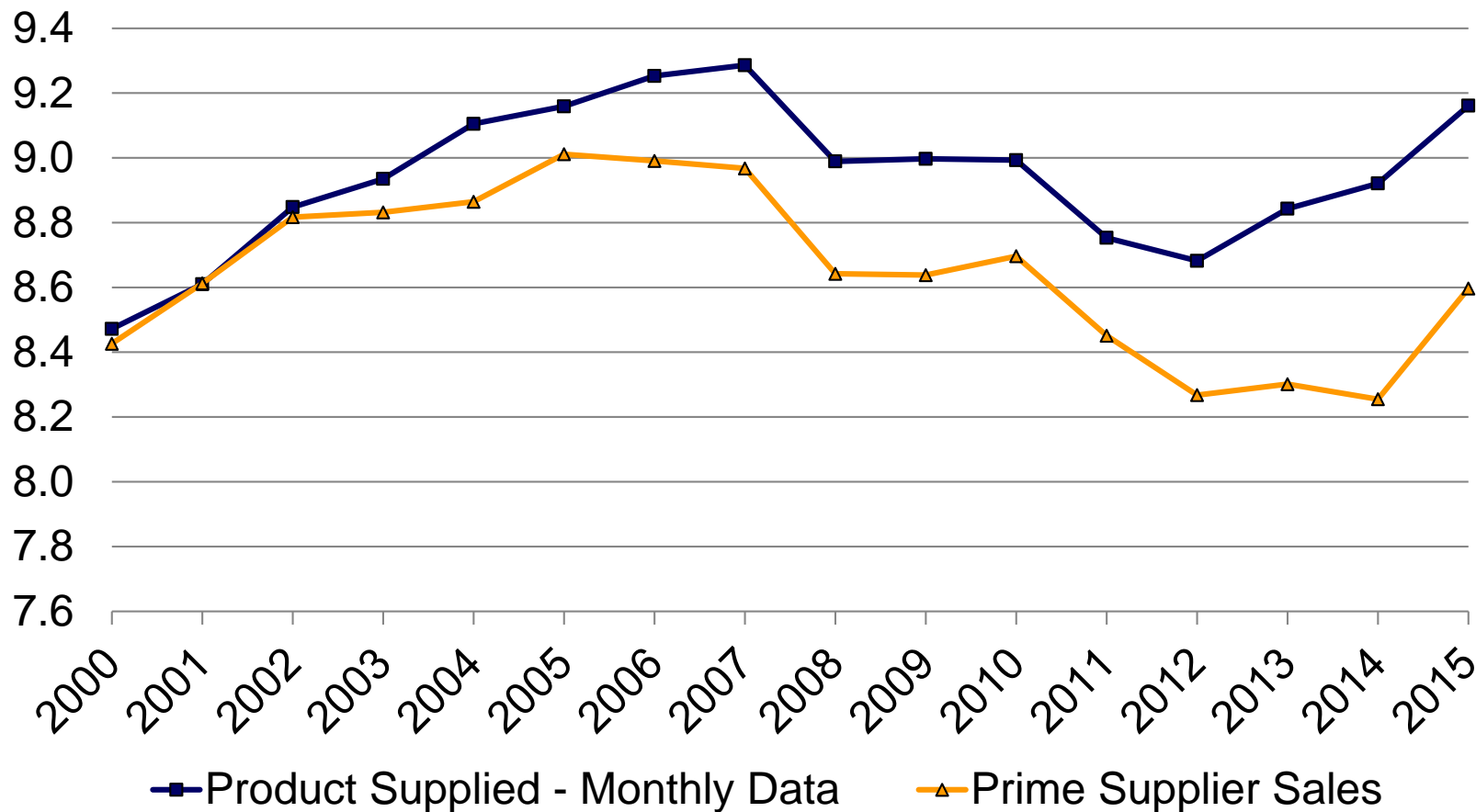
million barrels per day



Source: U.S. Energy Information Administration, Weekly Petroleum Status Report and Petroleum Supply Monthly

U.S. Annual Demand for Finished Motor Gasoline Measured as Product Supplied and Prime Supplier Sales

million barrels per day



Source: U.S. Energy Information Administration, Petroleum Supply Monthly and Petroleum Marketing Monthly

International Energy Data Collection

- EIA offers comprehensive collection of international statistics on primary and secondary forms of energy by type and activity
- Uses primary sources, i.e., official government published statistics, whenever possible to compile the initial data
- UN, IEA, JODI, trade press publications, used as secondary sources to supplement
- Data are examined for conformity to definitions, usually several sources may be consulted. If not conformed, adjustments are made
- Check the discrepancies between supply and disposition to verify to accuracy of the data for each individual country and the world
- Data available at www.eia.gov/ies

Energy Projections

- Short-Term Energy Outlook, STEO (monthly)
 - Forecasts U.S. supply, demand, trade, stocks, and prices of energy with a horizon of 12 to 24 months
- Annual Energy Outlook, AEO
 - Presents 25 to 30 year projections on U. S. energy supply, demand, and prices
 - Projections are made under alternative, internally-consistent sets of assumptions which results in several cases, i.e. low vs high cases
- International Energy Outlook, IEO
 - Assesses international energy markets and trends for the next 25 – 30 years by fuel types, country groups, regions, activities, sectors etc.
 - Explores the impacts of alternative assumptions in other scenarios with different economic growth rates and crude oil prices.

Forecasts support sound policy and business decisions

- U.S. Energy Information Administration (EIA) products provide important signals about trends in supply, demand, prices, and technologies
- Forecasts help policymakers, industry, and the public...
 - make better decisions and investments
 - prepare for different scenarios
 - anticipate possible futures, and potentially alter them through new actions

For more information

U.S. Energy Information Administration home page | www.eia.gov

Short-Term Energy Outlook | www.eia.gov/forecasts/steo

Annual Energy Outlook | www.eia.gov/forecasts/aeo

International Energy Outlook | www.eia.gov/forecasts/ieo

Monthly Energy Review | www.eia.gov/mer

EIA Information Center

InfoCtr@eia.gov

Our average response time is within three business days.

(202) 586-8800

24-hour automated information line about EIA and frequently asked questions.