

Natural Gas Monthly

July 1997

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Electric Power Monthly, updated on the 1st of the month

Monthly Energy Review, updated the last week of the month

Short Term Energy Outlook, updated 60 days after the end of the quarter

Preface

The *Natural Gas Monthly (NGM)* is prepared in the Data Operations Branch of the Reserves and Natural Gas Division, Office of Oil and Gas, Energy Information Administration (EIA), U.S. Department of Energy (DOE).

General questions and comments regarding the *NGM* may be referred to Kendrick E. Brown, Jr. (202) 586-6077, Ann M. Ducca (202) 586-6137, or Eva M. Fleming (202) 586-6113. Specific technical questions may be referred to the appropriate persons listed in Appendix E.

The *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.

The data in this publication are collected on surveys conducted by the EIA to fulfill its responsibilities for gathering and reporting energy data. Some of the data are collected under the authority of the Federal Energy Regulatory Commission (FERC), an independent commission within the DOE, which has jurisdiction primarily in the regulation of electric utilities and the interstate natural gas industry. Geographic coverage is the 50 States and the District of Columbia.

Explanatory Notes supplement the information found in tables of the report. A description of the data collection surveys that support the *NGM* is provided in the Data Sources section. A glossary of the terms used in this report is also provided to assist readers in understanding the data presented in this publication.

All natural gas volumes are reported at a pressure base of 14.73 pounds per square inch absolute (psia) and at 60 degrees Fahrenheit. Cubic feet are converted to cubic meters by applying a factor of 0.02831685.

Common Abbreviations Used in the Natural Gas Monthly

AGA	American Gas Association	IOGCC	Interstate Oil and Gas Compact Commission
Bbl	Barrels	LNG	Liquefied Natural Gas
BLS	Bureau of Labor Statistics, U.S. Department of Labor	Mcf	Thousand Cubic Feet
Bcf	Billion Cubic Feet	MMBtu	Million British Thermal Units
BOM	Bureau of Mines, U.S. Department of the Interior	MMcf	Million Cubic Feet
Btu	British Thermal Unit	MMS	United States Minerals Management Service, U.S. Department of the Interior
DOE	U.S. Department of Energy	NGL	Natural Gas Liquids
DOI	U.S. Department of the Interior	OCS	Outer Continental Shelf
EIA	Energy Information Administration, U.S. Department of Energy	STIFS	Short-Term Integrated Forecasting System
FERC	Federal Energy Regulatory Commission	STEO	Short Term Energy Outlook
		Tcf	Trillion Cubic Feet

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The Intricate Puzzle of Oil and Gas “Reserves Growth”

by David F. Morehouse

Developing the Nation's discovered oil and gas resources for production is a complex process that is often characterized by initial uncertainty as regards the ultimate size or productive potential of the involved reservoirs and fields. Because the geological and hydrological characteristics of the subsurface cannot — for the most part — be directly accessed, indirect techniques and procedures must be used to develop estimates of the size and recoverability of these discovered resources. While new or improved technologies that allow more accurate assessment of the involved parameters have, over time, lessened some of the risks associated with the in-field exploration and development process, significant uncertainties nevertheless remain. Estimates of proved reserves and ultimate recoveries during the early years of a field's or a reservoir's productive life span are, as a result, generally conservative.¹

Estimates of the volumes that will ultimately be produced from reservoirs and fields tend on average to increase substantially over time. Rather than the discovery of new fields, it is this phenomenon — the increase of estimates of ultimate recovery from a field or group of fields over time due to the extension of proved reservoir area(s), in-field discovery of one or more new reservoirs, and several other factors - - that accounts for the majority of both current domestically-sourced oil and gas supplies and current additions to domestic proved oil and gas reserves. This phenomenon is often called “reserves growth,” a colloquial label which is not accurately descriptive of what is actually happening.² This article therefore uses the older, more accurate label “ultimate recovery appreciation” (URA) to refer to the phenomenon.

Despite its recognized importance to current domestic oil and gas supply, and its even greater apparent importance to future domestic oil and gas supply, the URA phenomenon is not well understood, and therefore cannot be reliably forecast. Knowledge of how the domestic “inventory” of oil and gas is likely to change over time is a critical input to future energy-related decisions that will be made by individuals, industries, and government policy makers. For that reason the United States Geological Survey (USGS) considers analysis of URA “arguably the most significant research problem in the field of hydrocarbon resources assessment.”³

This article begins with a background discussion of the methods used to estimate proved oil and gas reserves and ultimate recovery, which is followed by a discussion of the factors that affect the ultimate recovery estimates of a field or reservoir. Efforts starting in 1960 to analyze and project ultimate resource appreciation are then briefly discussed, as are future directions for research regarding the analysis and projection of ultimate recovery appreciation. The terms “estimated ultimate recovery” and “ultimate recovery appreciation” are used throughout the article. They are defined as follows:

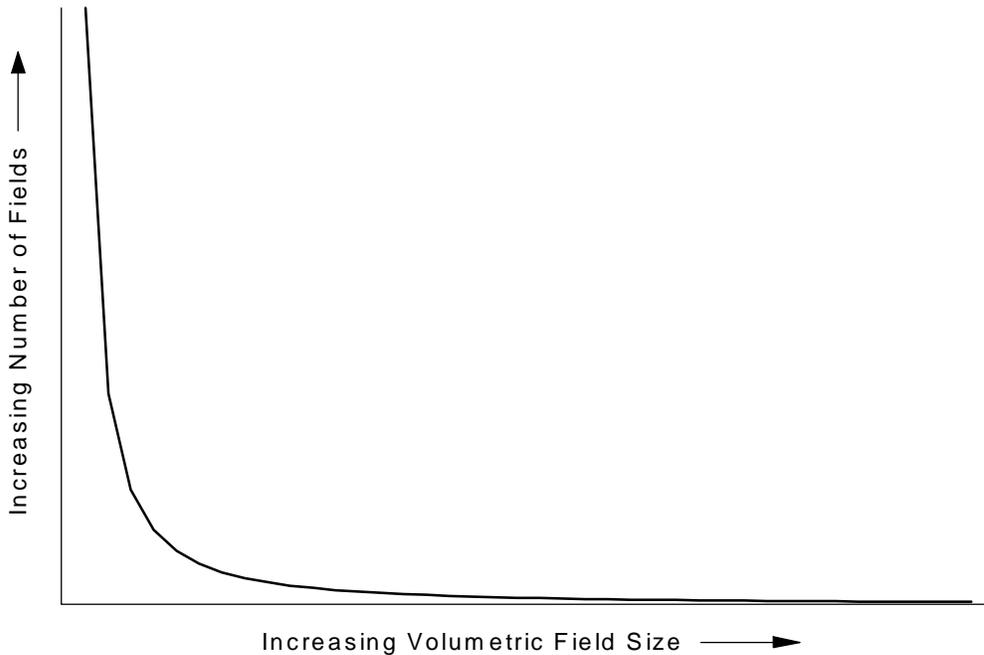
- “Estimated ultimate recovery” (EUR) is the sum of the estimate of proved reserves at a specific time and cumulative production up to that time.
- “Ultimate recovery appreciation” (URA) is the generally observed increase of EUR over time.

Background

A basic rule of thumb in the upstream (or producing) sector of the oil and gas industry is that the best place to find new crude oil or natural gas is near where it has already been found. That is precisely what the industry does most often, for a sound business reason: the financial risk of doing so is far lower than that associated with drilling a rank wildcat hole in a prospective, but previously unproductive, area. On the other hand, there is a definite tradeoff of reward for risk. The returns on drilling investment become ever leaner as more wells are drilled in a particular area because the natural distribution of oil and gas field volumes tends to be approximately log-geometric (or J-shaped as in Figure FE1). There are only a few large fields, whereas there are a great many small ones.⁴

Historically, the largest fields within a given prospective area (and, implicitly, the largest reservoirs within them) are discovered early-on, if for no other reason than that they are most often areally broader targets which even randomly placed boreholes would penetrate early-on. The “biggest found first” phenomenon is clearly evidenced in the oil and gas record of the United States, which is by far the most thoroughly explored oil and gas productive area on Earth. Subsequent to success of the first modern oil well drilled in 1859 in Pennsylvania, randomly sited drilling, and then drilling increasingly

Figure FE1. Approximately Log-Geometric Field Size Distribution



Source: Energy Information Administration, Office of Oil and Gas.

guided by the new and rapidly evolving scientific disciplines of petroleum geology and geophysics, quickly resulted in large domestic discoveries.

The 1930s was, in hindsight, the peak decade of U.S. crude oil discoveries, while the 1950s was the peak discovery decade for natural gas. The peak discovery year for crude oil was 1967, due entirely to discovery of the Prudhoe Bay Field on the North Slope of Alaska. Had the Prudhoe Bay Field not been discovered, the peak year of crude oil discoveries would have been 1930 when the East Texas Field was found. The peak discovery year for natural gas was 1922 when the Hugoton Field was discovered in southwestern Kansas and the adjacent portions of Oklahoma and Texas.⁵ These peak decades resulted in the discovery of fields that jointly account for about 20 percent and 14 percent of the *present* estimates of ultimate recovery for domestic crude oil and natural gas, respectively.⁶

All domestic oil and gas drilling took place onshore in the lower 48 States prior to the 1930s. As applicable technologies originated and advanced and individuals or firms became willing to shoulder a greater risk in search of a greater reward, exploration began to occur in prospective areas that were more environmentally harsh and/or more technologically difficult and, therefore, more expensive to operate in. The sequence was the

shallow California offshore beginning in 1932; the shallow Gulf of Mexico in 1937; the deeper outer continental shelf waters of the Gulf of Mexico in 1947; the somewhat deeper offshore California shelf waters in the 1960s; the North Slope of Alaska in the mid-1960s; and finally the deep (over 1,000 feet) Gulf of Mexico in 1976. In each of these “virgin” areas, the early explorers found large new oil or gas fields. Yet the number of wells drilled in them in any given year pales into insignificance in relation to the number of wells drilled in far more thoroughly explored, preponderantly onshore areas in the lower 48 States.

Oil and gas wells are drilled for one of four purposes, the first three of which are considered exploratory and the last, developmental.⁷

1. *To find a new field.* These are called new field tests or wildcat wells.
2. *To find a new reservoir in a previously discovered field.* Such wells are variously called new reservoir tests, new pool wildcats, deeper pool tests or shallower pool tests.
3. *To extend the proved area of a previously discovered reservoir.* These wells are called extension tests or outpost tests.

4. *To exploit a previously discovered and delineated reservoir.* These are called development wells.

The drilling activities associated with these various purposes differ from each other with respect to both magnitude and risk.⁸

In the description of the third exploratory well type appears the word with which much of the remainder of this article is concerned: “proved.” Proved reserves of crude oil or natural gas are the *estimated* quantities which, on a particular date, geological and engineering data demonstrate with *reasonable certainty* to be recoverable in the future from known reservoirs *under existing economic and operating conditions*. As noted earlier, estimates of proved reserves tend to be conservative. It is useful to look at some of the reasons why this is the case.

“Reasonable certainty” is a crucial element in the definition of proved reserves because oil and gas reservoirs are not subject to direct visualization or to unlimited and precise measurement of their physical characteristics. The raw data used in estimating proved reserves include engineering and geological data about the reservoir rock and its fluid contents obtained via both direct and indirect measurements, such as:

- Data on the reservoir rock’s porosity (the voids or pores that exist between the mineral grains)
- Data on the reservoir rock’s permeability (its capacity to conduct fluid flow through the pores) as determined from core analysis or various types of geophysical measurements taken in one or more wells
- Data on the production of fluids from a well or several wells
- Geologic maps of the areal extent, thickness, and continuity of the reservoir rock inferred from well logs and other geophysical and geological data
- Reservoir pressure and temperature data.

When a reservoir is discovered, only data from or closely related to the discovery well are available to the reserves estimator. The initially proved area of the reservoir is frequently estimated on the basis of experience within the same or a similar region. Where there is continuity of the productive formation over a wide geographic area, a relatively large proved area may be initially assigned. Conversely, a relatively small proved area may be assigned when the producing formation is of limited

continuity owing to either structural or lithologic factors. When reliable geophysical and geologic data are available, a reasonable estimate of the areal extent of the reservoir can be made on the basis of a relatively small number of extension tests.⁹

More and more data become available as delineation of the reservoir’s boundaries via the drilling of extension tests occurs, as development wells are drilled into the reservoir’s proved area, and as flow tests are made or actual production commences. Depending on the kind and amount of available data, the estimator will select one of several methods of making a proved reserves estimate. Prior to actual production, it is common to apply either the nominal or volumetric methods. The nominal method bases the reserves estimate on a rule of thumb or an analogy to another reservoir or reservoirs believed to be similar. The more accurate volumetric method applies a rule-of-thumb or analogy-based recovery factor to an in-place volume of oil or gas estimated from the geologic and engineering data.

After production begins, estimates based on production performance data can be made using methods that are generally more accurate than those based strictly on inference from geological and engineering data. They include the production decline method and the reservoir simulation method, which are applicable to both oil and gas reservoirs; the material balance method, which is applicable to oil reservoirs; and the pressure decline method, which is applicable to gas reservoirs. Which of these is selected will depend on the data available and the reservoir’s type and production mechanism.

In any case, many judgments are required of the estimator. The determination of rock and fluid properties is to some extent uncertain depending upon the measurement methods employed. The construction of the geologic maps and cross sections and the subsequent determination of the physical size of the reservoir are the major judgmental steps associated with the volumetric method. Estimates made using the material balance, reservoir simulation, and pressure decline methods rely on the estimator’s judgments regarding the type of reservoir drive mechanism and the appropriate abandonment conditions. Estimates based on the production decline method are subject to judgment in constructing the trend line, which embodies the estimator’s assumptions regarding reservoir performance up to abandonment.

The phrase “under existing economic and operating conditions” is yet another important element of the proved reserves definition. Because of the speculative nature of predicting prices and costs many years into the

future, proved reserves are estimated on the basis of the prices, costs, and operating practices in effect on the date of the estimate. However, the wellhead price of crude oil or natural gas has an effect on a reservoir's economic limit, i.e., on the production rate required to meet operating costs. For gas reservoirs, price affects the abandonment pressure used in calculating proved reserves. Should the price of crude oil rise far enough to trigger installation of a secondary or tertiary recovery project in a crude oil reservoir, a significant increase of its proved reserves could result. For either type of reservoir, infill drilling justified by higher prices may in some instances result in a higher recovery factor and a concomitant increase of proved reserves. One thing that is certain is that economic and operating conditions will change post-discovery and so, in concert, will the proved reserves estimates.

Without doubt, the most important word in the proved reserves definition is "estimate." Until such time as a reservoir is produced to permanent abandonment, its ultimate recovery volume will be uncertain no matter how much data have been amassed or how well they have been interpreted. Proved reserves can only be estimated, never measured. The proved reserves definitions are intended to result in reliable estimates of the "on-the-shelf inventory" portion of total oil and gas reserves from which production can confidently be expected in the future. One indication that this is indeed the case for the vast majority of U.S. proved reserves estimates is EIA's experience in auditing the estimates submitted to EIA since 1977 by domestic oil and gas well operators on Form EIA-23, "Annual Survey of Domestic Oil and Gas Reserves." The audits have found that most of the proved reserves estimates submitted to EIA are more than 90 percent certain to be recovered in the future and, in many cases, are more than 95 percent certain to be recovered.¹⁰

The Importance of Ultimate Recovery Appreciation

The historical record regarding ultimate recovery appreciation shows that the estimate of ultimate recovery increases over time for most reservoirs, the vast majority of fields, all regions, all countries, and the world. First publicly noted in 1960, it is a major source of both current and expected future oil and gas supplies.¹¹ In fact, achievement of URA is the principal operational objective of most oil and gas drilling, as well as most upstream industry research and development activity.

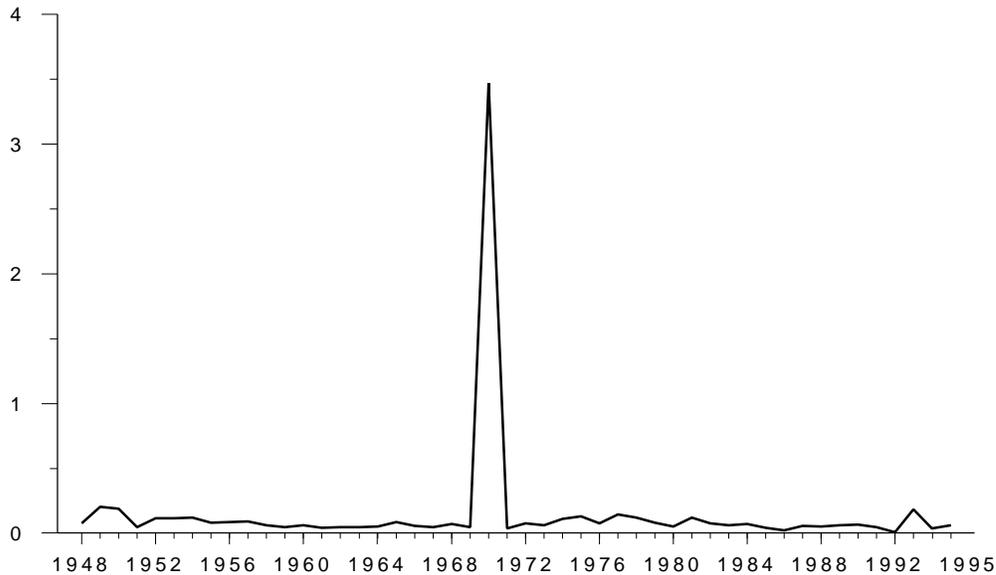
EIA's proved reserves data indicate that URA is still occurring at low rates in some domestic fields that were found more than a century ago. Most significantly, from 1977 through 1995 approximately 89 percent of the additions to U.S. proved reserves of crude oil and 74 percent of the additions to U.S. proved reserves of dry natural gas were due to URA rather than to the discovery of new oil or gas fields.

Figures FE2 and FE3 provide a comparison of the aforementioned sources of additions to U.S. proved reserves of crude oil and natural gas, expressed as the ratio of those additions from new field discoveries to those due to URA.¹² The towering 1970 peak in both figures reflects booking of proved reserves for the Prudhoe Bay Field.¹³ In no other year does the ratio exceed 0.21 for crude oil or 0.89 for natural gas; excluding the 1970 Prudhoe Bay anomaly, the average ratios over the respective periods are 0.08 for crude oil and 0.17 for natural gas. Looked at another way, 93 percent of crude oil reserves additions and 86 percent of natural gas reserves additions during the respective periods were due to URA rather than to the discovery of new fields, excluding Prudhoe Bay.

As stated at the outset, estimated ultimate recovery (EUR) on average appreciates over time. This is well-illustrated by a comparison of the 1977 and 1993 EURs of the 200 U.S. crude oil fields that had the largest 1977 proved reserves (Figure FE4). While EUR had decreased for 23 percent of them by 1993, it had increased for the other 77 percent, and many times over for 32 percent of them. These data also reflect and confirm the essential conservatism of both the definition of proved reserves and the manner in which it is applied in the United States.

The three principal estimators of U.S. oil and gas resources, the Department of the Interior's United States Geological Survey (USGS) and Minerals Management Service (MMS), and the natural gas industry-based Potential Gas Committee (PGC), include estimates of URA in their overall resource estimates. The latest USGS national assessment, based on year-end 1993 data and released in 1995, forecast URAs of 60 billion barrels of crude oil, 13.4 billion barrels of natural gas liquids, and 322 trillion cubic feet of natural gas for the onshore United States and its adjoining State jurisdiction offshore areas in the next 80 years.¹⁴ Of the mean total USGS estimate of resources beyond proved reserves, these quantities represent 65 percent of crude oil resources, 59 percent of natural gas liquids resources, and 34 percent of natural gas resources.

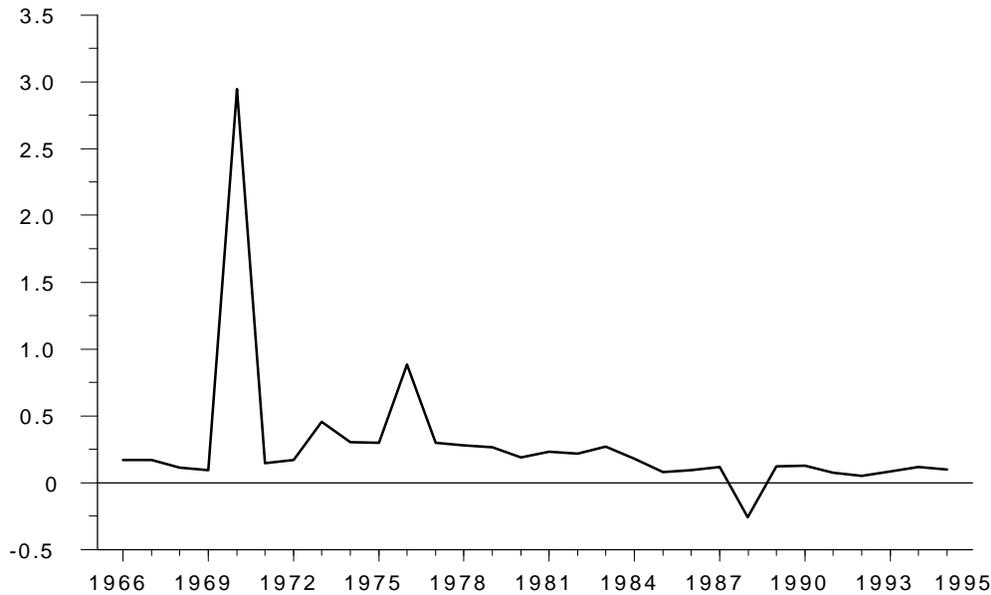
Figure FE2. Ratio of New Field Discoveries to Ultimate Recovery Appreciation for Crude Oil, 1948-1995



Note: URA equals the sum of estimated net revisions, extensions, and new reservoir discoveries in old fields.

Sources: **Pre-1970:** American Petroleum Institute, American Gas Association, Canadian Petroleum Association, *Reserves of Crude Oil, Natural Gas Liquids, and Natural Gas in the United States and Canada as of December 31, 1979* (Washington, DC, June 1980), Table II, p. 24, Table VII-1, p. 155, and Table VII-2, p. 116. **1970-1980 arithmetically linked as shown in:** Energy Information Administration (EIA), *Two Approaches to the Linkage of U.S. Oil and Gas Reserves Estimates*, DOE/EIA-0452 (Washington, DC, July 1984). **Post-1980:** EIA, *U.S. Crude Oil, Natural Gas and Natural Gas Liquids Reserves*, 1995 Annual Report, DOE/EIA-0216(95) (Washington, DC, November 1996), Tables D1 and D3.

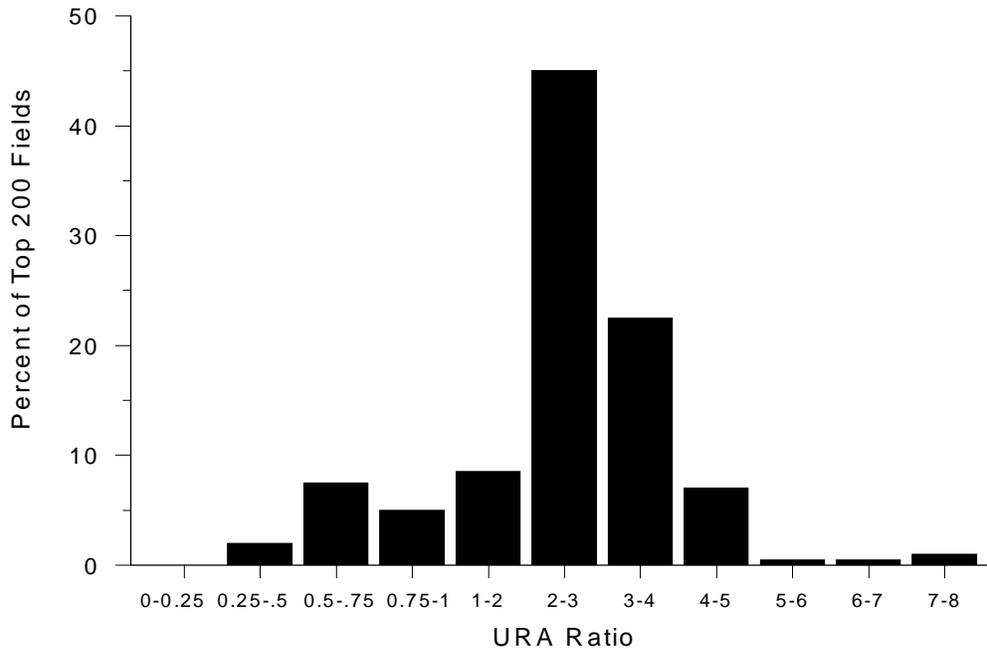
Figure FE3. Ratio of New Field Discoveries to Ultimate Recovery Appreciation for Natural Gas, 1966-1995



Note: URA equals the sum of estimated net revisions, extensions, and new reservoir discoveries in old fields.

Sources: **Pre-1970:** American Petroleum Institute, American Gas Association, Canadian Petroleum Association, *Reserves of Crude Oil, Natural Gas Liquids, and Natural Gas in the United States and Canada as of December 31, 1979* (Washington, DC, June 1980), Table II, p. 24, Table VII-1, p. 155, and Table VII-2, p. 116. **1970-1980 arithmetically linked as shown in:** Energy Information Administration (EIA), *Two Approaches to the Linkage of U.S. Oil and Gas Reserves Estimates*, DOE/EIA-0452 (Washington, DC, July 1984). **Post-1980:** EIA, *U.S. Crude Oil, Natural Gas and Natural Gas Liquids Reserves*, 1995 Annual Report, DOE/EIA-0216(95) (Washington, DC, November 1996), Tables D1 and D3.

Figure FE4. 1993 URA Ratios of the 200 U.S. Fields That Had the Largest 1977 Proved Liquid Hydrocarbon Reserves



Note: Proved liquid reserves = proved crude oil reserves + proved lease condensate reserves. URA Ratio = (1978 through 1993 liquids production plus 1993 proved liquid reserves)/1977 proved liquid reserves.

Source: Energy Information Administration, Oil and Gas Integrated Field File.

The PGC uses the term “probable resources” for its estimate of URA. The latest mean PGC estimate of probable gas resources, based on data at year-end 1996, was 216.2 trillion cubic feet for the United States inclusive of the Federal jurisdiction Outer Continental Shelf. This represents 20.2 percent of the mean total PGC gas resource estimate and is about 61 percent of the combined USGS and MMS estimates of gas URA.^{15 16}

The USGS, MMS, and PGC resource estimates for natural gas are developed using different data and different methods. The fact that the two principal estimates of gas URA differ by more than 100 trillion cubic feet is of less significance than the fact that in both instances URA represents a major portion of the remaining (as-yet untapped) domestic natural gas resource base.

What Is Known About the URA Process

The URA phenomenon is known to be principally the result of three factors. The primary factor is lack of adequate geotechnical information at the time of field discovery. Second are "systemic factors" embodying the

net effect of the industry's post-discovery field delineation, field development, and production monitoring processes, as modulated by its reserves recognition practices. Third, there are factors, such as the occurrence of technological progress, that probably have differential effects on the process from field to field depending principally on field size, on location relative to the operating environment, markets, and transportation facilities, and on specific reservoir characteristics within a field.

Put formally, it is well established that only a handful of events can cause URA to occur in a field:

1. The proved area of a reservoir in the field is increased by successful extension test drilling (or perhaps, in some cases, what is really just development drilling done by a conservative booker). These positive changes to proved reserves are recorded as *extensions* in the annual EIA reserves survey.
2. A new, economically productive reservoir is discovered in the field. These positive changes are recorded as such in the annual EIA reserves survey.

3. A production performance-based re-evaluation of the field's proved reserves is undertaken that results in a larger proved reserves estimate. These changes are recorded as *positive revisions* in the annual EIA reserves survey.¹⁷
4. The field's proved reserves estimate is increased in response to the implementation or planned implementation of some recovery factor-boosting engineering change, ranging from a favorable well recompletion to the adoption of tertiary recovery methods. These changes are also recorded as *positive revisions* in the annual EIA reserves survey.
5. The field's proved reserves estimate is increased due to one or more successful new completions within existing wells that tap a by-passed (behind-the-pipe) zone not previously booked as proved reserves. These changes are also recorded as *positive revisions* in the annual EIA reserves survey.
6. A favorable long-term change of wellhead or lease border product prices relative to production costs results in a longer-than-previously-anticipated field economic lifetime, reflected as an increase of proved reserves. These changes are also recorded as *positive revisions* in the annual EIA reserves survey.

Several observations can be made about these causes of URA. Significant periods of elapsed time, ranging from months to a decade, are associated with the occurrence of all of them except cause 6. New investment is a prerequisite for the occurrence of all except causes 3 and 6. Only causes 1 and 2 (and sometimes 4 and 5) are related to drilling activity. Put conversely, at least half of the factors that can cause URA are unrelated to drilling activity.

There are also a number of factors that can modulate the rate at which URA occurs, individually or in concert. These include:

- *The prevailing economic environment.* All else equal, and given adequate demand, the advent of a higher price/cost ratio should accelerate URA, and the converse.
- *Physical complexity of the field.* The more complex a field is either structurally or sedimentologically, the more effort and elapsed time will be needed to fully "prove it up."

- *Technological advancement.* The advent of a new technology that increases the recovery factor, reduces recovery cost, or reduces risk should accelerate URA. The difficult analytical problem here is determining the rate and the degree of "market penetration," particularly when the indicated "market" for a particular technology is rather local or regional in nature.
- *The risk preferences of operating firms.* These are in part reflected by their booking practices.¹⁸
- *The local quasi-physical operating environment.* This includes natural environment-related matters (e.g., deep water, Arctic conditions, etc.), the availability of necessary equipment and services, field location relative to the extant operational support and product transportation infrastructures, delays resulting from regulatory oversight and compliance, and so forth.

While the causes of URA are well known, analysis of their impact on the actual rate of appreciation and of their interactions has been hampered by a lack of sufficiently detailed serial EUR data.

Attempts to Analyze and Project URA

The First Analysis

J.R. Arrington, a Canadian petroleum engineer, was the first to address the URA phenomenon publicly. He noted that — with proper data — statistical estimates of ultimate recovery for a reservoir and, by aggregation, for a field, could be constructed by analogy to the known past appreciation behavior of similar reservoirs. The required data were annual reservoir-by-reservoir series that allocated each year's net change to the proved reserves estimate back to the year of reservoir discovery. Using his company's proprietary reservoir data, Arrington calculated the percentage change in proved reserves experienced in each successive post-discovery year. The annual changes were typically found to decrease as time passed, reflecting in cumulative form an asymptotic approach to the ultimately recoverable oil or gas volume(s). Arrington did not provide a mathematical equation descriptive of the process, but did provide a tabular example of how to calculate the annual appreciation ratios which reduces to:

$$RR_{(t,t+1)} = \frac{EUR_{(n,n+t+1)}}{EUR_{(n,n+t)}}$$

where,

- RR is the revision ratio (appreciation factor) between successive post-discovery years
- EUR is estimated ultimate recovery
- t is the number of years after discovery (the revision number)
- n is the discovery year to which the EUR is credited

Arrington used a visually smoothed curve through 3-year weighted averages of these ratios to approximate the path of appreciation over time.

Statistical Analyses

Two decades later followed a series of 12 publicly available studies involving the statistical estimation of URA for either the entire United States or the lower 48 States.¹⁹ These studies were most often conducted with the intent of quantifying the phenomenon in order to be able to project it within the context of some larger study of overall future oil and gas resources. They were not the principal focus, and none of them fully took into consideration the mechanics of the underlying process. Instead, each study empirically fitted a different mathematical equation to part or all of the available serial EUR data. While differently formulated, all of the equations used had in common the desired general form: rapid increase of the expected URA early-on, whether expressed as a function of time or drilling activity level or both, followed by successively lower rates of increase, such that the estimated URA asymptotically approached an upper bound.

One of the difficulties facing many of the researchers was the lack of serial field- and/or reservoir-specific EUR data. These data were unavailable outside of oil and gas well operators' proprietary files until 1990. Before then, the publicly available serial EUR data consisted of State- or State subdivision-wide estimates of the ultimate recovery of crude oil by year of discovery ranging from a pre-1920 group category through 1979 as prepared by the American Petroleum Institute (API) in the years 1966 through 1979, and like estimates for non-associated, associated-dissolved, and total natural gas as prepared by the American Gas Association (AGA). The authors of

the first nine post-Arrington URA studies had no option but to rely on these data.

Most of the studies found one or more serious faults with these data, among which were:

- Appreciation rates were highly erratic in the early years, which was deemed to reflect data series “start-up problems.”
- For some unknown reason, the appreciation rates for pre-1947 fields were six times larger than for post-1947 fields.
- The assignment of discoveries to the proper year was clearly arbitrary in some instances.
- The AGA’s associated-dissolved gas EUR series was physically unreasonable relative to the corresponding API crude oil EUR series.
- All of the remaining (i.e., “good”) data still exhibited a high variance, which required statistical smoothing to render it suitable for analytical use.

Because of these data limitations, any embedded relationships to causative factors such as geology performance were both coincidental and deeply “buried.”

The two most recent URA studies have instead relied primarily or solely, respectively, on the field-by-field EUR data series contained in EIA’s Oil and Gas Integrated Field File (OGIFF), which became available in 1990. OGIFF presently provides annual EUR data for fields covering more than 90 percent of the Nation’s proved reserves from 1977 through 1995. The OGIFF EUR data are derived from confidential Form EIA-23 survey data and public State and Federal production data obtained via Petroleum Information/Dwights LLC.²⁰

The first of these studies, performed by the National Petroleum Council for natural gas URA only, spliced the pre-1977 API/AGA EUR data series to the 1977 and subsequent EIA EUR series. The volumetric discontinuity between the two series was resolved by elevating the former to match the latter in 1977. This was also the first and only study of URA which fitted an empirical function to the EUR data that depended on both elapsed post-discovery time and a measure of drilling activity. The resulting forecast of URA was much higher than predicted in any of the previous studies.

The most recent study was performed by the USGS as a part of its 1996 National Assessment of U.S. oil and gas resources located onshore and in State-jurisdiction offshore waters. It relied solely on the EIA OGIFF EUR data and used a growth function dependent only on elapsed post-discovery time. The USGS investigators found it necessary to subdivide the EUR data into two classes: a “normally behaving” fields class which covered 86 percent of the oil and gas at year-end 1990; and an “outlier” field class which accounted for the rest. Included within the “outliers” were such fields as the heavy oil fields in California that had been returned to major production levels from near-moribund status by the introduction of tertiary recovery methods in the 1970s and 1980s, and early low-permeability gas field discoveries in the Appalachian Basin that were not fully developed until special pricing and tax incentives appeared in the same period.

The USGS’s growth function performed reasonably well in reproducing the URA behavior of the normally behaving class of fields over the 1997 through 1990 period (oil projection 12.0 billion barrels versus 12.2 billion barrels actual; gas projection 83.5 trillion cubic feet versus 87.9 trillion cubic feet actual). Unfortunately, the same was not true for the outlier fields. Unlike the normally behaving fields, the URA paths of these fields showed no sign of approaching an upper bound. In absence of knowledge as to how to model their behavior, fairly conservative estimates were made for the URA of this category of fields. This treatment of the outlier fields clearly left something to be desired inasmuch as, while these fields do not hold the bulk of reserves, they account for the bulk of URA activity.

A problem common to all of the empirical statistical studies of URA is that given the:

- high variance of the serial EUR data,
- loose connection to causality provided by either elapsed time or a gross measure of drilling activity, and
- aggregation of disparate geologies that accompanies use of EUR data sets inclusive of large geographic areas,

one can “drive” any number of differently formulated but similarly shaped curves through the data with little objective assurance that the results are either significantly unique or even appropriate.²¹ At the same time, many of the outlier fields, particularly those with high appreciation rates, are not being well represented.

A graphic illustration of the very broad URA data dispersion that occurs when grouping fields across geologic types and geographic areas was provided by the National Petroleum Council (NPC) and is reproduced with minor modification in Figure FE5. The NPC plotted cumulative growth rates versus time since discovery for a geologically and geographically diverse group of 97 nonassociated gas fields that had discovery dates ranging from 1928 to 1988, along with the NPC’s URA predictions (based on application of its URA model to the combined API/AGA and EIA OGIFF data series) for 1922, 1950, and 1970 discoveries.²²

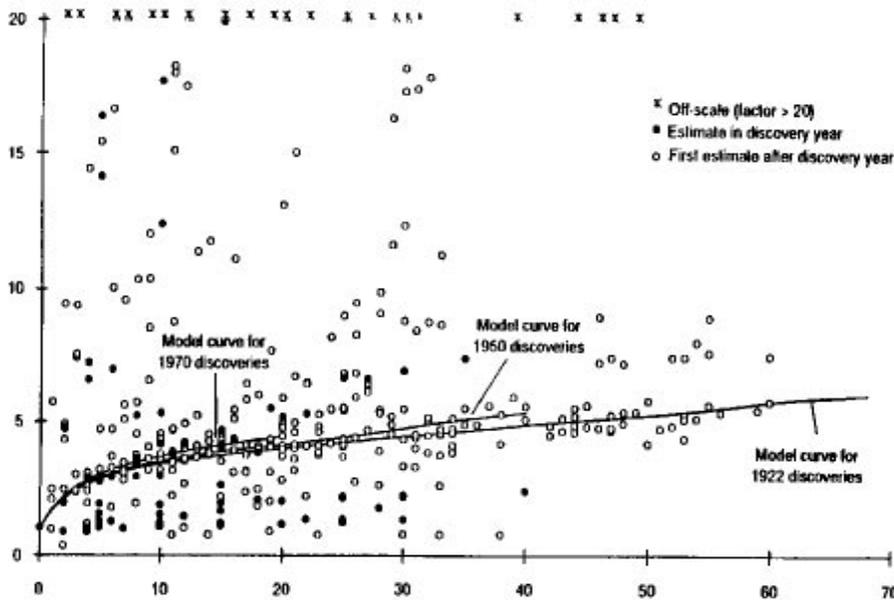
Nonstatistical Analyses

Aside from the empirical statistical URA studies, the natural gas industry-based Potential Gas Committee (PGC) has estimated the Nation’s “probable resources” of natural gas (definitionally equivalent to its estimated URA) biennially since 1964, excepting 1974.²³ The PGC estimates are developed via a subjective but straight-forward and reservoir-specific volumetric method. To estimate the probable resources associated with the additional development of an already discovered reservoir, PGC’s local estimating committee members use the known productive area of the reservoir as an analog to develop a yield factor, which is then applied to an estimate of the as-yet undeveloped reservoir volume. The resulting volume is then risked via multiplication by the estimated probability of existence of the additional reservoir volume. A similar scheme is used for undiscovered probable gas resource estimates — those involving new reservoir discoveries in a known field. The principal differences are that the estimate is additionally risked for the existence of the new reservoir’s trap and the analog that is used may be drawn from another field located in the same geologic province.²⁴ The PGC’s estimates of future URA are, therefore, independent of the EUR data series that all others have relied upon in investigating and projecting URA.

Overall Evaluation

In summary, much of the analytical effort to date can be characterized as a series of creative attempts to get around the high variance present in the API/AGA EUR data. The product of most of the analysis has been more-or-less arbitrary approximations of central URA tendencies lacking corresponding error measures. Evaluation of the existing body of work on URA analysis and forecasting, inclusive of the nature of the data that have supported it, suggests that:

Figure FE5. Observed Growth Factors and URA Model Projections for the NPC Sample Fields



Source: Energy Information Administration, Office of Oil and Gas. Derived from National Petroleum Council, "Report of the Reserves Appreciation Subgroup to the Source and Supply Task Group, 1992 National Petroleum Council Natural Gas Study" (Washington, DC, August 1992), unpublished open file text, Figure 14.

- Caution should be exercised in placing faith in any of the existing empirically determined URA estimates, particularly in absence of an explicit associated measure of uncertainty.
- Given the apparent importance of URA to future domestic oil and gas supply, continued study of the URA phenomenon, in greater detail than in the past, is both necessary and justified.

more optimistic estimating group. Regardless of the factors affecting it, growth is normal although the amount varies from area to area and with various estimating groups."

Thus, Arrington's initial work indicated that factors other than elapsed post-discovery time and/or drilling effort had significant effects on the ultimate recovery appreciation phenomenon. To improve on the former analyses, any new study of URA must seek to account for those factors. Specifically and to the maximum extent possible this will require the development of means to account separately for the effects on the URA process of economic change, technological advancement, and differential proved reserves booking practices.

Future Directions

The appropriate direction for further study can in part be ascertained directly from the report of the first URA study. Having relied on reservoir-by-reservoir data from his own company's files, Arrington noted:

"The amount of [post-first booking] growth is a function of knowledge and size of the virgin reservoir. The greater the knowledge of a new reservoir, the more accurate will be the initial estimate. Large fields normally have greater increases percentagewise than small fields. The philosophy of the estimating group also affects the rate of revision. If a conservative policy is followed in booking unproven reserves, the future changes in [proved] reserves obviously will be higher than for a

EIA and the USGS are collaborating on work to provide a more complete and better understanding of the process and factors that drive URA. EIA currently has in-progress some of the rigorous statistical groundwork required to develop a means of capturing the effect of both industry-specific and general economic conditions. A corollary requirement will be the prior separation of the available serial EUR data into homogeneously behaving units according to some criterion or set of criteria that provides a link to the known URA causative or modulatory factors. Several important questions

relating to the applicability of the available data remain to be answered.

Are Field-level EUR Data Sufficient to the Task?

All of the causative factors and some of the modulatory factors operate at the level of the individual reservoir. EIA collected annual reservoir-by-reservoir estimates of proved reserves and reserves changes beginning with 1977, but was required to cease their collection in 1979 in order to reduce respondent burden. It is unclear whether EIA's field-level reserves data series will prove sufficient to allow the development of a definitive understanding of the URA phenomenon. The potentially deleterious effect of reserves estimate aggregation has been well-illustrated by the striking difference between the results of the early USGS URA studies based on the State-level API/AGA EUR data and the most recent USGS study based on regional aggregates of the EIA OGIFF field-level reserves data. The USGS's inferred reserves estimates went up 267 percent for crude oil, 335 percent for natural gas liquids, and 326 percent for natural gas. Thus, determining whether or not field-by-field reserves estimates will suffice is a crucial matter that needs to be addressed early.

Are the Available EUR Data Adequately Representative?

The available serial data bearing on domestic ultimate recovery appreciation are incomplete. EIA has complete appreciation histories for relatively few fields, and most of the Nation's significant fields are not among them. Through October 1996, 45,992 distinct oil and gas fields had been officially recognized in the United States. OGIFF contains data covering about 39,000 of them. Of those fields, only 10,109 were discovered during the life span of the API/AGA series. Only about 13,000 new field discoveries occurred during the life span of the EIA ultimate recovery estimate series. Since, as previously indicated, the largest fields are on average found early during the exploration history of any particular geographic area, the more recent the discoveries are, the smaller they tend to be. And since, as Arrington first noted, large and small fields do not appreciate similarly, a question arises as to data applicability to the older, larger fields.

Is the URA Process (or Are its Components) Time-invariant?

On a field-by-field basis only an 18-year data window on the appreciation behavior of domestic fields is available. This window records only mid- to late-stage appreciation behavior for most fields including nearly all of the most significant fields. Relative field size aside, whether the early stage appreciation behavior of the older fields is well enough approximated by the early stage appreciation behavior of the recently discovered fields for which EIA has data is unclear. Thus far, all of the statistical URA analysts have bypassed addressing this question by making the implicit assumption that appreciation behavior is invariant over time or measure of effort, which is clearly not a satisfactory approach.

Can the Available Serial EUR Data be Adequately Parsed?

An important undertaking in the further study of URA will be the development of criteria for the categorization of domestic fields into homogeneously behaving groups which relate to identifiable characteristics such as field geologic type, field complexity, field location, field vintage, and so forth. Even if empirical methods prove to be the only applicable means of URA analysis given the available EUR data, adroit sub-setting of those data should by itself yield significant improvement over the present URA estimates.

Conclusion

The ultimate recovery appreciation phenomenon is, in effect, an intricate puzzle. It will not be a fast or easy one to put together. Nevertheless, the large — and for the most part unquantified — uncertainties associated with the currently available estimates of this key component of the remaining domestic crude oil and natural gas resource bases need to be far better understood and reduced insofar as possible. They fundamentally affect crucial projections of our Nation's future domestic oil and gas supplies. The collaborative effort now being undertaken by the EIA and the USGS is aimed at achieving these objectives.

End Notes

1. The natural “package” in which oil and gas is found is a *reservoir*, defined as a porous and permeable underground formation containing an individual and separate natural accumulation of producible hydrocarbons which is confined by impermeable rock or water barriers and is characterized by a single natural pressure system. A *field* is an area consisting of one or more reservoirs all grouped on, or related to, the same individual geological structural feature and/or stratigraphic condition. Thus, there may be two or more reservoirs in a field that are separated vertically by intervening impervious strata, or laterally by local geologic barriers, or both.
2. For a particular reservoir or field over a particular period of time it is entirely possible for the estimate of proved reserves to *decrease* as a result of production while the estimate of ultimate recovery *increases* for some reason. In such instances, the proved reserves decrease is smaller than the one which would have been booked absent the occurrence of URA.
3. United States Geological Survey, *The Importance of Reserves Growth for the Nation’s Supply of Natural Gas*, Fact Sheet FS-202-96(Washington, DC, October 1996).
4. Lawrence J. Drew, *Undiscovered Mineral and Petroleum Deposits: Assessment & Controversy*, (New York: Plenum Publishing Corporation, 1997), Chapter 3.
5. Energy Information Administration, *U.S. Oil and Gas Reserves by Year of Discovery*, DOE/EIA-0534 (Washington, DC, August 1990), p. 5.
6. Energy Information Administration, *U.S. Oil and Gas Reserves by Year of Discovery*, Table 1, pp. 6-7.
7. Ignoring miscellaneous wells such as those drilled only to ascertain subsurface stratigraphy or for production-related purposes such as the injection or reinjection of fluids.
8. In the 78 years for which overall drilling statistics are available (1918-1995), 2,803,732 holes were drilled for oil or gas in the United States, 67.4 percent of which were successful. For the 52-year period in which both overall and exploratory drilling statistics are available (1944-1995), 2,177,094 holes were drilled for oil or gas, of which 65.3 percent were successful. Just 499,819, or 22.9 percent of these holes were exploratory; of which only 109,643, or 21.9 percent were successful. About 56 percent of the exploratory holes were new field tests, of which only 13 percent were successful. Oil and gas wells do not, of course, last forever. According to the Interstate Oil and Gas Compact Commission, by year-end 1994 about 55 percent of all successful oil or gas wells drilled in the United States had been plugged and abandoned because they had reached their economically productive limit.

Source: DeGolyer & MacNaughton, *20th Century Petroleum Statistics*, 52nd Ed. (Dallas, TX, November 1996), pp. 28-29, and Interstate Oil and Gas Compact Commission, *Produce or Plug: The Dilemma Over the Nation’s Idle Oil and Gas Wells* (December 1996), p. 5.

9. There are relatively unusual situations where data from a single well will, or must, suffice. These include small reservoirs that cannot economically support production from more than one well, or a larger reservoir where such factors as its shape or high bulk permeability of the reservoir rock allow a single well to drain the reservoir efficiently. Nongeotechnical considerations, such as a legal requirement to prove the commercial viability of a lease in order to hold it beyond an impending expiration date, may also occasionally cause the booking of proved reserves based on a single well.
10. Confirming EIA’s reserves auditing experience, the Society of Petroleum Engineers and the World Petroleum Congress in March 1997 moved formally to define proved reserves as 90 percent or more assured of future recovery regardless of whether the estimate is deterministically or probabilistically constructed or stated. This decision was made after years of debate between reserves estimators who favored the established deterministic style estimates and others who favored the introduction of probabilistic reserves estimates. See: Society of Petroleum Engineers, “SPE/WPC Reserves Definitions Approved,” *Journal of Petroleum Technology* (Tulsa, OK, May 1997), pp. 527-528.

11. J.R. Arrington, "Predicting the size of crude reserves is key to evaluating exploration programs," *The Oil and Gas Journal*, Vol. 58, No. 9 (Tulsa, OK, February 1960), pp. 130-134.
12. The figures cover the years in which both year-end proved reserves and the components of reserves change during the year have been nationally estimated: 1948-1995 for crude oil, and 1966-1995 for natural gas.
13. Most of the proved natural gas reserves of the Prudhoe Bay Field were de-booked by EIA in 1978 pending emergence of a viable market for them.
14. United States Geological Survey, *1995 National Assessment of United States Oil and Gas Resources*, Circular 1118, US Government Printing Office (Washington, DC, 1995), p. 2.
15. Potential Gas Agency, *Potential Supply of Natural Gas in the United States, Report of the Potential Gas Committee (December 31, 1996)*, Colorado School of Mines (Golden, CO, March 1997), Table 8, p. 20.
16. The Minerals Management Service has estimated ultimate recovery appreciations of 2.2 billion barrels of crude oil and 32.7 trillion cubic feet of natural gas for Federal jurisdiction Gulf of Mexico fields. Source: Minerals Management Service, *Assessment of the Undiscovered Hydrocarbon Potential of the Nation's Outer Continental Shelf*, MMS 96-0034 (Washington, DC, June 1996), Table 3, p. 18.
17. The survey also collects data on downward or negative revisions, but since these do not cause URA, they are not considered here.
18. Firms vary in their booking practices in response to their (or their investors') risk aversion preferences and in accord with their interpretations of generally accepted petroleum engineering and financial accounting standards. Some firms, particularly the smallest ones, will fully book as soon as an estimate has been made. Others will await the making of a business commitment to field development, or will "book up" in parallel to the making of business commitments to specific stages of a field's development. The most conservative firms have been known to delay reserves booking until at least some production facilities have been successfully installed. Differential booking effects may also exist that depend upon where a field is located relative to the existing production and transportation infrastructure, certain environmental considerations, and other factors. For example, onshore in the lower 48 States, booking delays can typically range from a few months to more than a year. Offshore in the Gulf of Mexico, booking delays can range up to a few years. In Arctic Alaska, the delay for crude oil booking can easily be on the order of 10 years.
19. They are:

J.J. Arps, M. Mortada, and A.E. Smith, "Relationship Between Proved Reserves and Exploratory Effort," *Journal of Petroleum Technology* (June 1971), pp. 671-675.

G. Rogge Marsh, "How much oil are we really finding?," *The Oil and Gas Journal* (April 1971), pp. 100-104.

Chester R. Pelto, "Forecasting Ultimate Oil Recovery," SPE Paper 4261 in *Symposium on Petroleum Economics and Evaluation*, Society of Petroleum Engineers, Dallas Section (Dallas, TX, 1973), pp. 45-52.

M. King Hubbert, "U.S. Energy Resources, a Review as of 1972, Part 1" in U.S. Congress, Senate, *A National Fuels and Energy Policy Study*, 93rd Cong., 2d sess., Committee on Interior and Insular Affairs Print Serial No. 93-40(92-75), pp. 111-119 and pp. 138-143.

D.A. White, R.W. Garrett, Jr., G.R. Marsh, R.A. Baker, and H.M. Gehman, "Assessing Regional Oil and Gas Potential" in *Methods of Estimating the Volume of Undiscovered Oil and Gas Resources*, Amer. Assn. of Petr. Geol. Studies in Geology No. 1 (Tulsa, OK, 1975), pp. 147-149.

R.F. Mast and Janet Dingler, "Estimates of Inferred + Indicated Reserves for the United States by States" in United States Geological Survey, *Geological Estimates of Undiscovered Recoverable Oil and Gas Resources in the United States*, Circular 725 (Washington, DC, 1975), pp. 73-78.

D.H. Root, "Estimation of Inferred Plus Indicated Reserves for the United States," in United States Geological Survey, *Estimates of Undiscovered Recoverable Conventional Resources of Oil and Gas in the United States*, Circular 860 (Washington, DC, 1981), pp. 81-87.

David H. Root, "Historical Growth of Estimates of Oil- and Gas-Field Sizes," in U.S. Department of Commerce, National Bureau of Standards, *Proceedings of a Symposium on Oil and Gas Supply Modeling, July 18-20, 1980* (Washington, DC, May 1982), pp. 350-268.

D.H. Root, "Inferred and Indicated Reserves," Section II. H. in *National Assessment of Undiscovered Conventional Oil and Gas Resources*, United States Geological Survey Open File Report 88-373 (an unpublished 1988 working paper), pp. 81-89.

National Petroleum Council, *Report of the Reserves Appreciation Subgroup of the Source and Supply Task Group, 1992 National Petroleum Council Natural Gas Study* (Washington, DC, August 1992), pp. 169, unpublished open file text.

E.D. Attanasi and D.H. Root, "The enigma of oil and gas field growth," *American Association of Petroleum Geologists Bulletin*, Vol. 78, No. 3 (Tulsa OK, 1994), pp. 321-332.

20. For detailed information about the Oil and Gas Integrated Field File see: Energy Information Administration, *U.S. Oil and Gas Reserves by Year of Discovery*, DOE/EIA-0534 (Washington, DC, August 1990).
21. For example, where GF equals cumulative appreciation factor and t equals the elapsed post-discovery years, both of the following equations, which have not been used, will fit the data just as well as any of the equations that have:

$$GF_t = a + \frac{b}{t} + \frac{c}{t^2}$$

and

$$GF_t = \frac{(a + ct)}{(1 + bt)}$$

where a, b, and c are regression coefficients.

22. National Petroleum Council, *Report of the Reserves Appreciation Subgroup of the Source and Supply Task Group, 1992 National Petroleum Council Natural Gas Study*, Figure 14, p. 63. Reproduced with permission as Figure FE5.
23. Potential Gas Agency, *Potential Supply of Natural Gas in the United States (December 31, 1996)* (Golden, CO, March 1997), 130 pp.
24. Energy Information Administration, *An Examination of Domestic Natural Gas Resource Estimates*, SR/RNGD/89-01 (Washington, DC, February 1989), p. 64.

Revisions to Monthly Natural Gas Data

by Ann M. Ducca

Introduction

The Energy Information Administration (EIA) publishes monthly data for the supply and disposition of natural gas in the United States in the *Natural Gas Monthly*. These data are preliminary when initially published. This article discusses the differences that occurred between the initial (first) monthly supply and disposition data for the United States published for 1993, 1994, and 1995 and the final monthly data published for those years. These data and the associated differences are shown in Tables SR1, SR2, and SR3.

National monthly data initially published come from one of three sources: (1) Short-Term Integrated Forecasting System (STIFS) model estimates, (2) analytical estimates, or (3) data reported to EIA surveys of the natural gas industry. Beginning with the June 1996 issue of the *Natural Gas Monthly*, the EIA began publishing estimates of natural gas volumes from its STIFS model computations to provide more timely information about the gas industry. For production, total supply and disposition, and storage, STIFS estimates are published for the most current two months (the same month as the publication issue month and one month previous to the issue month). For consumption by sector, STIFS estimates are published for the most current three months (the same month as the issue month and the two months previous to the issue month).

Analytical estimates are developed by EIA staff based on historical trends and data available from sources other than EIA surveys. (See the Appendix to this article for estimation methodologies.) Reported data are taken from EIA surveys of the natural gas industry. All prices are estimates taken from data reported to the EIA, except wellhead prices which are analytical estimates.

A detailed discussion of the reporting methodologies for all of the monthly data is given in the Appendix to this article which also includes Table SR4, a summary of the methodologies used to make analytical estimates and to report data from EIA surveys. This Appendix

may also be helpful to users in evaluating the utility of the data. To maintain the quality of the monthly data, the EIA conducts programs of quality assurance for data reporting. EIA staff also continuously evaluate the estimation methodologies and recommend changes as needed to improve the estimates.

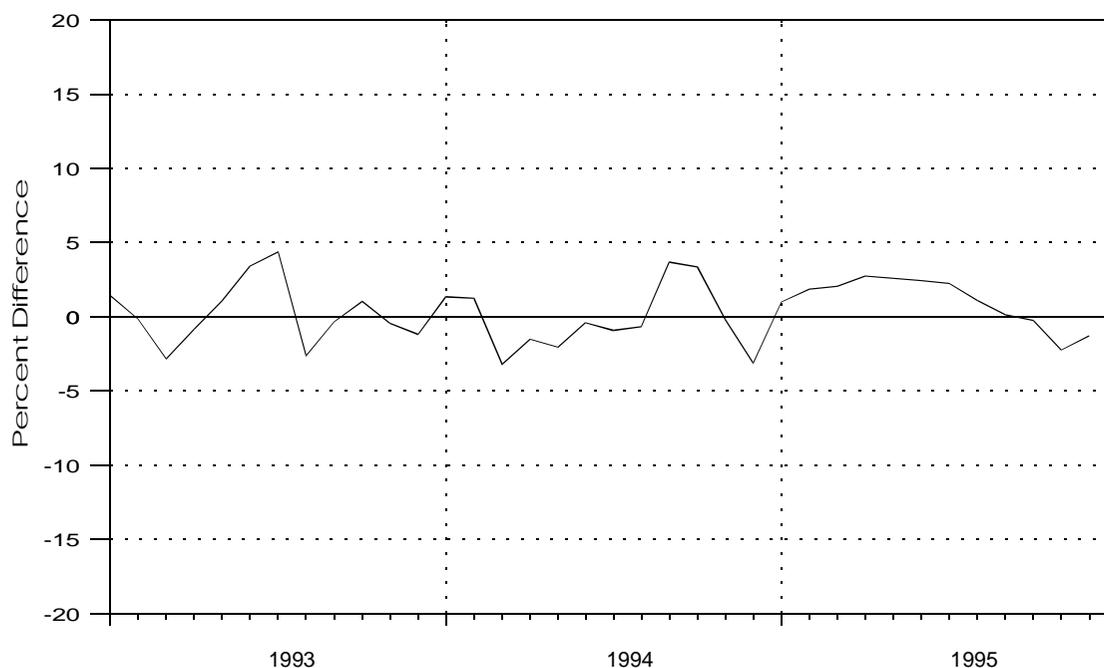
As stated above, EIA began publishing STIFS estimates in June 1996. *Thus, all the 1993 through 1995 data discussed in this report were analytical estimates or reported survey data.* Although the usefulness of future analytical estimates and initially reported survey data cannot be judged solely on the basis of the quality of past estimates, the EIA is providing information about these differences to assist users in evaluating the usefulness of preliminary National data for 1996 and subsequent years. A summary of the utility of the STIFS estimates will be presented in a future issue of the *Natural Gas Monthly*.

The monthly numbers discussed in this article are published in Tables 1, 2, 3, and 4 of the *Natural Gas Monthly*. If reporting or estimation errors are discovered, revisions to previous months of the current year are made only if they are significant. Data for months in prior years become final after publication of the *Natural Gas Annual*.

Results

Table SR1 shows the initial and final values for natural gas supply and disposition and the percentage difference between the values. Percentage differences are calculated by taking the difference between the initial value and the final value, dividing it by the final value, and multiplying by 100. Positive percentage differences indicate that the initial value is larger than the final value; negative ones mean the initial value is smaller than the final value. Figure SR1 is a graph of the percentage differences between final and initial marketed production values, and Figure SR2 is a graph for total consumption percentage differences. The percentage differences between the final and initial monthly estimates for

Figure SR1. Percent Difference Between Initial and Final Monthly Values for Marketed Production, 1993-1995



Source: Energy Information Administration, *Natural Gas Monthly*, 1993 through 1995.

consumption of natural gas by consumer sector are shown in Table SR2 and Figures SR3 through SR6. Differences between initial and final average prices are shown in Table SR3.

The major findings in comparing the differences between initial and final national monthly natural gas data are:

- Most differences between initial and final dry production volumes were 3 percent or smaller.
- Initial estimates for volumes of deliveries to residential consumers and consumption by electric utilities showed very little difference from final values for these end-use sectors. The differences were 2 percent or smaller for residential deliveries (except for a difference of 4 percent in January 1994) and less than one percent for electric utilities.
- Percentage differences between initial and final prices generally were small for the city gate (3 percent or less), residential (also 3 percent or less), and electric utility (1 percent or less) price series.

A discussion of the findings by type of data follows.

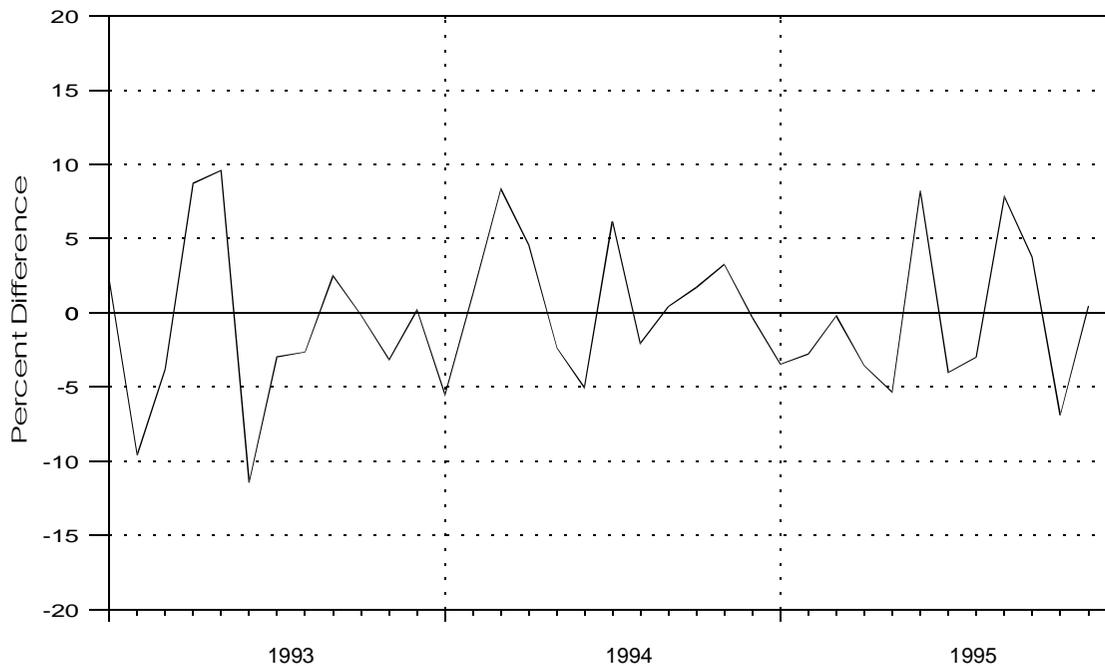
Production

For 1993 through 1995, initial production estimates were analytical estimates.

Marketed Production. Marketed production is a broad indicator of market activity in the natural gas industry. As shown in Table SR1 and Figure SR1, the differences between initial estimates and final marketed production volumes in 1993, 1994, and 1995 were generally small. For all but two months the differences were less than plus or minus 3 percent.

Dry Gas Production. Monthly estimates for dry gas production show a pattern similar to that for marketed production since dry production estimates are primarily driven by the marketed production estimates. As for marketed production, most of the differences were less than plus or minus 3 percent.

Figure SR2. Percent Difference Between Initial and Final Monthly Values for Total Consumption, 1993-1995



Source: Energy Information Administration, *Natural Gas Monthly*, 1993 through 1995.

Extraction Loss. The extraction loss estimates are derived by using the annual ratio of extraction loss to marketed production. During 1993 and 1994, the differences between initial and final extraction loss estimates ranged from negative 7 percent to positive 7 percent and in 1995 from negative 1 percent to positive 3 percent. Because the extraction loss volumes are small, the differences between initial and final volumes can result in large percentage differences.

Supplemental Gaseous Fuels. Supplemental gaseous fuels are the smallest component of the supply of natural gas, less than 1 percent of the total. Revisions to these data are usually very small volume amounts that often represent large percentage differences. The final volumes in 1993, 1994, and 1995 required either no adjustment or an adjustment of 1 to 2 billion cubic feet from the volumes initially reported.

Storage Withdrawals and Additions

For 1993 through 1995, storage data were taken from responses to the EIA survey, Form EIA-191, "Underground Gas Storage Report."

Storage withdrawals and additions illustrate the seasonal requirements that characterize the natural gas industry. During the heating season, November through March, the monthly withdrawals are large and can climb to 600 or more billion cubic feet. In the off-season, they usually drop to less than 100 billion cubic feet. Correspondingly, monthly additions are highest during the refill season, April through October. Revisions to off-season withdrawals (summer months) and off-season additions (winter months) generally tend to be small volume amounts that result in large percentage differences.

Over the 3-year period, the percentage differences between initial and final storage withdrawals were smaller in nearly all of the winter months than those in the summer months. During the same period, percentage differences between initial and final additions to storage showed less variation, with a few large percentage differences in winter months.

**Table SR1. Initial Estimates and Revisions for Monthly Natural Gas Supply and Disposition
in the United States, 1993-1995**
(Volumes in Billion Cubic Feet)

Month	1993			1994			1995		
	Initial Value	Final Value	Percent Change ^a	Initial Value	Final Value	Percent Change ^a	Initial Value	Final Value	Percent Change ^a
Marketed Production									
January	1,672	1,648	1.5	1,714	1,691	1.4	1,694	1,677	1.0
February	1,479	1,481	-0.1	1,534	1,515	1.3	1,523	1,495	1.9
March	1,580	1,626	-2.8	1,642	1,696	-3.2	1,694	1,660	2.0
April	1,529	1,542	-0.8	1,588	1,612	-1.5	1,648	1,604	2.7
May	1,585	1,568	1.1	1,635	1,669	-2.0	1,692	1,649	2.6
June	1,567	1,515	3.4	1,586	1,592	-0.4	1,626	1,587	2.5
July	1,616	1,548	4.4	1,635	1,650	-0.9	1,676	1,639	2.3
August	1,525	1,566	-2.6	1,646	1,657	-0.7	1,646	1,628	1.1
September	1,531	1,536	-0.3	1,631	1,573	3.7	1,583	1,581	0.1
October	1,638	1,621	1.0	1,689	1,634	3.4	1,606	1,610	-0.2
November	1,618	1,625	-0.4	1,677	1,680	-0.2	1,620	1,657	-2.2
December	1,686	1,706	-1.2	1,689	1,743	-3.1	1,697	1,719	-1.3
Extraction Loss									
January	75	77	-2.6	80	76	5.3	79	78	1.3
February	67	69	-2.9	71	68	4.4	71	70	1.4
March	71	76	-6.6	77	76	1.3	79	77	2.6
April	69	72	-4.2	74	73	1.4	77	75	2.7
May	71	73	-2.7	76	75	1.3	79	77	2.6
June	71	71	0.0	74	72	2.8	76	74	2.7
July	73	72	1.4	76	74	2.7	78	76	2.6
August	71	73	-2.7	77	75	2.7	77	76	1.3
September	71	72	-1.4	76	71	7.0	74	74	0.0
October	76	76	0.0	79	74	6.8	75	75	0.0
November	75	76	-1.3	78	76	2.6	75	77	-2.6
December	79	80	-1.3	79	79	0.0	79	80	-1.3
Dry Production									
January	1,597	1,571	1.7	1,634	1,615	1.2	1,615	1,599	1.0
February	1,412	1,412	0.0	1,463	1,447	1.1	1,452	1,426	1.8
March	1,509	1,550	-2.6	1,565	1,620	-3.4	1,615	1,582	2.1
April	1,460	1,470	-0.7	1,514	1,539	-1.6	1,571	1,530	2.7
May	1,514	1,495	1.3	1,559	1,593	-2.1	1,613	1,572	2.6
June	1,496	1,444	3.6	1,512	1,520	-0.5	1,550	1,513	2.4
July	1,543	1,475	4.6	1,559	1,575	-1.0	1,598	1,563	2.2
August	1,454	1,493	-2.6	1,569	1,582	-0.8	1,569	1,552	1.1
September	1,460	1,464	-0.3	1,555	1,502	3.5	1,509	1,507	0.1
October	1,562	1,545	1.1	1,610	1,560	3.2	1,531	1,535	-0.3
November	1,543	1,549	-0.4	1,599	1,604	-0.3	1,545	1,580	-2.2
December	1,607	1,627	-1.2	1,610	1,664	-3.2	1,618	1,639	-1.3
Withdrawals from Storage									
January	599	614	-2.4	755	821	-8.0	614	658	-6.7
February	581	591	-1.7	544	586	-7.2	541	575	-5.9
March	385	395	-2.5	239	245	-2.4	315	332	-5.1
April	109	103	5.8	68	68	0.0	122	127	-3.9
May	25	30	-16.7	23	25	-8.0	30	34	-11.8
June	43	36	19.4	32	37	-13.5	37	40	-7.5
July	47	35	34.3	22	26	-15.4	50	54	-7.4
August	98	45	117.8	28	30	-6.7	80	86	-7.0
September	25	26	-3.8	22	21	4.8	27	29	-6.9
October	97	103	-5.8	51	54	-5.6	65	68	-4.4
November	315	311	1.3	193	208	-7.2	346	374	-7.5
December	499	510	-2.2	423	458	-7.6	613	648	-5.4
Supplemental Fuels									
January	12	13	-7.7	14	13	7.7	13	12	8.3
February	11	11	0.0	12	10	20.0	12	10	20.0
March	11	12	-8.3	11	10	10.0	10	10	0.0
April	10	10	0.0	10	9	11.1	9	7	28.6
May	8	7	14.3	10	8	25.0	10	8	25.0
June	9	9	0.0	9	8	12.5	10	8	25.0
July	9	8	12.5	10	8	25.0	10	8	25.0
August	9	8	12.5	9	8	12.5	10	8	25.0
September	9	8	12.5	10	8	25.0	9	7	28.6
October	10	10	0.0	10	9	11.1	10	9	11.1
November	12	11	9.1	11	10	10.0	12	10	20.0
December	13	12	8.3	13	12	8.3	13	12	8.3

See footnotes at end of table.

Table SR1. Initial Estimates and Revisions for Monthly Natural Gas Supply and Disposition in the United States, 1993-1995
(Volumes in Billion Cubic Feet) -- Continued

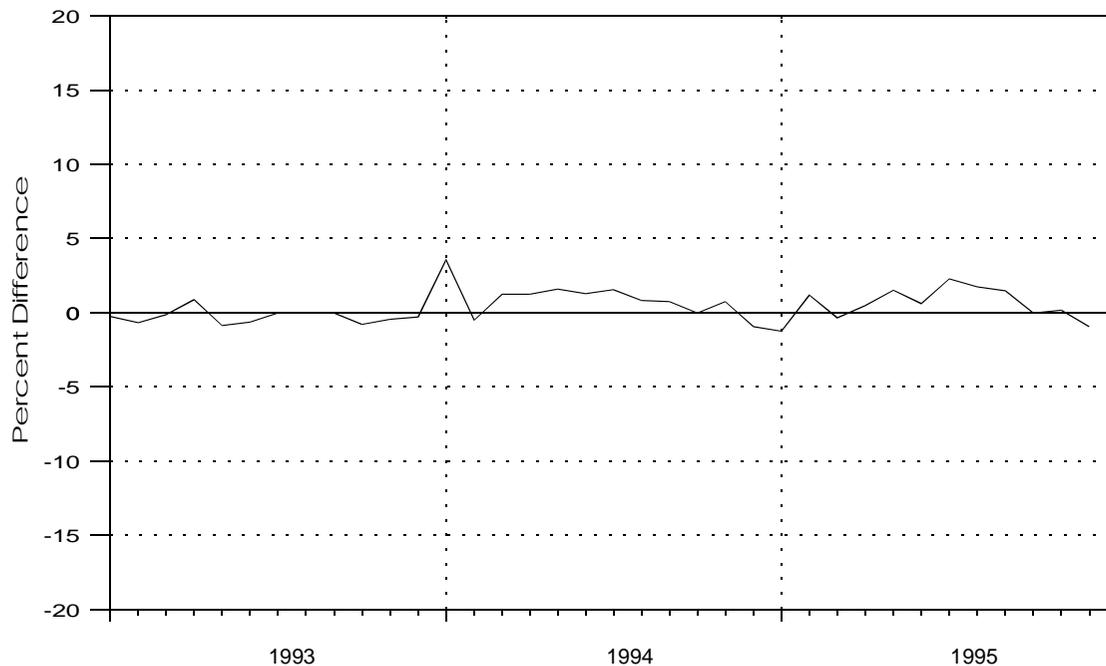
Month	1993			1994			1995		
	Initial Value	Final Value	Percent Change ^a	Initial Value	Final Value	Percent Change ^a	Initial Value	Final Value	Percent Change ^a
Imports									
January	185	200	-7.5	214	241	-11.2	224	253	-11.5
February	174	191	-8.9	162	199	-18.6	209	236	-11.4
March	210	204	2.9	221	223	-0.9	232	250	-7.2
April	176	189	-6.9	219	212	3.3	225	232	-3.0
May	161	171	-5.8	206	206	0.0	248	228	8.8
June	193	182	6.0	210	201	4.5	214	217	-1.4
July	192	195	-1.5	214	221	-3.2	234	223	4.9
August	165	197	-16.2	194	219	-11.4	235	237	-0.8
September	188	194	-3.1	185	210	-11.9	211	228	-7.5
October	183	192	-4.7	211	222	-5.0	220	236	-6.8
November	182	210	-13.3	207	226	-8.4	198	236	-16.1
December	198	225	-12.0	218	245	-11.0	233	264	-11.7
Additions to Storage									
January	48	37	29.7	46	35	31.4	40	45	-11.1
February	30	22	36.4	47	50	-6.0	43	44	-2.3
March	81	79	2.5	105	106	-0.9	100	104	-3.8
April	222	216	2.8	277	293	-5.5	165	178	-7.3
May	448	471	-4.9	414	440	-5.9	348	378	-7.9
June	415	424	-2.1	374	392	-4.6	390	419	-6.9
July	405	398	1.8	398	422	-5.7	342	367	-6.8
August	419	375	11.7	361	383	-5.7	276	298	-7.4
September	378	391	-3.3	335	356	-5.9	323	350	-7.7
October	247	262	-5.7	212	230	-7.8	257	279	-7.9
November	110	106	3.8	95	105	-9.5	85	96	-11.5
December	58	54	7.4	55	54	1.9	49	53	-7.5
Exports									
January	19	17	11.8	9	11	-18.2	12	14	-14.3
February	15	12	25.0	9	13	-30.8	13	13	0.0
March	18	16	12.5	9	19	-52.6	13	15	-13.3
April	12	11	9.1	8	9	-11.1	14	12	16.7
May	12	11	9.1	9	8	12.5	11	12	-8.3
June	13	11	18.2	11	13	-15.4	13	16	-18.8
July	15	13	15.4	11	11	0.0	13	15	-13.3
August	13	11	18.2	11	14	-21.4	16	14	14.3
September	11	10	10.0	14	14	0.0	14	11	27.3
October	10	9	11.1	14	13	7.7	12	12	0.0
November	10	10	0.0	12	19	-36.8	14	13	7.7
December	11	10	10.0	13	18	-27.8	10	8	25.0
Total Consumption									
January	2,341	2,291	2.2	2,396	2,537	-5.6	2,320	2,403	-3.5
February	1,965	2,174	-9.6	2,344	2,314	1.3	2,146	2,207	-2.8
March	2,064	2,145	-3.8	2,217	2,046	8.4	2,094	2,098	-0.2
April	1,830	1,683	8.7	1,713	1,638	4.6	1,717	1,780	-3.5
May	1,427	1,302	9.6	1,365	1,398	-2.4	1,483	1,567	-5.4
June	1,144	1,292	-11.5	1,312	1,382	-5.1	1,510	1,395	8.2
July	1,310	1,350	-3.0	1,462	1,377	6.2	1,437	1,497	-4.0
August	1,332	1,368	-2.6	1,375	1,404	-2.1	1,502	1,548	-3.0
September	1,311	1,279	2.5	1,356	1,350	0.4	1,502	1,393	7.8
October	1,490	1,492	-0.1	1,490	1,465	1.7	1,542	1,486	3.8
November	1,714	1,770	-3.2	1,765	1,709	3.3	1,755	1,886	-6.9
December	2,138	2,134	0.2	2,082	2,088	-0.3	2,332	2,321	0.5

^a The percent change is the initial value minus the final value, divided by the final value, multiplied by 100.

Note: The monthly volumes may not sum to total volume because the initial estimates in the early months of the year may have been revised before the annual total is first published.

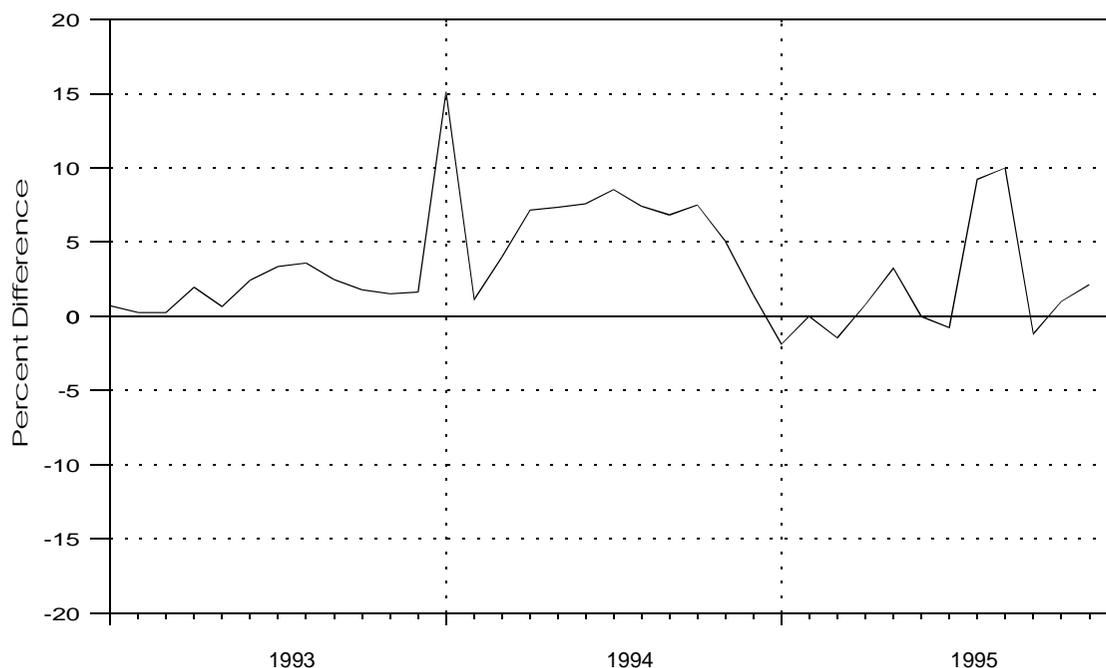
Source: Energy Information Administration, *Natural Gas Monthly*, 1993 through 1995.

Figure SR3. Percent Difference Between Initial and Final Monthly Values for Natural Gas Delivered to Residential Consumers, 1993-1995



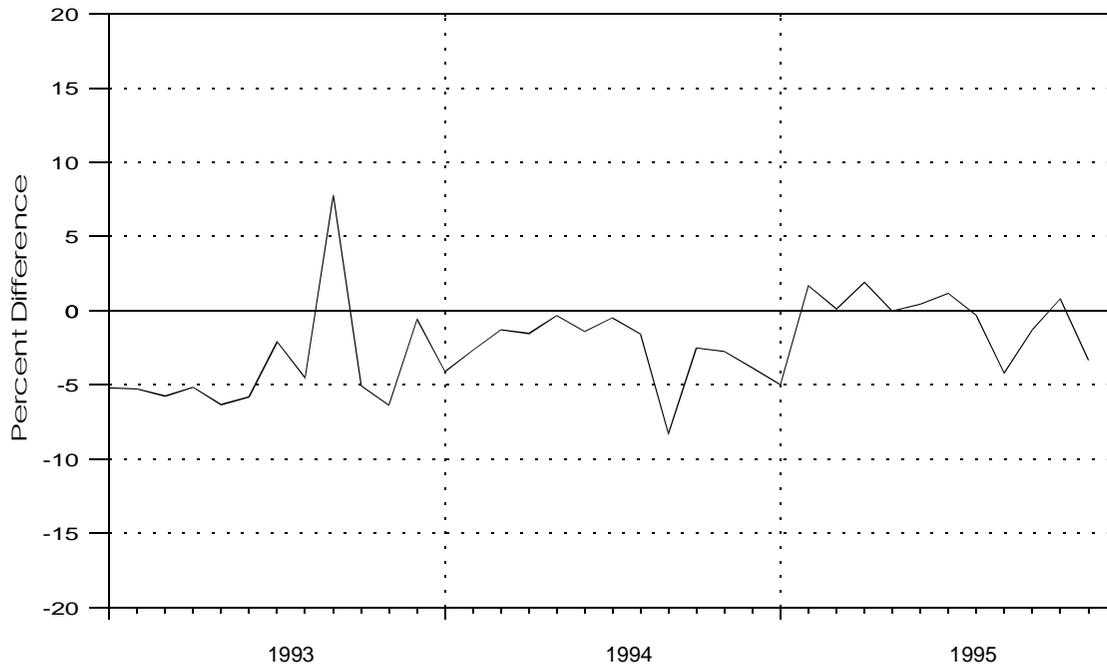
Source: Energy Information Administration, *Natural Gas Monthly*, 1993 through 1995.

Figure SR4. Percent Difference Between Initial and Final Monthly Values for Natural Gas Delivered to Commercial Consumers, 1993-1995



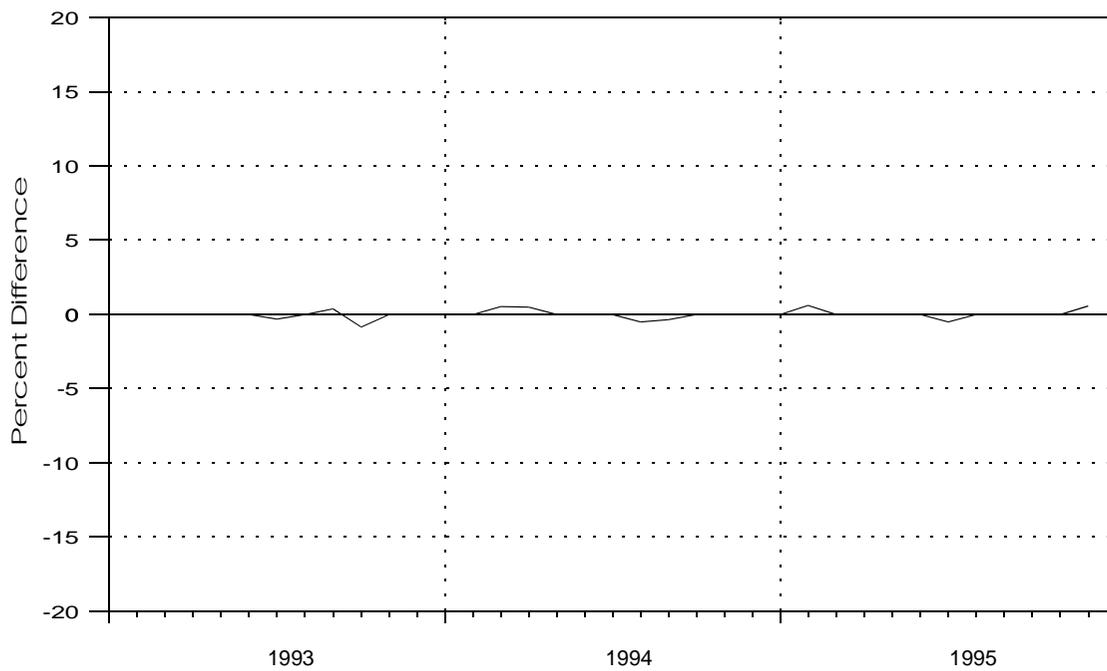
Source: Energy Information Administration, *Natural Gas Monthly*, 1993 through 1995.

Figure SR5. Percent Difference Between Initial and Final Monthly Values for Natural Gas Delivered to Industrial Consumers, 1993-1995



Source: Energy Information Administration, *Natural Gas Monthly*, 1993 through 1995.

Figure SR6. Percent Difference Between Initial and Final Monthly Values for Natural Gas Delivered to Electric Utility Consumers, 1993-1995



Source: Energy Information Administration, *Natural Gas Monthly*, 1993 through 1995.

**Table SR2. Initial Estimates and Revisions for Monthly Natural Gas Consumption
in the United States, 1993-1995**
(Volumes in Billion Cubic Feet)

Month	1993			1994			1995		
	Initial Value	Final Value	Percent Change ^a	Initial Value	Final Value	Percent Change ^a	Initial Value	Final Value	Percent Change ^a
Lease and Plant Fuel									
January	104	101	3.0	107	96	11.5	106	105	1.0
February	92	91	1.1	96	86	11.6	95	94	1.1
March	98	100	-2.0	103	97	6.2	106	104	1.9
April	95	95	0.0	99	92	7.6	103	100	3.0
May	98	97	1.0	102	95	7.4	106	103	2.9
June	97	93	4.3	99	90	10.0	102	99	3.0
July	98	95	3.2	102	93	9.7	103	101	2.0
August	95	97	-2.1	103	94	9.6	103	101	2.0
September	96	95	1.1	102	90	13.3	99	99	0.0
October	103	100	3.0	106	94	12.8	101	102	-1.0
November	101	101	0.0	103	97	6.2	101	105	-3.8
December	106	106	0.0	106	100	6.0	107	109	-1.8
Pipeline Fuel									
January	80	72	11.1	79	85	-7.1	72	79	-8.9
February	75	68	10.3	69	78	-11.5	68	73	-6.8
March	74	67	10.4	62	68	-8.8	64	69	-7.2
April	59	52	13.5	50	54	-7.4	55	58	-5.2
May	45	39	15.4	43	46	-6.5	49	50	-2.0
June	45	39	15.4	42	45	-6.7	43	45	-4.4
July	40	41	-2.4	42	45	-6.7	46	48	-4.2
August	42	42	0.0	43	46	-6.5	52	50	4.0
September	40	39	2.6	39	44	-11.4	46	45	2.2
October	44	45	-2.2	45	48	-6.3	49	48	2.1
November	52	55	-5.5	52	56	-7.1	63	61	3.3
December	64	66	-3.0	63	70	-10.0	76	76	0.0
Delivered to Consumers									
Residential									
January	829	831	-0.2	987	953	3.6	806	816	-1.2
February	763	768	-0.7	838	842	-0.5	763	754	1.2
March	702	703	-0.1	639	631	1.3	598	600	-0.3
April	454	450	0.9	397	392	1.3	421	419	0.5
May	230	232	-0.9	251	247	1.6	264	260	1.5
June	163	164	-0.6	156	154	1.3	160	159	0.6
July	130	130	0.0	129	127	1.6	134	131	2.3
August	120	120	0.0	123	122	0.8	116	114	1.8
September	142	142	0.0	131	130	0.8	136	134	1.5
October	252	254	-0.8	221	221	0.0	216	216	0.0
November	455	457	-0.4	394	391	0.8	490	489	0.2
December	703	705	-0.3	632	638	-0.9	751	758	-0.9
Commercial									
January	418	415	0.7	548	476	15.1	419	427	-1.9
February	404	403	0.2	441	436	1.1	411	411	0.0
March	372	371	0.3	363	349	4.0	337	342	-1.5
April	259	254	2.0	254	237	7.2	256	254	0.8
May	153	152	0.7	175	163	7.4	190	184	3.3
June	126	123	2.4	142	132	7.6	133	133	0.0
July	123	119	3.4	140	129	8.5	132	133	-0.8
August	115	111	3.6	130	121	7.4	142	130	9.2
September	123	120	2.5	125	117	6.8	143	130	10.0
October	172	169	1.8	172	160	7.5	169	171	-1.2
November	264	260	1.5	248	236	5.1	300	297	1.0
December	369	363	1.7	345	340	1.5	429	420	2.1

See footnotes at end of table.

Table SR2. Initial Estimates and Revisions for Monthly Natural Gas Consumption in the United States, 1993-1995
(Volumes in Billion Cubic Feet) -- Continued

Month	1993			1994			1995		
	Initial Value	Final Value	Percent Change ^a	Initial Value	Final Value	Percent Change ^a	Initial Value	Final Value	Percent Change ^a
Industrial									
January	670	707	-5.2	726	757	-4.1	738	777	-5.0
February	645	681	-5.3	704	723	-2.6	719	707	1.7
March	669	710	-5.8	706	715	-1.3	739	738	0.1
April	624	658	-5.2	649	659	-1.5	734	720	1.9
May	575	614	-6.4	629	631	-0.3	711	711	0.0
June	582	618	-5.8	632	641	-1.4	666	663	0.5
July	618	631	-2.1	618	621	-0.5	685	677	1.2
August	612	641	-4.5	629	639	-1.6	682	684	-0.3
September	675	626	7.8	617	673	-8.3	642	670	-4.2
October	653	688	-5.1	662	679	-2.5	700	709	-1.3
November	644	688	-6.4	678	697	-2.7	742	736	0.8
December	714	718	-0.6	704	732	-3.8	760	786	-3.3
Electric Utility									
January	164	164	0.0	170	170	0.0	199	199	0.0
February	162	162	0.0	149	149	0.0	169	168	0.6
March	194	194	0.0	187	186	0.5	245	245	0.0
April	174	174	0.0	205	204	0.5	229	229	0.0
May	167	167	0.0	216	216	0.0	258	258	0.0
June	255	255	0.0	319	319	0.0	297	297	0.0
July	333	334	-0.3	362	362	0.0	405	407	-0.5
August	357	357	0.0	380	382	-0.5	468	468	0.0
September	259	258	0.4	295	296	-0.3	316	316	0.0
October	233	235	-0.9	264	264	0.0	240	240	0.0
November	208	208	0.0	231	231	0.0	198	198	0.0
December	174	174	0.0	208	208	0.0	173	172	0.6

^a The percent change is the initial value minus the final value, divided by the final value, multiplied by 100.

Note: The monthly volumes may not sum to total volume because the initial estimates in the early months of the year may have been revised before the annual total is first published.

Source: Energy Information Administration, *Natural Gas Monthly*, 1993 through 1995.

Imports and Exports

For 1993 through 1995, import and export estimates were analytical estimates.

For natural gas imports and exports data, where EIA has very limited information to make the estimates and the volume amounts are relatively small, especially the export volumes, the resulting percentage differences tend to be large. For imports, the differences ranged from negative 19 percent to positive 9 percent during the 3-year period. Nearly all of the natural gas imports are pipeline imports from Canada. The methodology to estimate imports was based on the most recently available information from the National Energy Board (NEB) of Canada. The NEB provides data which are two months earlier than the month being estimated.

Total Consumption

For 1993 through 1995, initial total consumption estimates were analytical estimates.

Total consumption is also a broad indicator of market activity in the natural gas industry. The initial volume was estimated on the basis of an average percentage change from the previous month to the current month. (See the Reporting Methodologies Appendix in the Article for a detailed description of the estimation methodology.) The percentage differences for total consumption compare initial analytical estimates to final consumption volumes which are taken from data reported to EIA surveys. Over the 3-year period, these differences ranged from negative 12 percent to positive 10 percent.

Consumption by Sector

The consumption sectors consist of deliveries to residential, commercial, and industrial consumers; consumption by electric utilities; consumption for lease and plant fuel; and consumption by natural gas pipelines as compressor fuel.

**Table SR3. Initial Estimates and Revisions for Monthly Natural Gas Average Price
in the United States, 1993-1995**
(Prices in Dollars per Thousand Cubic Feet)

Month	1993			1994			1995		
	Initial Value	Final Value	Percent Change ^a	Initial Value	Final Value	Percent Change ^a	Initial Value	Final Value	Percent Change ^a
Wellhead Price									
January	2.08	2.03	2.5	2.27	1.93	17.6	1.64	1.62	1.2
February	1.95	1.93	1.0	2.24	1.88	19.1	1.56	1.48	5.4
March	2.05	2.00	2.5	1.90	1.93	-1.6	1.54	1.47	4.8
April	2.10	2.06	1.9	1.93	1.91	1.0	1.57	1.52	3.3
May	2.02	2.18	-7.3	1.83	2.00	-8.5	1.64	1.55	5.8
June	2.12	1.98	7.1	1.81	1.80	0.6	1.58	1.58	0.0
July	1.99	1.99	0.0	1.76	1.81	-2.8	1.49	1.43	4.2
August	2.07	2.04	1.5	1.70	1.83	-7.1	1.53	1.43	7.0
September	2.00	2.09	-4.3	1.56	1.78	-12.4	1.48	1.52	-2.6
October	1.99	2.02	-1.5	1.60	1.70	-5.9	1.67	1.54	8.4
November	2.06	2.03	1.5	1.57	1.75	-10.3	1.72	1.61	6.8
December	1.95	2.15	-9.3	1.77	1.88	-5.9	2.04	1.84	10.9
City Gate Price									
January	3.10	3.11	-0.3	3.11	3.04	2.3	2.79	2.79	0.0
February	3.00	2.94	2.0	3.25	3.26	-0.3	2.71	2.71	0.0
March	3.06	3.06	0.0	3.29	3.33	-1.2	2.81	2.74	2.6
April	3.24	3.24	0.0	3.11	3.15	-1.3	2.71	2.72	-0.4
May	3.57	3.58	-0.3	3.13	3.17	-1.3	2.75	2.80	-1.8
June	3.37	3.44	-2.0	3.20	3.17	0.9	2.90	2.89	0.3
July	3.34	3.34	0.0	3.17	3.12	1.6	2.88	2.89	-0.3
August	3.35	3.35	0.0	3.18	3.15	1.0	2.89	2.87	0.7
September	3.52	3.54	-0.6	2.95	2.92	1.0	2.87	2.89	-0.7
October	3.15	3.15	0.0	2.82	2.80	0.7	2.88	2.83	1.8
November	3.14	3.15	-0.3	2.83	2.84	-0.4	2.68	2.67	0.4
December	3.26	3.27	-0.3	2.80	2.86	-2.1	2.80	2.83	-1.1
Delivered to Consumers									
Residential Price									
January	5.71	5.73	-0.3	5.75	5.93	-3.0	5.83	5.85	-0.3
February	5.71	5.73	-0.3	6.06	6.04	0.3	5.74	5.76	-0.3
March	5.67	5.67	0.0	6.18	6.30	-1.9	5.86	5.84	0.3
April	5.98	6.02	-0.7	6.58	6.60	-0.3	6.04	6.06	-0.3
May	6.70	6.78	-1.2	7.01	6.84	2.5	6.51	6.54	-0.5
June	7.29	7.37	-1.1	7.59	7.66	-0.9	7.46	7.49	-0.4
July	7.83	7.86	-0.4	8.01	8.10	-1.1	7.68	7.82	-1.8
August	8.10	8.13	-0.4	8.13	8.22	-1.1	8.05	8.13	-1.0
September	7.74	7.75	-0.1	7.77	7.84	-0.9	7.68	7.73	-0.6
October	6.75	6.79	-0.6	6.86	6.86	0.0	6.62	6.62	0.0
November	6.16	6.17	-0.2	6.25	6.27	-0.3	5.61	5.61	0.0
December	6.07	6.07	0.0	6.02	6.06	-0.7	5.57	5.54	0.5
Commercial Price									
January	5.17	5.23	-1.1	4.94	5.50	-10.2	5.22	5.23	-0.2
February	5.08	5.14	-1.2	5.54	5.58	-0.7	5.11	5.14	-0.6
March	5.06	5.10	-0.8	5.60	5.67	-1.2	5.07	5.12	-1.0
April	5.11	5.19	-1.5	5.29	5.60	-5.5	5.02	5.08	-1.2
May	5.20	5.31	-2.1	5.41	5.47	-1.1	4.99	5.04	-1.0
June	5.29	5.40	-2.0	5.13	5.37	-4.5	5.11	5.16	-1.0
July	5.03	5.15	-2.3	4.85	5.25	-7.6	5.04	5.03	0.2
August	5.26	5.34	-1.5	5.31	5.31	0.0	4.93	4.99	-1.2
September	5.26	5.35	-1.7	5.12	5.36	-4.5	4.96	4.98	-0.4
October	5.12	5.18	-1.2	4.98	5.11	-2.5	4.77	4.82	-1.0
November	5.13	5.21	-1.5	5.11	5.19	-1.5	4.80	4.77	0.6
December	5.27	5.33	-1.1	5.13	5.24	-2.1	4.89	5.00	-2.2

See footnotes at end of table.

Table SR3. Initial Estimates and Revisions for Monthly Natural Gas Average Price in the United States, 1993-1995
(Prices in Dollars per Thousand Cubic Feet) -- Continued

Month	1993			1994			1995		
	Initial Value	Final Value	Percent Change ^a	Initial Value	Final Value	Percent Change ^a	Initial Value	Final Value	Percent Change ^a
Industrial Price									
January	3.25	3.15	3.2	3.32	3.47	-4.3	2.89	2.95	-2.0
February	3.12	3.02	3.3	3.50	3.43	2.0	2.97	2.85	4.2
March	3.09	2.98	3.7	3.53	3.47	1.7	3.02	2.74	10.2
April	3.13	3.04	3.0	3.10	3.01	3.0	2.59	2.57	0.8
May	3.24	3.14	3.2	3.03	2.92	3.8	2.52	2.54	-0.8
June	3.00	2.86	4.9	2.90	2.69	7.8	2.44	2.44	0.0
July	2.71	2.62	3.4	2.82	2.77	1.8	2.37	2.34	1.3
August	2.86	2.76	3.6	2.74	2.67	2.6	2.34	2.26	3.5
September	3.03	2.95	2.7	2.63	2.55	3.1	3.02	2.42	24.8
October	2.88	2.77	4.0	2.53	2.49	1.6	2.53	2.44	3.7
November	3.09	3.02	2.3	2.82	2.86	-1.4	2.70	2.68	0.7
December	3.35	3.28	2.1	3.08	2.99	3.0	3.06	3.07	-0.3
Electric Utility Price									
January	2.70	2.70	0.0	2.67	2.67	0.0	2.13	2.13	0.0
February	2.55	2.54	0.4	2.80	2.80	0.0	2.00	2.00	0.0
March	2.61	2.61	0.0	2.66	2.67	-0.4	1.91	1.92	-0.5
April	2.75	2.75	0.0	2.44	2.44	0.0	1.96	1.97	-0.5
May	2.90	2.90	0.0	2.46	2.46	0.0	2.05	2.06	-0.5
June	2.47	2.48	-0.4	2.25	2.25	0.0	2.05	2.06	-0.5
July	2.46	2.45	0.4	2.28	2.27	0.4	1.90	1.90	0.0
August	2.60	2.60	0.0	2.13	2.16	-1.4	1.84	1.84	0.0
September	2.69	2.69	0.0	2.00	2.00	0.0	1.94	1.95	-0.5
October	2.45	2.45	0.0	1.95	1.95	0.0	2.08	2.09	-0.5
November	2.59	2.59	0.0	2.10	2.10	0.0	2.21	2.22	-0.5
December	2.76	2.76	0.0	2.17	2.17	0.0	2.58	2.58	0.0

^a The percent change is the initial value minus the final value, divided by the final value, multiplied by 100.
Source: Energy Information Administration, *Natural Gas Monthly*, 1993 through 1995.

Deliveries to Residential, Commercial, and Industrial Consumers. For 1993 through 1995, residential, commercial, and industrial consumption deliveries to consumers were estimated from reports to the Form EIA-857, "Monthly Report of Natural Gas Purchases and Deliveries to Consumers."

Generally, the revisions to residential consumption estimates were very small. From 1993 through 1995, the percentage differences ranged from negative 1 percent to positive 2 percent, except in January 1994 when the difference was positive 4 percent. For commercial deliveries, the percentage differences between initial and final monthly volumes were generally larger in 1994 than they were in the other 2 years. Across the 3-year period, the percentage differences for deliveries to industrial consumers ranged from negative 8 percent to positive 8 percent. These differences were generally smaller in 1994 and 1995 than they were in 1993.

Electric Utilities. Electric utility consumption is taken directly from reports to the Form EIA-759, "Monthly Power Plant Report."

Usually electric utility consumption data are not revised; if revisions are required, they are nearly always very small. Over the 3-year period, these percentage differences were no larger than positive or negative 1 percent.

Lease Fuel, Plant Fuel, and Pipeline Fuel. Lease fuel, plant fuel, and pipeline fuel estimates are analytical estimates.

Lease and plant fuel account for about 6 percent of total consumption. During the 3-year period, percentage differences ranged from negative 4 percent to positive 13 percent. Pipeline fuel represents about 3 percent of

total consumption. The differences between initial and final pipeline fuel monthly estimates across the 3-year period were small volume amounts.

Average Prices

Wellhead price estimates are analytical estimates. All other prices are taken from the Form EIA-857, except electric utility prices which are taken from reports to the Federal Energy Regulatory Commission (FERC) Form 423, "Monthly Report of Cost and Quality of Fuels for Electric Plants."

Wellhead Price. The wellhead price represents the wellhead sales price, including charges for natural gas plant liquids subsequently removed from the gas; gathering and compression charges; and State production, severance, and/or similar charges.

In 1993, the final monthly wellhead prices were estimated from a reported annual value. Beginning in 1994, the final monthly wellhead values were taken from reported monthly values, if available. In many States only an annual wellhead value was available. Annual values were distributed across the months according to the monthly distribution for similar States. Monthly wellhead prices were calculated from the combination of the reported values, if available by month, and the values distributed across months. The percentage differences between initial and final wellhead prices were generally larger in 1994 (the first year where some reports of actual monthly values were available) than those in 1993, but grew smaller in 1995.

City Gate Prices. The city gate price is the price at the point or measuring station at which a gas distribution company receives gas from a pipeline company or transmission system. Across the 3-year period, the differences between initial and final city gate prices were no larger than positive 4 percent or negative 2 percent.

Residential, Commercial, and Industrial Prices. Residential prices are the highest of all of the consuming sectors and generally show the smallest variation from year to year. Across the 3-year period, nearly all of the percentage differences between initial and final residential prices were no larger than positive or negative 1 percent. The largest differences were positive or negative 3 percent.

Commercial natural gas prices are associated only with onsystem sales of natural gas. During the 1993-1995 period, onsystem sales of gas to commercial consumers represented from 77 to 84 percent of deliveries to commercial consumers. Generally, the percentage differences between initial and final commercial prices were small, although the differences in 1994 were somewhat larger than those in the other two years.

Industrial natural gas prices are also associated only with onsystem sales of natural gas. In 1993 onsystem sales of gas to industrials represented about 30 percent of total deliveries to industrials and in 1994 and 1995, 24 to 25 percent. The percentage differences for industrial prices showed some variation across the period, although they generally were within the range of positive or negative 4 percent. In March and September of 1995, the percentage differences between initial and final prices were substantial. Problems of misreporting of initial prices were identified and the subsequent corrections resulted in the large differences.

Electric Utility Prices. Prices for natural gas consumption by electric utilities are taken from reports filed by the utilities. None of the percentage differences from 1993 to 1995 were larger than positive or negative 1 percent.

Appendix: Reporting Methodologies

Table SR4 lists the methodologies for deriving the monthly data to be published initially for the components of natural gas supply and disposition. Monthly numbers are revised each year so that their totals for the 12 months will agree with the annual totals published in the *Natural Gas Annual*, and the revised monthly numbers are published in the following issue of the *Natural Gas Monthly*. In some instances, monthly data are reported on an annual survey, and the monthly estimates are revised to reflect the reported data. When monthly data are not reported, the percentage distribution across months for the monthly estimates is applied to the final annual number to derive final monthly estimates. The most current monthly natural gas data, including any revisions, are also published in the EIA report *Monthly Energy Review*.

Throughout this discussion, many sources of data and methods of estimation are referenced. Appendices A (Explanatory Notes), B (Data Sources), and C (Statistical Considerations) of the *Natural Gas Monthly* provide further information about data sources, estimation procedures, annual adjustments, and sample design. These sources may also be helpful in evaluating the monthly data.

Marketed Production

Marketed production for the current month is estimated by the EIA by determining a daily production rate for the month. This estimated daily rate of production is then multiplied by the number of days in the month to produce the production estimate for the month. The effects of weather, storage levels, gas import volumes, and other industry developments are considered in preparing the estimate.

The estimate of a daily production rate is made by applying an average historic daily production ratio to a daily base rate, usually the latest known rate. The average historic daily production ratio equals the ratio of the daily rate during a given month to the daily rate during the previous month. This calculation is performed on eight years of historic data, and the average ratio for a particular month may be any combination of 2 to 8 years of historic ratios. The final determination of the average historic daily production ratio to be used is made by an analyst.

The average historic daily production ratio is applied to the latest known monthly production rate to yield the daily rate estimate for the month in question. This new daily rate estimate is then multiplied by the historic production ratio for the next month to yield that month's daily rate estimate, and the procedure continues for successive months.

The monthly marketed production data are revised on the basis of the data reported on Form EIA-895, "Monthly Quantity of Natural Gas Report." This is a voluntary form, and data from this form become available about 2 months after the initial analytical estimates are published. The respondents—energy, tax, or conservation agencies in the natural gas-producing States—provide production data. Beginning with the collection of 1995 monthly production data, the EIA began using the Form EIA-895. Prior to 1995, voluntary reports showing monthly production data were filed with the Interstate Oil and Gas Compact

Commission (IOGCC) by most of the gas-producing States, and these reports were used to adjust the analytical estimates 2 months later.

Through 1995, State offices also provided the natural gas production reports filed annually with the EIA on the Form EIA-627, "Annual Quantity and Value of Natural Gas Report." Form EIA-627 respondents provided production numbers by month and a total for the year. Data reported on this Form become the final production information. In some States, these reports were not available at the time that the EIA issues the *Natural Gas Annual*, so production data were taken from the EIA annual publication *U.S. Crude Oil, Natural Gas, and Natural Gas Liquids Reserves*, or EIA estimated the data on the basis of historical filings. When the data reported on Form EIA-627 were subsequently received, any necessary revisions are made, and the revised data are published in the *Natural Gas Monthly*. Beginning with the collection of 1996 data, the EIA discontinued the Form EIA-627. Production volumes are now reported each month on the Form EIA-895.

Total Consumption

Analytical estimates of total consumption are based on percentage changes. An average percentage change over the previous 3 years is applied to the previous month's data to estimate a value for the current month's consumption. Consumption of natural gas fluctuates across the months of the year as residential and commercial heating requirements change due to the seasonal variation in the weather. Since the estimate for total consumption is based on an average activity over the past 3 years, it may show large revisions if the weather for the current year is markedly colder or warmer than the average weather of the previous 3 years.

To make the estimate, an average percentage change is calculated by averaging the percentage changes from the previous to current months for the corresponding time period during the previous 3 years. For example, to estimate consumption for July 1997, the percentage changes in consumption from June 1996 to July 1996, from June 1995 to July 1995, and from June 1994 to July 1994 are calculated. These three figures are then averaged, and this average change is applied to the June 1997 consumption volume to estimate July 1997 consumption.

Dry Gas Production and Extraction Loss

The analytical estimate of extraction loss is estimated by applying the annual ratio of extraction loss to marketed production to each month's marketed production volume. The ratio is calculated by using the most recently available annual data. Dry production of natural gas is then derived by subtracting the extraction loss estimate from the marketed production estimate.

Storage

Monthly natural gas storage data are reported on the Form EIA-191, "Monthly Underground Gas Storage Report," by all storage operators, including interstate pipeline storage operators. The form collects storage data by State, county, and storage field. The annual totals of monthly storage additions and withdrawals reported on the Form EIA-191 are compared with the annual storage additions and withdrawals reported on the Form EIA-176, "Annual Report of Natural and Supplemental Gas Supply and Disposition," and all differences are resolved with the respondents.

Differences between final and initial reported storage volume data are caused primarily by two factors. First, the monthly storage volumes are taken from reports for underground facilities only, whereas the annual storage volume data also include reports for liquefied natural gas (LNG) facilities. Second, monthly respondents frequently estimate the volumes they report and sometimes revise them later. Thus, differences in storage volume data are due primarily to revisions by respondents. These data are validated by the EIA and published without any statistical estimation or adjustment.

Imports and Exports

Initial monthly analytical estimates of exports of natural gas are estimated on the basis of analysis of the industry and shipments of liquefied natural gas. Initial monthly analytical estimates of import data are estimated by the same techniques, in addition to using data from the National Energy Board of Canada. From 1984 to 1992, pipeline imports of gas came only from Canada. Small amounts of gas have been imported from Mexico since late 1993.

Final monthly export and import data were reported on the Form FPC-14, "Annual Report for Importers and Exporters of Natural Gas." Although this was an annual form, it required the reporting of data by month. The Form FPC-14 was discontinued after the reporting of 1994 data. In 1995 and subsequent years, final import

and export data are taken from reports to the Office of Fossil Energy, U.S. Department of Energy.

Supplemental Gaseous Fuels

Monthly analytical estimates of supplemental gaseous fuels are derived from the sum of marketed production, net imports, and net withdrawals from storage. The ratio of supplemental gaseous fuels to the sum of these three components, as reported annually in the *Natural Gas Annual*, is applied to the monthly sum of these three components to calculate part of the estimate. The total estimate is the sum of this calculation and the volume of gas produced from coal gasification obtained from the Great Plains coal gasification plant in North Dakota. When annual data become final, the monthly supplemental gaseous fuels data are adjusted and become final.

Consumption by Sector

The residential, commercial, industrial, and electric utility sectors represent about 91 percent of total annual consumption. Lease and plant fuel data represent about 6 percent of total annual consumption, and analytical estimates are derived from monthly marketed production data. Pipeline fuel represents the smallest component of annual consumption, approximately 3 percent. Analytical estimates of pipeline fuel are derived as a percent of total consumption.

Residential, Commercial, and Industrial Deliveries

Deliveries to residential, commercial, and industrial consumers are estimated from reports on the Form EIA-857, "Monthly Report of Natural Gas Purchases and Deliveries to Consumers," a sample survey of natural gas companies that deliver gas to consumers. The sample is drawn from the respondents to the annual Form EIA-176. The sample design and estimation procedures are described in detail in "Statistical Considerations," Appendix C of the *Natural Gas Monthly*. Briefly, the sample design is stratified so that, within each State, all companies handling large amounts of gas respond to the survey, and a sample of companies handling lesser amounts of gas also respond. In some States where there is a small number of companies, all companies report, and the reported data are shown without any estimation adjustments.

Electric Utility Consumption

For 1993 through 1995, consumption by electric utilities is reported on the Form EIA-759, "Monthly Power Plant Report," filed by electric power plant operators. No sampling or estimation procedures are needed.

Lease Fuel, Plant Fuel, and Pipeline Fuel

The annual ratio of lease and plant fuel consumption to marketed production, as published in the *Natural Gas Annual*, is applied to the monthly marketed production number to calculate an analytical estimate. The ratio is calculated from the most recently available annual data.

From 1991 through 1995, lease fuel data were reported on the Form EIA-627. The respondents—energy, tax, or conservation agencies in the natural gas-producing States—provided a distribution by month of their annual lease fuel data. If monthly lease fuel data were not available for a State from the Form EIA-627, the ratio of annual lease fuel (as reported on the Form EIA-176) to gross withdrawals was calculated for the State. This ratio was then applied to monthly gross withdrawals for the State to estimate final monthly lease fuel. Plant fuel data are reported annually on the Form EIA-64A, "Annual Report of the Origin of Natural Gas Liquids Production," beginning in 1990. A monthly distribution is not reported for plant fuel. Annual plant fuel consumption is adjusted to the monthly distribution of the estimates.

Pipeline fuel data are the smallest component of consumption. To make the initial analytical estimate of monthly consumption of natural gas by pipelines, the most recent annual ratio of pipeline fuel consumption to total consumption, as published in the *Natural Gas Annual*, is applied to the monthly total consumption. When annual data for pipeline fuel become final, the revised annual ratio is calculated and is applied to each month's revised total consumption number to compute final monthly pipeline fuel consumption estimates.

Average Prices

Wellhead Prices

An initial analytical estimate of the wellhead price is calculated on the basis of the statistical relationships between U.S. monthly wellhead gas prices and the

production-weighted monthly State wellhead prices from five States: Kansas, Mississippi, New Mexico, Oklahoma, and Texas, when available. Initial wellhead prices are adjusted the following month on the basis of the change in the production-weighted gas price from each of the five States. See Appendix A, "Explanatory Notes," of the *Natural Gas Monthly* for further discussion of wellhead values.

Final monthly wellhead prices were calculated from reports to the Form EIA-627 through 1995. The wellhead value reported on the form is divided by the corresponding marketed production volume to compute the average price. See Appendix A, "Summary of Data Collection Operations and Report Methodology," of the *Natural Gas Annual* for a more detailed discussion of the reporting of wellhead values and prices.

As stated previously, respondents to the Form EIA-627 reported only annual wellhead values in 1993. The percentage distribution of the initial estimates for wellhead values across the 12 months was applied to the annual wellhead value to estimate monthly wellhead values. These estimates were then used to calculate final monthly price estimates.

In 1994 and 1995, the annual Form EIA-627 requested that respondents report wellhead values by month. However, many States reported only an annual wellhead value. The annual values were distributed across the months according to the monthly distribution for similar States. Monthly wellhead prices were calculated from the combination of the reported values, if available by month, and the values distributed across months.

The EIA discontinued the Form EIA-627 in 1996. For the collection of 1996 data, respondents were requested to report revenues by month on an annual schedule on the Form EIA-895. For 1997, respondents are requested to report revenues each month on the Form EIA-895.

City Gate Price

The city gate price is the price at the point or measuring station at which a gas distribution company receives gas from a pipeline company or transmission system. These prices are reported monthly on the sample survey Form EIA-857, described above. City gate prices are not reported on an annual survey form. Annual prices are calculated by dividing the sum of the revenues for 12 months by the sum of the volumes for 12 months.

Residential, Commercial, and Industrial Prices

Revenues for sales to residential, commercial, and industrial consumers are also reported on the Form EIA-857 with their associated volume. Average prices are calculated by dividing total revenue by total volume. Monthly prices are revised to agree with data published in the *Natural Gas Annual*. Average prices for deliveries to consumers are calculated for onsystem sales only. Prices for gas delivered for the account of others are not available.

As the natural gas industry has moved toward open access, there has been an increase in the demand for the service of delivering gas for others. This type of arrangement means that someone other than the respondent to the Form EIA-857 actually owns and sells the gas. For example, a consumer contracts directly with a gas well operator or gas marketer to purchase gas supplies, while a pipeline or local distribution company (the Form EIA-857 respondent) provides only the transmission service. The respondents to the Form EIA-857 do not know the price of the gas that they transport for others.

In 1993, the industrial price data represent information for 29 percent of deliveries to industrials, in 1994 for

25 percent, and in 1995 for 24 percent. In the commercial sector, the 1993 price data represent information for 84 percent of deliveries, in 1994 for 79 percent, and in 1995 for 77 percent.

In the residential, commercial and industrial sectors, when annual data become available, the percentage distribution across months for the reported revenue is applied to the annual revenue amount to estimate monthly revenue. An average price is then calculated by using this revenue and the similarly estimated volume amounts.

Electric Utility Prices

Electric utility prices are taken from reports by the utilities on the Federal Energy Regulatory Commission (FERC) Form 423, "Monthly Report of Cost and Quality of Fuels for Electric Plants." Revenues are reported in cents per million Btu and converted to dollars per thousand cubic feet of natural gas. See the EIA annual report *Cost and Quality of Fuels for Electric Utility Plants* for more detailed information about prices of natural gas delivered to electric utilities.

Table SR4. Methodology for Reporting Initial Monthly Natural Gas Supply and Disposition Data

Components	Reporting Methodology
Supply and Disposition	
Marketed Production	Estimated from Historical Data using Knowledge of Industry Developments
Extraction Loss	Derived from Marketed Production
Dry Production	Marketed Production minus Extraction Loss
Withdrawals from Storage	Reported on Form EIA-191
Supplemental Gaseous Fuels	Derived from Supply Estimates and Coal Gasification Information
Imports	Estimated from National Energy Board of Canada Information and Liquefied Natural Gas Information
Additions to Storage	Reported on Form EIA-191
Exports	Estimated from Industry Trends and Liquefied Natural Gas Information
Total Consumption	Estimated from Average Historical Month-to-Month Percent Changes for the previous 3 years
Consumption by Sector	
Lease and Plant Fuel	Derived from Marketed Production
Pipeline Fuel	Derived from Total Consumption
Deliveries to Consumers	
Residential	Estimated from Survey Form EIA-857
Commercial	Estimated from Survey Form EIA-857
Industrial	Estimated from Survey Form EIA-857
Electric Utilities	Reported on Form EIA-759
Average Prices	
Wellhead Price	Estimated Monthly State Wellhead Prices from Five States: Kansas, Mississippi, New Mexico, Oklahoma, and Texas (when available)
City Gate Price	Estimated from Survey Form EIA-857
Deliveries to Consumers	
Residential	Estimated from Survey Form EIA-857
Commercial	Estimated from Survey Form EIA-857
Industrial	Estimated from Survey Form EIA-857
Electric Utilities	Reported on FERC Form 423

Highlights

Overview

This issue of the *Natural Gas Monthly* presents the most recent estimates of natural gas supply, consumption, and prices from the Energy Information Administration. Estimates for many of the data series run through July. Highlights of the most recent monthly data show:

The national average wellhead price rose 6 percent from March to April to \$1.82 per thousand cubic feet, reversing the downward trend that began in January. Through July 1997, the price was \$2.34 per thousand cubic feet, 15 percent higher than the price during the same period a year ago.

Natural gas dry production is estimated to be 11,039 billion cubic feet from January through July 1997, the same level as during the corresponding period in 1996. During the same 7-month period, net imports rose 175 billion cubic feet from 1996 to 1997 while net withdrawals from storage fell by 161 billion cubic feet.

Total consumption through July 1997 is estimated to be 13,292 billion cubic feet, slightly below (less than 1 percent) the comparable total a year earlier. Also during this period, the residential sector, which requires gas primarily for space heating, showed a decline of 6 percent as the summer proceeded, while deliveries to industrials rose by 2 percent.

Supply

Dry natural gas production is estimated to be 1,606 billion cubic feet in July 1997, or 51.8 billion cubic feet per day (Table 1). Daily production in July 1997 increased less than 1 percent above the daily rate in June 1997, and was about 1 percent higher than in July 1996 (Figure HI1).

Net imports of natural gas in July 1997 are estimated to be 243 billion cubic feet, or 7.8 billion cubic feet per day (Table 2). Thus, the daily rate of net imports follows the increase in production, but at a faster rate, and is 2 percent higher in July 1997 than in June. Cumulatively,

net imports through July 1997 have reached 1,712 billion cubic feet, 11 percent higher than during the first 7 months of 1996.

Net injections of natural gas into underground storage declined 16 billion cubic feet from June to July 1997. The estimate of net injections in July 1997 (negative net withdrawals in Table 9) is 335 billion cubic feet, bringing the level of working gas in storage at the end of July to 2,043 billion cubic feet (Figure HI2). Monthly working gas levels have exceeded those of the prior year every month beginning in December 1996, yet they continue to remain at historically low levels. The estimate for July 1997 exceeds that of July 1996 by 8 percent.

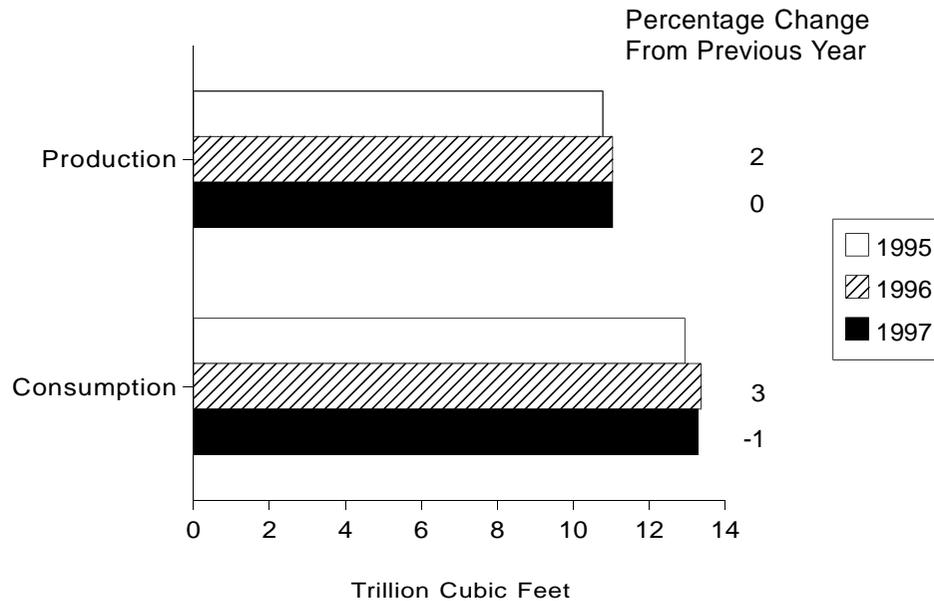
Cumulative estimates of dry gas production for the first 7 months of 1997 at 11,039 billion cubic feet were unchanged from the corresponding period in 1996. Estimated net imports of natural gas show an increase of 11 percent for the first 7 months of 1997, while net storage withdrawals are less than half the amount for the corresponding period in 1996.

End-Use Consumption

Natural gas consumers used an estimated total of 1,512 billion cubic feet of gas in July 1997. This was an increase of 3 percent over June 1997 estimated consumption and an increase of 5 percent over the total gas usage of the previous July. Total end-use consumption through July lags the first 7 months of 1996 by 85 billion cubic feet or about 1 percent (Table 3).

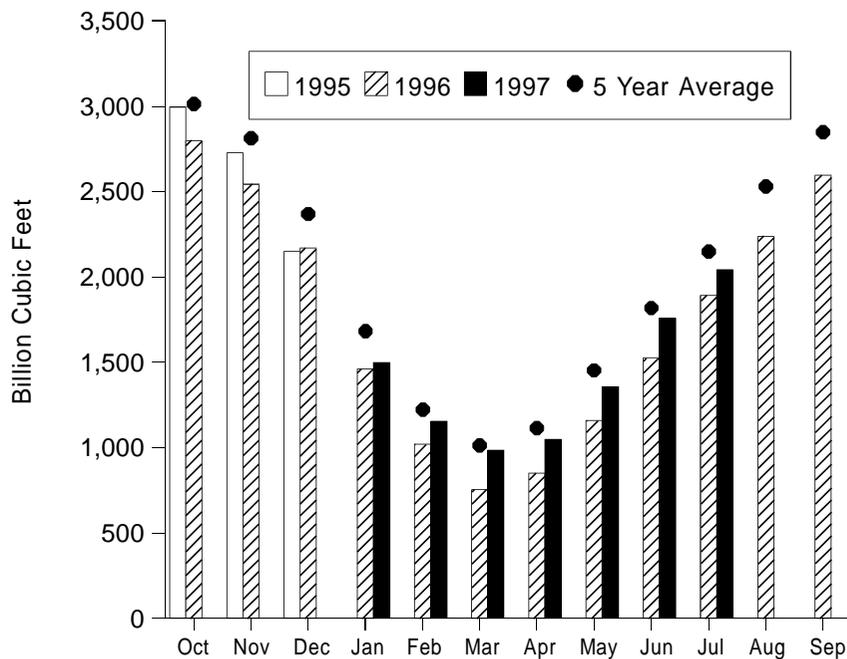
The estimate of residential natural gas consumption in July 1997 was 125 billion cubic feet, the same level as 1 year ago. Commercial consumption is estimated at 137 billion cubic feet in July 1997, 6 percent higher than in July 1996. Industrial consumers used an estimated 707 billion cubic feet in July 1997, 1 billion cubic feet lower than estimated consumption for June 1997 and 4 percent above the level in July 1996. During the first 7 months of 1997, industrial consumption was an estimated 5,222 billion cubic feet, 2 percent higher than in 1996 (Figure HI3).

Figure HI1. Natural Gas Production and Consumption, January-July, 1995-1997



Source: Table 2.

Figure HI2. Working Gas in Underground Storage in the United States, 1995-1997



Note: The 5-year average is calculated using the latest available monthly data. For example, the December average is calculated from December storage levels for 1992 to 1996 while the January average is calculated from January levels for 1993 to 1997. Data are reported as of the end of the month, thus October data represent the beginning of the heating season.

Sources: Form EIA-191, "Underground Natural Gas Storage Report," Form EIA-176, "Annual Report of Natural and Supplemental Gas Supply and Disposition," and Short-Term Integrated Forecasting System.

Electric utilities consumed an estimated 193 billion cubic feet of natural gas in April 1997 (the latest month for which data are available). Consumption was 14 percent higher than in April 1996. Cumulatively, electric utility consumption for January through April 1997 was 664 billion cubic feet or 5 percent above usage during the first 4 months of 1996.

Prices

The national average wellhead price reversed a 3-month downward trend by increasing 6 percent to \$1.82 per thousand cubic feet from March 1997 to April 1997 (Table 4). The March and April prices for this year are lower than any monthly wellhead price in 1996. Despite an overall decline since the beginning of 1997, the year-to-date wellhead price is an estimated \$2.34 per thousand cubic feet, 15 percent above the level for the same period in 1996.

The increase in price from March to April 1997 follows the pattern shown on the spot market. The average daily spot price at the Henry Hub (average of the daily low and high) ranged between \$1.92 and \$2.00 per million Btu for the first half of April, and between \$2.02 and \$2.23 per million Btu for the last half of the month (Figure HI5). More recent price data from the spot and futures markets show that the increased price levels experienced in the latter half of April generally continued through June, but have decreased slightly during July.

Estimates of end-use natural gas prices for April 1997 show a modest increase from March 1997 in the residential price, with a continued downward trend in the other end-use sectors. However, all year-to-date prices are still well above those of the same period a year ago.¹

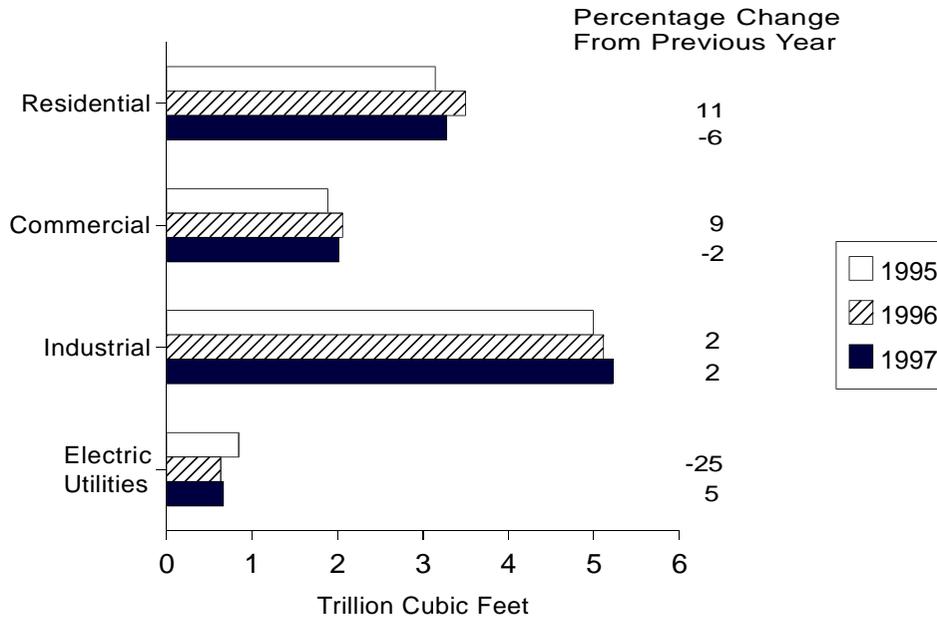
The estimated natural gas price for residential consumers for April 1997 is \$6.51 per thousand cubic feet, which is less than 1 percent above the price for the previous month. The estimated price for commercial consumers for April 1997 is \$5.45 per thousand cubic feet, a 4-percent drop from March 1997. Prices in both sectors are higher than a year ago—5 percent higher for residential customers and 3 percent higher for commercial.

Onsystem industrial customers paid an estimated \$3.03 per thousand cubic feet for natural gas in April 1997, down 10 percent from the March 1997 price, and 9 percent lower than the level a year ago. The average industrial price for January through April 1997 is \$3.84 per thousand cubic feet, 11 percent above the average for the same period in 1996 (Figure HI4).

Electric utilities are estimated to have paid \$2.30 per thousand cubic feet for natural gas in March 1997 (the most recent available data). This represents a 23-percent drop from the previous month, but a 16-percent increase from March 1996. The average electric utilities price for January through March 1997 is only 4 percent above the average for the same period in 1996.

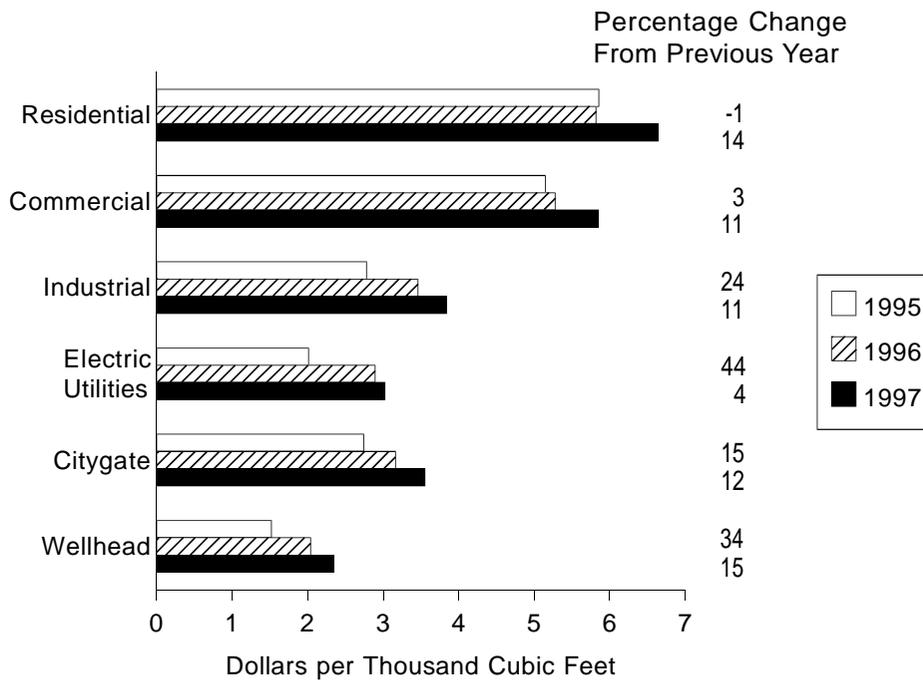
¹End-use prices in the residential, commercial, and industrial sectors are for onsystem gas sales only. While monthly onsystem sales are nearly 100 percent of residential deliveries, in 1996 they were from 59 to 77 percent of commercial deliveries and only 15 to 21 percent of industrial deliveries. A similar pattern is developing for 1997 (Table 4).

Figure HI3. Natural Gas Delivered to Consumers, January-July, 1995-1997



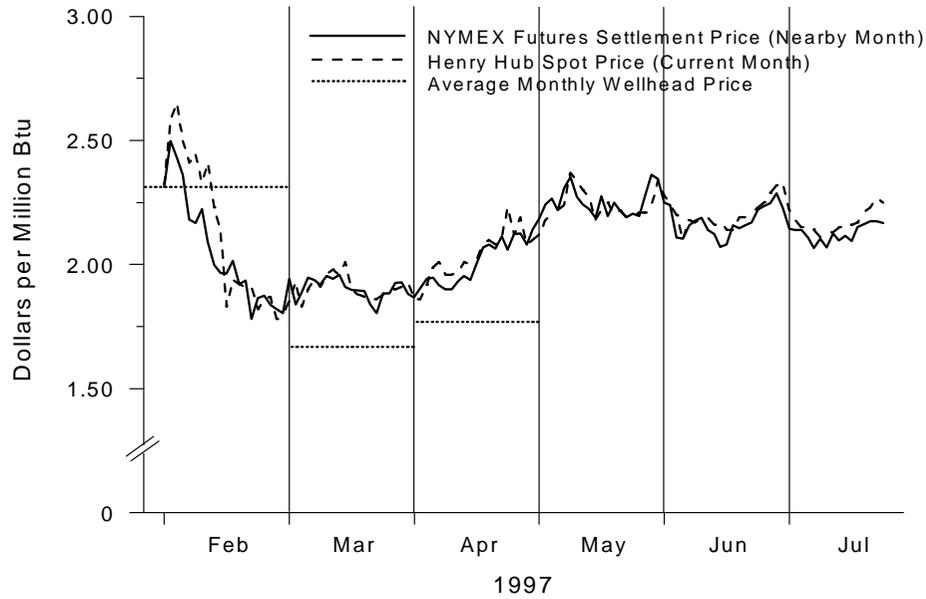
Note: The reporting of electric utility deliveries is 3 months behind the reporting of other deliveries.
Source: Table 3.

Figure HI4. Average Delivered and Wellhead Natural Gas Prices, January-April 1995-1997



Note: Commercial and industrial average prices reflect onsystem sales only. The reporting of electric utility prices is 1 month behind the reporting of other prices..
Source: Table 4.

Figure HI5. Futures and Spot Prices at the Henry Hub and Average Wellhead Price



Note: The futures price is for the contract that is to terminate trading next on the futures market. The spot price is the midpoint of the high and low daily prices at the Henry Hub.

Sources: **Futures Prices:** Commodity Futures Trading Commission, Division of Economic Analysis. **Spot Prices:** Pasha Publications, Inc., *Gas Daily*. **Wellhead Prices:** Table 4.

Table 1. Summary of Natural Gas Production in the United States, 1991-1997
(Billion Cubic Feet)

Year and Month	Gross Withdrawals	Repressuring	Nonhydrocarbon Gases Removed ^a	Vented and Flared	Marketed Production (Wet)	Extraction Loss ^b	Dry Gas Production ^c
1991 Total	21,750	2,772	276	170	18,532	835	17,698
1992 Total	22,132	2,973	280	168	18,712	872	17,840
1993 Total	22,726	3,103	414	227	18,982	886	18,095
1994 Total	23,581	3,231	412	228	19,710	889	18,821
1995							
January	2,043	311	34	21	1,677	78	1,599
February	1,822	276	30	20	1,495	70	1,426
March	2,026	314	32	20	1,660	77	1,582
April	1,945	287	32	21	1,604	75	1,530
May	1,997	291	33	24	1,649	77	1,572
June	1,910	264	31	28	1,587	74	1,513
July	1,960	264	31	26	1,639	76	1,563
August	1,965	284	30	22	1,628	76	1,552
September	1,914	276	33	25	1,581	74	1,507
October	1,988	319	34	25	1,610	75	1,535
November	2,045	331	33	24	1,657	77	1,580
December	2,128	348	35	26	1,719	80	1,639
Total	23,744	3,565	388	284	19,506	908	18,599
1996							
January	^E 2,083	^E 327	^E 31	^E 25	^E 1,700	79	1,621
February	^E 1,955	^E 310	^E 29	^E 23	^E 1,593	74	1,518
March	^E 2,064	^E 328	^E 30	^E 22	^E 1,684	78	1,605
April	^E 2,012	^E 305	^E 31	^E 23	^E 1,653	77	1,576
May	^E 2,001	^E 285	^E 30	^E 22	^E 1,665	78	1,588
June	^E 1,954	^E 291	^E 28	^E 19	^E 1,616	75	1,541
July	^E 2,009	^E 288	^E 31	^E 22	^E 1,668	78	1,590
August	^E 2,021	^E 299	^E 31	^E 22	^E 1,669	78	1,591
September	^E 1,971	^E 301	^E 29	^E 21	^E 1,620	75	1,544
October	^E 2,028	^E 324	^E 30	^E 21	^E 1,654	77	1,577
November	^E 2,041	^E 318	^E 29	^E 21	^E 1,673	^E 78	^E 1,595
December	^E 2,140	^E 331	^E 31	^E 22	^E 1,757	^E 82	^E 1,675
Total	^E 24,281	^E 3,708	^E 359	^E 263	^E 19,951	^E 930	^E 19,022
1997							
January	^{RE} 2,086	^E 327	41	^E 21	^{RE} 1,696	79	^R 1,617
February	^{RE} 1,896	^E 301	38	^E 18	^{RE} 1,538	^R 72	^R 1,467
March	^{RE} 2,073	^{RE} 322	^{RE} 39	^{RE} 22	^{RE} 1,690	^R 79	^R 1,612
April	^{RE} 2,029	^{RE} 318	^{RE} 40	^{RE} 21	^E 1,650	^E 77	^E 1,573
May	^{RE} 2,079	^{RE} 326	^{RE} 41	^{RE} 21	^E 1,691	^E 79	^E 1,612
June(STIFS)	NA	NA	NA	NA	^E 1,627	^E 75	^E 1,552
July(STIFS)	NA	NA	NA	NA	^E 1,684	^E 78	^E 1,606
1997 YTD	NA	NA	NA	NA	^E 11,577	^E 538	^E 11,039
1996 YTD	^E 14,079	^E 2,135	^E 209	^E 156	^E 11,579	540	11,039
1995 YTD	13,703	2,008	223	161	11,311	526	10,785

^a See Appendix A, Explanatory Note 1, for a discussion of data on Nonhydrocarbon Gases Removed.

^b Extraction loss is only collected on an annual basis. Annually it is between 4 and 5 percent of marketed production. Monthly extraction loss is estimated from monthly marketed production by assuming that the preceding annual percentage remains constant for the next twelve months.

^c Equal to marketed production (wet) minus extraction loss.

^R = Revised Data.

^E = Estimated Data.

^{RE} = Revised Estimated Data.

NA = Not Available.

Notes: Data for 1991 through 1995 are final. All other data are preliminary unless otherwise indicated and contain estimates for selected States (see Table 7). Estimates for the most recent two months are derived from the Short-Term Integrated Forecasting System (STIFS). Geographic coverage is the 50 States and the District of Columbia. Totals may not equal sum of components because of independent rounding.

Sources: 1991-1994: Energy Information Administration (EIA), *Natural Gas Annual 1995*. January 1996 through current month: Form EIA-895, "Monthly Quantity of Natural Gas Report," STIFS, and EIA estimates. See Appendix A, Explanatory Notes 1, 3, and 6, for discussion of computation, estimating procedures, and revision policy.

Table 2. Supply and Disposition of Dry Natural Gas in the United States, 1991-1997
(Billion Cubic Feet)

Year and Month	Dry Gas Production	Supplemental Gaseous Fuels ^a	Net Imports	Net Storage Withdrawals ^b	Balancing Item ^c	Consumption ^d
1991 Total	17,698	113	1,644	80	-500	19,035
1992 Total	17,840	118	1,921	173	-508	19,544
1993 Total	18,095	119	2,210	-36	-110	20,279
1994 Total	18,821	111	2,462	-286	-400	20,708
1995						
January	1,599	12	240	613	-60	2,403
February	1,426	10	223	531	17	2,207
March	1,582	10	236	228	42	2,098
April	1,530	7	220	-51	74	1,780
May	1,572	8	216	-343	115	1,567
June	1,513	8	202	-380	52	1,395
July	1,563	8	208	-313	30	1,497
August	1,552	8	223	-212	-24	1,548
September	1,507	7	216	-321	-17	1,393
October	1,535	9	224	-210	-72	1,486
November	1,580	10	224	278	-206	1,886
December	1,639	12	256	595	-181	2,321
Total	18,599	110	2,687	415	-230	21,581
1996						
January	1,621	14	237	699	-7	2,564
February	1,518	12	215	447	^R 132	2,325
March	1,605	12	209	324	40	2,190
April	1,576	11	209	-114	145	1,826
May	1,588	8	235	-328	^R 70	^R 1,572
June	1,541	10	212	-375	^R 72	1,458
July	1,590	10	221	-369	^R -12	1,440
August	1,591	10	222	-345	^R -1	1,476
September	1,544	9	225	-364	-22	1,393
October	1,577	10	237	-204	^R -94	1,526
November	^E 1,595	^E 12	236	264	-204	1,903
December	^E 1,675	^{RE} 12	^{RE} 258	376	^R -69	^E 2,252
Total	^E 19,022	^{RE} 130	^{RE} 2,715	11	^R 50	^{RE} 21,927
1997						
January	^R 1,617	12	^E 264	672	^R -42	^R 2,525
February	^R 1,467	11	^E 231	356	^R 209	^R 2,273
March	^R 1,612	^R 10	^{RE} 243	156	^R 67	^R 2,088
April	^E 1,573	^E 9	^{RE} 244	-55	^R 19	^R 1,791
May	^E 1,612	^{RE} 10	^{RE} 256	^R -319	^{RE} 40	^{RE} 1,599
June(STIFS)	^E 1,552	^E 9	^E 230	^E -351	^E 25	^E 1,465
July(STIFS)	^E 1,606	^E 10	^E 243	^E -335	^E -11	^E 1,513
1997 YTD	^E 11,039	^E 72	^E 1,712	^E 124	^E 307	^E 13,253
1996 YTD	11,039	77	1,537	285	440	13,377
1995 YTD	10,785	64	1,544	285	270	12,947

^a Supplemental gaseous fuels data are only collected on an annual basis except for the Dakota Gasification Inc. coal gasification facility where they are gathered each month. The ratio of annual supplemental fuels (excluding Dakota Gasification Inc.) to the sum of dry gas production, net imports, and net withdrawals from storage is calculated. This ratio, which varies between .0026 and .0037, is applied to the monthly sum of these three elements. The Dakota Gasification Inc., monthly value is added to the result to produce the monthly supplemental fuels estimate.

^b Monthly and annual data for 1991 through 1995 include underground storage and liquefied natural gas storage. Data for January 1996 forward include underground storage only. See Appendix A, Explanatory Note 7 for discussion of computation procedures.

^c Represents quantities lost and imbalances in data due to differences among data sources. See Appendix A, Explanatory Note 9, for full discussion.

^d Consists of pipeline fuel use, lease and plant fuel use, and deliveries to consuming sectors as shown in Table 3.

^R = Revised Data.

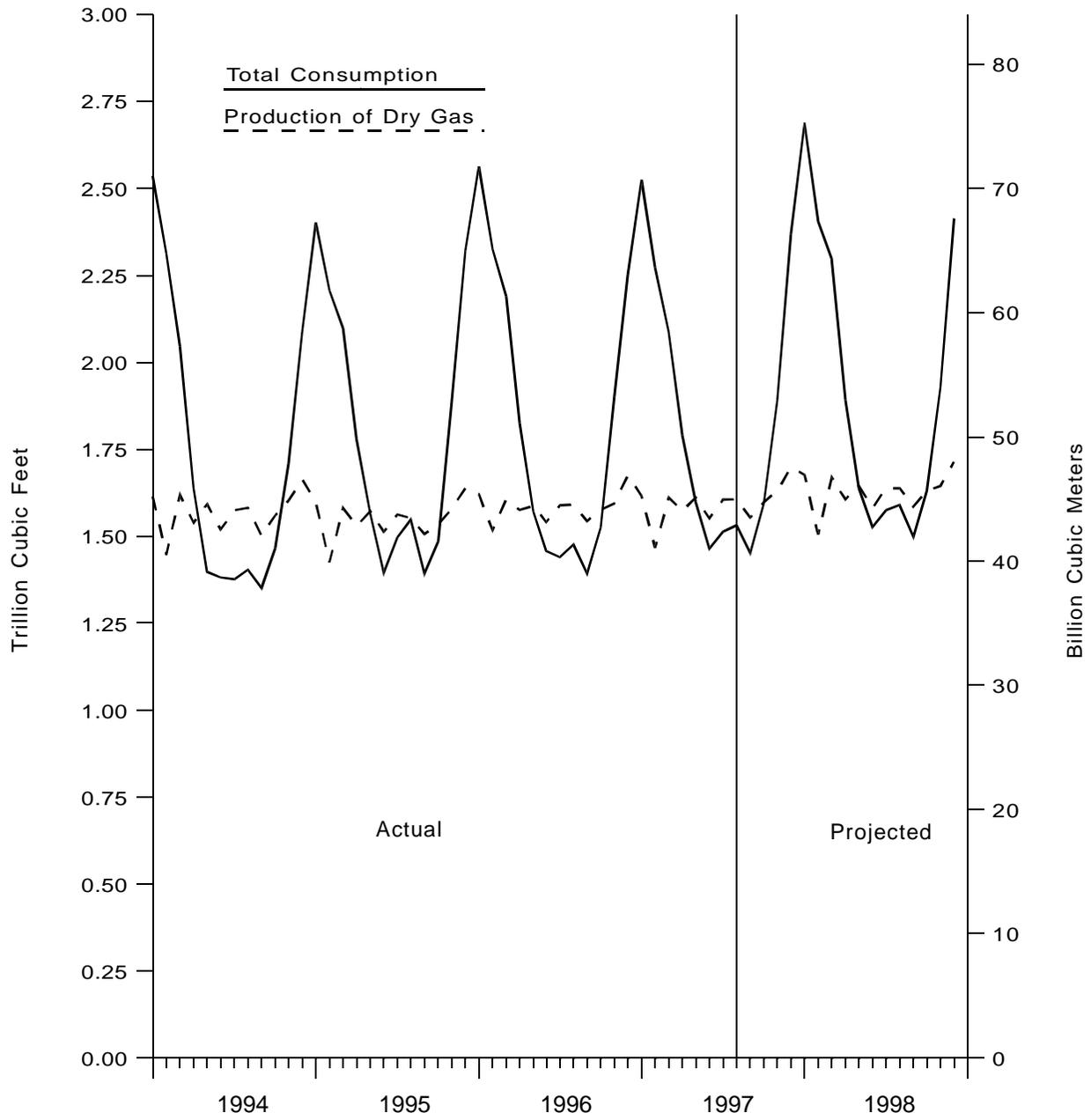
^E = Estimated Data.

^{RE} = Revised Estimated Data.

Notes: Data for 1991 through 1995 are final. All other data are preliminary unless otherwise indicated. Estimates for the most recent two months are derived from the Short-Term Integrated Forecasting System (STIFS). Geographic coverage is the 50 States and the District of Columbia. Totals may not equal sum of components because of independent rounding.

Sources: 1991-1994: Energy Information Administration (EIA), *Natural Gas Annual 1995*, 1994-1995: EIA: Form EIA-627, "Annual Quantity and Value of Natural Gas Report" (1995 data only), Form EIA-857, "Monthly Report of Natural Gas Purchases and Deliveries to Consumers," Form EIA-191, "Underground Natural Gas Storage Report," Form FPC-14, "Annual Report for Importers and Exporters of Natural Gas," Form EIA-857, "Monthly Report of Natural Gas Purchases and Deliveries to Consumers," EIA computations and *Natural Gas Annual 1995*. January 1996 through current month: EIA, Form EIA-895, "Monthly Quantity of Natural Gas Report," Form EIA-857, Form EIA-191, EIA computations and estimates, Short-Term Integrated Forecasting System (STIFS) computations, and Office of Fossil Energy, U.S. Department of Energy, Natural Gas Imports and Exports. See Appendix A for discussion of computation and estimation procedures and revision policies.

Figure 1. Production and Consumption of Natural Gas in the United States, 1994-1998



Sources: 1993 through the current month: Table 2. Projected data: Energy Information Administration, *Short-Term Energy Outlook* (October 1996).

Table 3. Natural Gas Consumption in the United States, 1991-1997
(Billion Cubic Feet)

Year and Month	Lease and Plant Fuel ^a	Pipeline Fuel ^b	Delivered to Consumers					Total Consumption
			Residential	Commercial	Industrial	Electric Utilities	Total	
1991 Total	1,129	601	4,556	2,729	7,231	2,789	17,305	19,035
1992 Total	1,171	588	4,690	2,803	7,527	2,766	17,786	19,544
1993 Total	1,172	624	4,956	2,863	7,981	2,682	18,483	20,279
1994 Total	1,124	685	4,848	^c 2,897	8,167	2,987	18,899	20,708
1995								
January	105	79	816	427	777	199	2,218	2,403
February	94	73	754	411	707	168	2,040	2,207
March	104	69	600	342	738	245	1,926	2,098
April	100	58	419	254	720	229	1,622	1,780
May	103	50	260	184	711	258	1,414	1,567
June	99	45	159	133	663	297	1,252	1,395
July	101	48	131	133	677	407	1,347	1,497
August	101	50	114	130	684	468	1,397	1,548
September	99	45	134	130	670	316	1,250	1,393
October	102	48	216	171	709	240	1,336	1,486
November	105	61	489	297	736	198	1,720	1,886
December	109	76	758	420	786	172	2,136	2,321
Total	1,220	700	4,850	^c 3,034	8,580	3,197	19,660	21,581
1996								
January	106	83	931	482	793	168	2,374	2,564
February	100	75	829	443	742	137	2,150	2,325
March	105	71	705	391	762	156	2,014	2,190
April	103	59	474	^R 287	734	170	^R 1,664	1,826
May	104	51	270	^R 188	^R 694	264	^R 1,417	^R 1,572
June	101	47	162	138	710	299	^R 1,310	1,458
July	104	47	125	^R 129	678	358	1,289	1,440
August	104	48	118	^R 128	711	367	^R 1,324	1,476
September	101	45	137	130	694	285	^R 1,247	1,393
October	104	50	243	^R 177	727	226	1,373	1,526
November	105	62	502	299	766	170	1,737	1,903
December	110	73	740	415	781	132	2,069	^E 2,252
Total	1,249	^R 712	5,234	^R 3,207	^R 8,793	2,732	^R 19,967	^{RE} 21,927
1997								
January	106	82	909	480	808	139	2,336	^R 2,525
February	96	74	768	426	767	143	2,103	^R 2,273
March	^R 106	68	^R 602	357	766	189	^R 1,914	^R 2,088
April	^R 103	^R 58	^R 435	^R 272	^R 730	^R 193	1,629	^R 1,791
May(STIFS)	^E 104	^E 53	^E 279	^{RE} 188	^E 737	NA	^{RE} 1,442	^{RE} 1,599
June(STIFS)	^E 101	^E 46	^E 157	^E 142	^E 708	NA	^E 1,318	^E 1,465
July(STIFS)	^E 104	^E 47	^E 125	^E 137	^E 707	NA	^E 1,361	^E 1,513
1997 YTD^d	^E 721	^E 428	^E 3,276	^E 2,002	^E 5,222	^R 664	^E 12,105	^E 13,253
1996 YTD	725	434	3,495	2,058	5,113	631	12,218	13,377
1995 YTD	705	421	3,139	1,884	4,994	841	11,819	12,947

^a Plant fuel data are only collected on an annual basis and monthly lease fuel data are only collected annually. Lease and plant fuel estimates have been between 6 and 7 percent of marketed production annually. Monthly lease and plant fuel use is estimated from monthly marketed production by assuming that the preceding annual percentage remains constant for the next twelve months.

^b Pipeline fuel use is only collected on an annual basis. Annually it is between 3 and 4 percent of total consumption. Monthly pipeline fuel data are estimated from monthly total consumption (excluding pipeline fuel) by assuming that the preceding annual percentage remains constant for the next twelve months.

^c Total may not equal sum of the twelve months because gas volumes delivered for use as vehicle fuel are included in the annual total but not in the monthly components. Vehicle fuel deliveries were 1.7 billion cubic feet in 1994 and 2.7 billion cubic feet in 1995.

^d Year-to-date volume represents months for which volume information is available in the current year.

^R = Revised Data.

^E = Estimated Data.

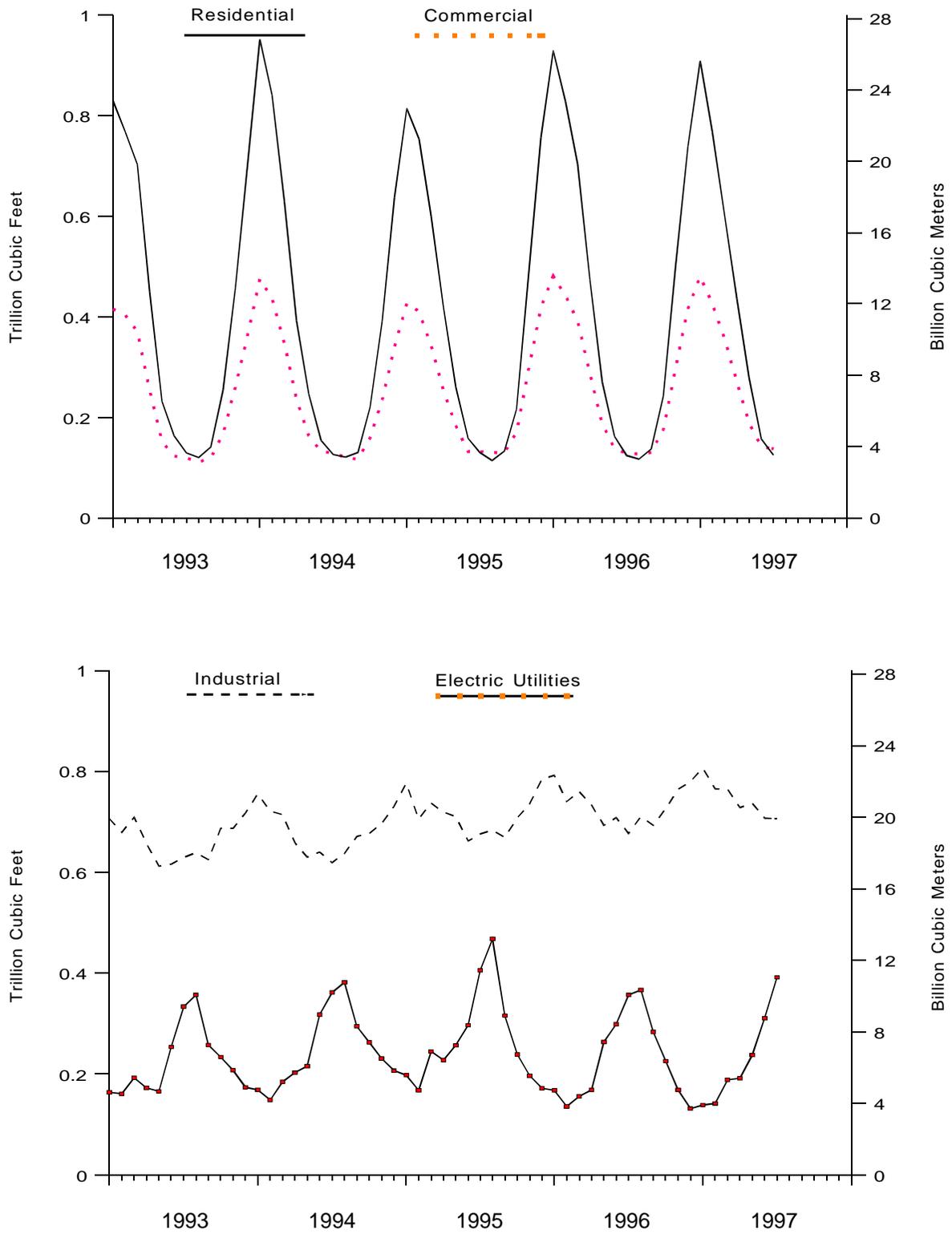
^{RE} = Revised Estimated Data.

NA = Not Available.

Notes: Data for 1991 through 1995 are final. All other data are preliminary unless otherwise indicated. Estimates for the most recent three months are derived from the Short-Term Integrated Forecasting System (STIFS). Geographic coverage is the 50 States and the District of Columbia. Totals may not equal sum of components because of independent rounding.

Sources: 1991-1994: Energy Information Administration (EIA): Form EIA-627, "Annual Quantity and Value of Natural Gas Report," Form EIA-857, "Monthly Report of Natural Gas Purchases and Deliveries to Consumers," Form EIA-759, "Monthly Power Plant Report," EIA computations, and *Natural Gas Annual 1995*. January 1996 through the current month: EIA: Form 895, "Monthly Quantity of Natural Gas Report," Form EIA-857, Form EIA-759, and STIFS computations. See Appendix A, Explanatory Note 5, for computation procedures and revision policy.

Figure 2. Natural Gas Deliveries to Consumers in the United States, 1993-1997



Sources: *Natural Gas Annual*, Form EIA-857, and Form EIA-759.

Table 4. Selected National Average Natural Gas Prices, 1991-1997
(Dollars per Thousand Cubic Feet)

Year and Month	Wellhead Price ^a	City Gate Price	Delivered to Consumers					
			Residential Price	Commercial		Industrial		Electric Utilities Price
				Price	% of Total ^b	Price	% of Total ^b	
1991 Annual Average	1.64	2.90	5.82	4.81	85.1	2.69	32.7	2.18
1992 Annual Average	1.74	3.01	5.89	4.88	83.2	2.84	30.3	2.36
1993 Annual Average	2.04	3.21	6.16	5.22	83.9	3.07	29.7	2.61
1994 Annual Average	1.85	3.07	6.41	5.44	79.3	3.05	25.5	2.28
1995								
January	1.62	2.79	5.85	5.23	81.6	2.95	27.3	2.13
February	1.48	2.71	5.76	5.14	81.7	2.85	27.4	2.00
March	1.47	2.74	5.84	5.12	81.2	2.74	26.5	1.92
April	1.52	2.72	6.06	5.08	77.2	2.57	25.4	1.97
May	1.55	2.80	6.54	5.04	71.8	2.54	23.6	2.06
June	1.58	2.89	7.49	5.16	71.4	2.44	24.5	2.06
July	1.43	2.89	7.82	5.03	67.3	2.34	22.2	1.90
August	1.43	2.87	8.13	4.99	66.6	2.26	21.8	1.84
September	1.52	2.89	7.73	4.98	67.9	2.42	22.0	1.95
October	1.54	2.83	6.62	4.82	69.7	2.44	22.5	2.09
November	1.61	2.67	5.61	4.77	75.6	2.68	24.7	2.22
December	1.84	2.83	5.54	5.00	79.2	3.07	25.0	2.58
Annual Average	1.55	2.78	6.06	5.05	76.7	2.71	24.5	2.02
1996								
January	2.08	3.13	5.60	5.30	76.3	3.46	20.1	2.88
February	1.90	3.16	5.78	5.24	76.9	3.54	20.6	3.07
March	2.03	3.17	5.89	5.31	74.6	3.51	19.3	2.74
April	2.13	3.22	6.22	5.29	^R 72.2	3.34	18.7	2.68
May	2.04	3.18	6.77	5.34	^R 66.8	3.07	^R 17.3	2.52
June	2.13	3.39	7.75	5.37	^R 62.4	3.12	15.6	2.59
July	2.33	3.48	8.55	5.43	^R 60.6	3.19	17.2	2.69
August	2.19	3.48	8.62	5.54	^R 58.7	3.06	14.8	2.57
September	1.87	3.03	7.94	5.44	^R 58.9	2.83	14.6	2.24
October	1.93	2.93	7.00	5.30	^R 62.0	2.85	15.8	2.37
November	2.70	3.47	6.31	5.38	68.8	3.58	16.6	3.05
December	3.53	4.20	6.39	5.74	71.0	4.25	17.9	3.98
Annual Average	2.25	3.34	6.29	5.38	^R 70.4	3.35	17.4	2.69
1997								
January	^{RE} 3.46	^R 4.26	6.69	6.07	72.0	4.59	^R 17.8	4.04
February	^{RE} 2.37	^R 3.77	6.76	5.98	71.2	^R 4.22	^R 16.2	2.98
March	^{RE} 1.72	3.05	6.49	5.69	68.6	3.35	16.4	2.30
April	^E 1.82	2.66	6.51	5.45	65.0	3.03	15.8	NA
1997 YTD^c	^E 2.34	3.55	6.64	5.85	69.7	3.84	16.6	3.02
1996 YTD	2.04	3.16	5.82	5.28	75.3	3.46	19.7	2.89
1995 YTD	1.52	2.74	5.86	5.15	80.8	2.78	26.3	2.01

^a See Appendix A, Explanatory Note 8, of the *Natural Gas Monthly* (NGM) for discussion of wellhead prices.

^b Percentage of total deliveries represented by onsystem sales, see Figure 6. See Table 24 for breakdown by State.

^c Year-to-date price represents months for which price information is available in the current year.

^R = Revised Data.

^E = Estimated Data.

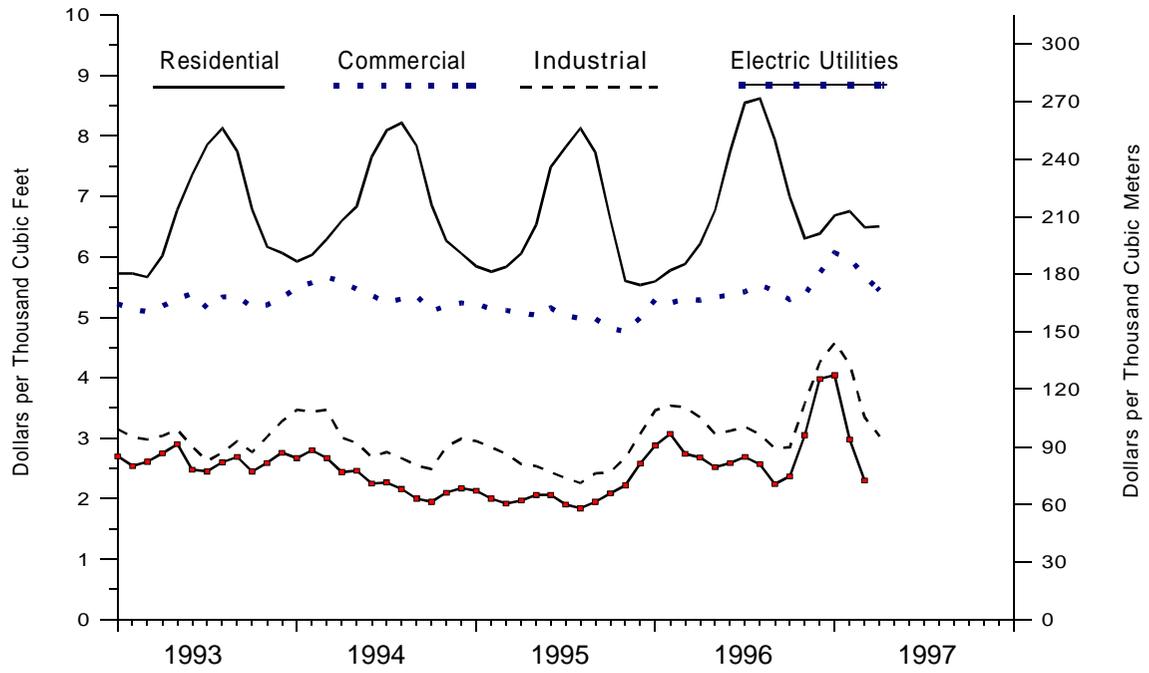
^{RE} = Revised Estimated Data.

NA = Not Available.

Notes: Data for 1991 through 1995 are final. All other data are preliminary unless otherwise indicated. Geographic coverage is the 50 States and the District of Columbia.

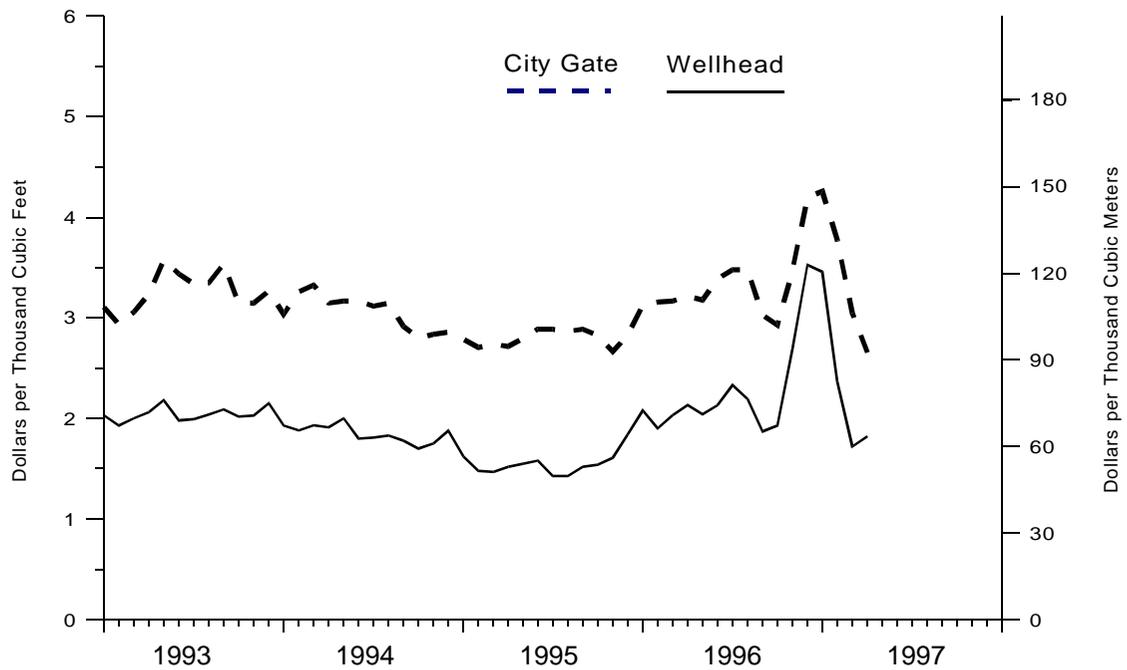
Sources: 1990-1994: Energy Information Administration (EIA) *Natural Gas Annual 1995*. 1994-1995 Form EIA-857, "Monthly Report of Natural Gas Purchases and Deliveries to Consumers." Form FERC-423, "Monthly Report of Cost and Quality of Fuels for Electric Plants," and EIA estimates. January 1996 through current month: See Appendix A, Explanatory Note 8 for estimation procedures and revision policy.

Figure 3. Average Price of Natural Gas Delivered to Consumers in the United States, 1993-1997



Source: Table 4.

Figure 4. Average Price of Natural Gas in the United States, 1993-1997



Source: Table 4.

Table 5. U.S. Natural Gas Imports, by Country, 1991-1997

(Volumes in Million Cubic Feet, Prices in Dollars per Thousand Cubic Feet)

Year and Month	Pipeline				LNG				Total	
	Canada		Mexico		Algeria		Other		Volume	Average Price
	Volume	Average Price	Volume	Average Price	Volume	Average Price	Volume	Average Price		
1991 Total	1,709,716	1.81	—	—	63,596	2.36	—	—	1,773,313	1.83
1992 Total	2,094,387	1.84	—	—	43,116	2.54	—	—	2,137,504	1.85
1993 Total	2,266,751	2.02	1,678	1.94	81,685	2.20	—	—	2,350,115	2.03
1994 Total	2,566,049	1.86	7,013	1.99	50,778	2.28	—	—	2,623,839	1.87
1995										
January	250,666	1.59	158	1.38	2,511	2.40	—	—	253,335	1.60
February	233,404	1.45	0	—	2,573	1.81	—	—	235,977	1.46
March	247,578	1.39	150	1.50	2,621	2.45	—	—	250,349	1.40
April	231,745	1.37	0	—	0	—	—	—	231,745	1.37
May	225,682	1.45	0	—	2,576	1.89	—	—	228,259	1.46
June	217,456	1.47	0	—	0	—	—	—	217,456	1.47
July	222,652	1.40	0	—	0	—	—	—	222,652	1.40
August	233,419	1.33	824	1.53	2,648	2.42	—	—	236,891	1.34
September	223,836	1.43	3,872	1.53	0	—	—	—	227,708	1.43
October	234,284	1.48	1,718	1.56	0	—	—	—	236,003	1.48
November	233,857	1.60	0	—	2,487	2.47	—	—	236,344	1.61
December	261,828	1.79	0	—	2,502	2.65	—	—	264,329	1.80
Total	2,816,408	1.48	6,722	1.53	17,918	2.30	—	—	2,841,048	1.49
1996										
January	247,111	2.04	1,498	2.03	2,460	2.81	0	—	251,070	2.05
February	225,127	1.96	698	2.14	2,512	2.79	0	—	228,338	1.97
March	219,987	1.90	1,259	2.17	2,599	3.06	0	—	223,845	1.91
April	212,618	1.80	1,392	2.18	4,559	2.50	0	—	218,570	1.81
May	236,444	1.72	4,067	2.15	2,612	2.58	0	—	243,123	1.73
June	223,051	1.71	712	2.35	0	—	0	—	223,763	1.71
July	231,167	1.78	1,304	2.57	2,642	3.00	0	—	235,114	1.79
August	236,581	1.77	31	1.70	2,629	2.56	0	—	239,241	1.78
September	232,622	1.67	771	1.69	0	—	2,524	3.34	235,917	1.69
October	242,698	1.98	1,110	2.36	5,116	2.96	0	—	248,924	2.00
November	243,835	2.28	981	2.85	5,031	2.60	0	—	249,847	2.29
December	262,173	2.71	96	3.29	5,164	2.61	2,425	3.57	269,858	2.71
Total	2,813,415	1.95	13,919	2.24	35,325	2.73	4,949	3.45	2,867,608	1.97
1997										
January	264,919	^R 2.93	^R 1,375	^R 3.08	7,560	^R 2.76	2,417	^R 3.68	^R 276,271	^R 2.93
February	233,569	^R 2.49	^R 2,248	^R 2.44	7,667	^R 2.99	0	—	^R 243,484	^R 2.51
March	^R 254,416	^R 2.10	^R 2,737	^R 1.84	2,530	^R 2.98	0	—	^R 259,683	^R 2.11
April	^E 249,388	NA	^R 3,000	NA	2,557	NA	0	—	^{RE} 254,945	NA
May	^E 256,636	NA	4,000	NA	2,552	NA	2,455	NA	^E 265,643	NA
1997 YTD	^E 1,258,927	NA	13,360	NA	22,866	NA	4,873	NA	^E 1,300,026	NA
1996 YTD	1,141,288	1.89	8,914	2.14	14,743	2.71	0	—	1,164,945	1.90
1995 YTD	1,189,076	1.45	308	1.44	10,281	2.14	—	—	1,199,664	1.46

^R = Revised Data.
^E = Estimated Data.
^{RE} = Revised Estimated Data.
^{NA} = Not Available.
 — = Not Applicable.

Sources: 1991-1995: Energy Information Administration, Form FPC-14, "Annual Report for Importers and Exporters of Natural Gas." January 1995 through the current month (except estimates): Office of Fossil Energy, U.S. Department of Energy, *Natural Gas Imports and Exports*. Estimated pipeline data (shown with an "E") are taken from data from the National Energy Board of Canada plus EIA estimates. LNG data: Industry reports.

Table 6. U.S. Natural Gas Exports, by Country, 1991-1997
(Volumes in Million Cubic Feet, Prices in Dollars per Thousand Cubic Feet)

Year and Month	Pipeline				LNG		Total	
	Canada		Mexico		Japan		Volume	Average Price
	Volume	Average Price	Volume	Average Price	Volume	Average Price		
1991 Total	14,791	1.91	60,448	1.76	54,005	3.71	129,244	2.59
1992 Total	67,777	1.83	95,973	1.90	52,532	3.43	216,282	2.25
1993 Total	44,518	2.14	39,676	2.02	55,989	3.34	140,183	2.59
1994 Total	52,556	2.42	46,500	1.68	62,682	3.18	161,738	2.50
1995								
January	2,518	2.00	5,576	1.54	5,541	3.35	13,635	2.36
February	2,016	2.02	5,542	1.32	5,557	3.38	13,115	2.30
March	2,387	1.92	6,670	1.36	5,573	3.39	14,630	2.22
April	2,457	1.84	5,941	1.49	3,741	3.47	12,138	2.17
May	1,931	2.01	6,848	1.58	3,698	3.54	12,477	2.23
June	2,106	1.91	7,945	1.59	5,556	3.59	15,606	2.34
July	2,446	1.82	6,526	1.39	5,581	3.58	14,552	2.30
August	2,558	1.77	3,431	1.29	7,531	3.47	13,520	2.60
September	3,336	2.03	2,378	1.47	5,656	3.36	11,370	2.58
October	2,929	1.91	5,588	1.63	3,733	3.30	12,250	2.21
November	1,627	2.21	3,535	1.65	7,518	3.29	12,679	2.69
December	1,244	2.43	1,303	1.82	5,599	3.31	8,146	2.94
Total	27,554	1.96	61,283	1.50	65,283	3.41	154,119	2.39
1996								
January	6,856	3.22	1,608	1.98	5,534	3.38	13,998	3.14
February	5,275	2.74	2,000	1.82	5,619	3.29	12,894	2.84
March	6,785	2.80	2,861	1.81	5,642	3.55	15,288	2.89
April	2,430	2.22	1,924	1.69	5,653	3.57	10,007	2.88
May	2,809	2.15	1,900	1.84	3,750	3.61	8,459	2.72
June	3,001	2.25	3,486	2.15	5,651	3.65	12,138	2.87
July	3,776	2.45	3,061	2.23	7,546	3.66	14,383	3.04
August	2,197	2.30	9,176	2.11	5,667	3.67	17,040	2.65
September	2,514	1.94	2,389	1.73	5,661	3.73	10,564	2.85
October	4,312	1.97	1,989	1.85	5,588	3.84	11,889	2.83
November	6,473	2.76	1,533	2.56	5,670	4.01	13,676	3.25
December	4,437	3.75	1,916	3.72	5,661	3.73	12,014	3.73
Total	50,865	2.67	33,843	2.11	67,642	3.64	152,350	2.98
1997								
January	^R 4,193	^R 4.08	^R 2,220	^R 4.07	5,604	^R 4.25	^R 12,017	^R 4.16
February	^R 5,169	^R 3.02	^R 1,666	^R 2.32	5,596	^R 4.01	^R 12,431	^R 3.37
March	^R 9,117	^R 2.06	^R 1,493	^R 1.55	5,675	^R 4.01	^R 16,285	^R 2.69
April	^E 4,000	NA	^E 1,400	NA	5,660	NA	^E 11,060	NA
May	^E 4,000	NA	^E 1,400	NA	3,812	NA	^E 9,212	NA
1997 YTD	^E 26,479	NA	^E 8,179	NA	26,348	NA	^E 61,006	NA
1996 YTD	24,155	2.77	10,293	1.82	26,198	3.47	60,646	2.91
1995 YTD	11,308	1.95	30,577	1.46	24,110	3.41	65,995	2.26

^R = Revised Data.
^E = Estimated Data.
NA = Not Available.

Sources: 1991-1995: Energy Information Administration, Form FPC-14, "Annual Report for Importers and Exporters of Natural Gas." January 1995 through the current month (except estimates): Office of Fossil Energy, U.S. Department of Energy, *Natural Gas Imports and Exports*. Estimated pipeline data (shown with an "E") are taken from data from the National Energy Board of Canada plus EIA estimates. LNG data: Industry reports.

Table 7. Marketed Production of Natural Gas, by State, 1991-1997
(Million Cubic Feet)

Year and Month	Alabama ^b	Alaska	Arizona	California	Colorado	Florida	Kansas
1991 Total	170,847	437,822	1,225	378,384	285,961	4,884	628,459
1992 Total	355,099	443,597	771	365,632	323,041	6,657	658,007
1993 Total	388,024	430,350	597	315,851	400,985	7,085	686,347
1994 Total	515,272	555,402	752	309,427	453,207	7,486	712,730
1995							
January	43,456	43,391	43	24,674	47,253	559	64,211
February	39,652	38,966	40	22,028	41,958	570	60,635
March	43,734	43,037	43	23,829	45,291	598	59,382
April	42,727	39,714	42	22,819	45,021	578	59,555
May	44,169	39,308	44	23,055	45,187	604	61,639
June	42,737	35,781	40	22,145	42,589	535	58,686
July	45,521	36,246	50	22,545	43,042	537	59,830
August	45,244	35,724	58	22,584	43,105	502	58,451
September	37,523	36,488	53	22,276	41,295	508	53,756
October	45,123	39,695	52	24,100	45,563	475	58,743
November	44,954	39,324	48	24,188	45,440	497	60,691
December	44,820	41,874	44	25,312	37,338	502	65,856
Total	519,661	469,550	558	279,555	523,084	6,463	721,436
1996							
January	32,816	44,811	41	20,482	44,982	518	62,504
February	30,858	40,581	42	22,766	40,221	493	62,213
March	33,269	43,896	45	24,525	46,594	460	62,554
April	31,604	39,838	36	23,836	41,542	456	60,401
May	32,749	36,479	39	23,932	45,656	483	61,727
June	31,136	37,470	45	23,137	40,521	503	55,896
July	30,947	37,404	30	24,356	37,626	500	56,667
August	31,157	37,379	43	24,405	38,378	540	54,730
September	30,030	38,181	31	23,683	44,665	537	55,147
October	30,029	41,339	34	24,090	48,808	468	57,158
November	31,598	40,859	37	24,307	49,394	517	58,021
December	32,684	44,325	40	24,998	50,578	531	60,434
Total	378,877	482,563	463	284,518	528,965	6,006	707,452
1997							
January	32,136	45,409	46	24,427	47,843	525	^R 60,197
February	29,307	40,017	41	23,877	^R 47,967	510	^R 54,234
March	32,291	43,559	42	23,879	52,372	607	^E 54,658
1997 YTD	93,734	128,985	129	72,183	148,183	1,641	169,090
1996 YTD	96,943	129,288	128	67,773	131,797	1,471	187,271
1995 YTD	126,842	125,394	127	70,530	134,503	1,726	184,228

See footnotes at end of table.

Table 7. Marketed Production of Natural Gas, by State, 1991-1997

(Million Cubic Feet) — Continued

Year and Month	Louisiana ^c	Michigan	Mississippi	Montana	New Mexico	North Dakota	Oklahoma
1991 Total	5,034,361	195,749	108,031	51,999	1,038,284	53,479	2,153,852
1992 Total	4,914,300	194,815	91,697	53,867	1,268,863	54,883	2,017,356
1993 Total	4,991,138	204,635	80,695	54,528	1,409,429	59,851	2,049,942
1994 Total	5,169,705	222,657	63,448	50,416	1,557,689	57,805	1,934,864
1995							
January	437,237	22,536	7,664	4,919	134,508	4,284	160,707
February	386,483	7,882	6,874	4,278	125,334	3,933	143,517
March	417,303	31,418	7,651	4,716	136,983	4,410	154,640
April	411,156	17,507	7,408	4,381	131,657	4,111	148,305
May	432,964	19,427	8,138	4,153	137,827	4,313	149,369
June	412,412	25,052	7,836	3,420	130,688	4,186	143,346
July	432,943	23,349	7,959	3,493	132,372	3,615	145,565
August	420,784	19,129	8,685	3,570	138,073	4,128	145,609
September	422,232	21,698	8,783	3,734	134,030	4,129	143,565
October	401,813	19,548	8,429	4,345	139,330	4,239	156,378
November	452,671	15,086	7,874	4,566	140,166	4,019	156,667
December	480,368	15,569	8,233	4,690	144,869	4,101	164,066
Total	5,108,366	238,203	95,533	50,264	1,625,837	49,468	1,811,734
1996							
January	[£] 457,580	22,482	8,089	4,503	[£] 143,656	4,109	[£] 160,437
February	[£] 427,338	19,173	7,386	4,266	[£] 133,884	3,753	[£] 147,253
March	[£] 448,513	11,499	8,385	4,443	[£] 146,302	4,048	[£] 154,752
April	[£] 435,818	32,907	8,225	4,098	[£] 140,455	3,924	[£] 148,412
May	[£] 452,471	18,490	9,026	4,244	[£] 147,208	4,106	[£] 149,174
June	[£] 437,816	24,185	8,983	3,496	[£] 139,613	3,847	[£] 144,004
July	[£] 460,981	27,825	9,335	3,603	[£] 132,637	3,894	[£] 145,901
August	[£] 459,033	23,866	9,193	4,050	[£] 134,516	4,066	[£] 146,102
September	[£] 448,022	20,734	8,641	4,172	[£] 129,296	4,153	[£] 143,935
October	[£] 435,727	20,904	8,996	4,625	[£] 130,917	4,268	[£] 155,859
November	[£] 470,333	16,612	8,487	[£] 4,714	[£] 131,772	4,134	[£] 156,333
December	[£] 494,812	13,930	8,518	[£] 4,906	[£] 136,236	4,178	[£] 163,208
Total	[£] 5,428,444	252,606	103,263	[£] 51,119	[£] 1,646,492	48,479	[£] 1,815,370
1997							
January	[£] 448,338	35,849	8,089	4,638	125,382	4,035	[£] 150,892
February	[£] 403,945	17,314	7,807	4,380	125,445	3,921	[£] 139,315
March	[£] 443,033	25,435	8,470	[£] 4,609	[£] 133,457	4,313	[£] 148,412
1997 YTD	1,295,316	78,598	24,366	13,627	384,284	12,270	438,619
1996 YTD	[£] 1,333,431	53,154	23,860	13,211	[£] 423,842	11,910	[£] 462,442
1995 YTD	1,241,023	61,836	22,189	13,912	396,825	12,627	458,864

See footnotes at end of table.

Table 7. Marketed Production of Natural Gas, by State, 1991-1997
(Million Cubic Feet) — Continued

Year and Month	Oregon	Texas ^c	Utah	Wyoming	Other ^a States	U.S. Total
1991 Total	2,741	6,280,654	144,817	776,528	784,362	18,532,439
1992 Total	2,580	6,145,862	171,293	842,576	800,913	18,711,808
1993 Total	4,003	6,249,624	225,401	634,957	788,472	18,981,915
1994 Total	3,221	6,353,844	270,858	696,018	774,724	19,709,525
1995						
January	279	528,857	22,354	62,919	66,793	1,676,643
February	214	479,553	21,686	50,369	61,412	1,495,384
March	208	538,515	25,813	57,602	64,520	1,659,694
April	150	523,631	24,529	59,544	61,326	1,604,162
May	137	539,311	22,498	54,039	62,505	1,648,688
June	135	526,759	15,626	51,792	63,229	1,586,994
July	150	548,617	17,120	55,403	61,116	1,639,474
August	139	545,415	17,676	57,125	62,212	1,628,213
September	128	520,687	18,447	51,741	59,787	1,580,857
October	128	524,049	16,987	57,494	63,766	1,610,256
November	126	522,744	18,062	56,956	62,910	1,656,989
December	130	531,909	20,493	58,792	70,151	1,719,118
Total	1,923	6,330,048	241,290	673,775	759,728	19,506,474
1996						
January	120	543,853	19,998	62,922	^E 66,547	^E 1,700,449
February	75	514,791	18,027	58,344	^E 61,145	^E 1,592,612
March	105	546,612	21,650	61,854	^E 64,094	^E 1,683,599
April	121	532,218	20,864	66,987	^E 60,873	^E 1,652,614
May	140	537,408	21,035	58,990	^E 61,783	^E 1,665,140
June	132	529,989	20,759	51,535	^E 62,926	^E 1,615,991
July	146	546,323	20,573	62,384	^E 67,056	^E 1,668,188
August	117	549,279	21,137	62,393	^E 68,607	^E 1,668,992
September	132	519,341	21,589	61,413	^E 65,879	^E 1,619,581
October	134	538,164	22,152	60,089	^E 70,267	^E 1,654,027
November	113	527,176	21,606	57,830	^E 69,602	^E 1,673,447
December	102	557,347	21,376	61,104	^E 77,463	^E 1,756,770
Total	1,439	6,442,501	250,767	725,845	^E 796,241	^E 19,951,409
1997						
January	105	560,683	21,782	53,272	^E 72,637	^{RE} 1,696,286
February	98	509,089	^R 19,115	45,143	^E 66,659	^{RE} 1,538,182
March	101	560,042	21,912	62,872	^E 70,236	^E 1,690,301
1997 YTD	304	1,629,814	62,808	161,286	209,532	4,924,769
1996 YTD	301	1,605,256	59,675	183,120	^E 191,786	^E 4,976,659
1995 YTD	701	1,546,925	69,853	170,890	192,725	4,831,721

^a Includes Arkansas, Illinois, Indiana, Kentucky, Maryland, Missouri, Nebraska, Nevada, New York, Ohio, Pennsylvania, South Dakota, Tennessee, Virginia and West Virginia. The 1996 and 1997 monthly values for these States are estimated.

^b The 1992, 1993, 1994, and 1995 monthly and annual values include Federal Offshore production.

^c Monthly Federal offshore production volumes are included.

^R = Revised Data.

^E = Estimated Data.

^{RE} = Revised Estimated Data.

Notes: Data for 1990 through 1995 are final. All other data are preliminary unless otherwise indicated. Totals may not equal sum of components because of independent rounding. See Appendix A, Explanatory Notes 1 and 3 for discussion of computation procedures and revision policy.

Sources: 1990-1993: Energy Information Administration (EIA), *Natural Gas Annual 1995* 1994 through current month: Form EIA-895, "Monthly Quantity of Natural Gas Report," Minerals Management Service reports, and EIA computations.

**Table 8. Gross Withdrawals and Marketed Production of Natural Gas by State,
March 1997**
(Million Cubic Feet)

State	Gross Withdrawals			Repressuring	Nonhydrocarbon Gases Removed ^a	Vented and Flared	Marketed Production
	From Gas Wells	From Oil Wells	Total				
Alabama	35,922	1,020	36,942	2,116	2,385	150	32,291
Alaska	16,911	278,030	294,941	250,712	0	670	43,559
Arizona	37	6	42	0	0	0	42
California	6,903	26,728	33,632	9,616	92	45	23,879
Colorado	45,307	7,837	53,144	692	0	79	52,372
Florida	0	686	686	0	79	0	607
Kansas	^E 48,229	^E 6,577	^E 54,806	^E 93	0	^E 55	^E 54,658
Louisiana	^E 389,866	^E 58,608	^E 448,474	^E 3,517	0	^E 1,924	^E 443,033
Michigan	20,726	5,181	25,907	195	0	277	25,435
Mississippi	9,322	573	9,895	526	684	214	8,470
Montana	^E 4,090	^E 561	^E 4,651	^E 6	0	^E 36	^E 4,609
New Mexico	^E 122,117	^E 21,055	^E 143,172	^E 857	^E 8,654	^E 204	^E 133,457
North Dakota	1,540	3,209	4,749	216	8	212	4,313
Oklahoma	^E 124,787	^E 23,625	^E 148,412	0	0	0	^E 148,412
Oregon	118	0	118	3	14	0	101
Texas	496,567	120,155	616,722	39,911	14,174	2,595	560,042
Utah	19,918	3,720	23,638	133	0	1,594	21,912
Wyoming	91,971	10,038	102,009	12,359	13,380	13,398	62,872
Other States	^E 67,632	^E 3,850	^E 71,482	^E 641	0	^E 605	^E 70,236
Total	^E1,501,964	^E571,458	^E2,073,422	^E321,593	^E39,470	^E22,058	^E1,690,301

^a See Appendix A, Explanatory Note 1, for a discussion of data on Nonhydrocarbon Gases Removed.

^E = Estimated Data.

Notes: All monthly data are considered preliminary until publication of the Natural Gas Annual for that year. Totals may not equal sum of components because of independent rounding. See Appendix A, Explanatory Notes 1 and 3 for discussion of computation procedures and revision policy.

Source: Form EIA-895, "Monthly Quantity of Natural Gas Report."

Table 9. Underground Natural Gas Storage - All Operators, 1991-1997
(Volumes in Billion Cubic Feet)

Year and Month	Natural Gas in Underground Storage at End of Period			Change In Working Gas from Same Period Previous Year		Storage Activity		
	Base Gas	Working Gas	Total ^b	Volume	Percent	Injections	Withdrawals	Net Withdrawals ^c
1991 Total^a	3,954	2,824	6,778	-244	-8.0	2,608	2,689	80
1992 Total^a	4,044	2,597	6,641	-227	-8.0	2,555	2,724	168
1993 Total^a	4,327	2,322	6,649	-275	-10.6	2,760	2,717	-43
1994 Total^a	4,360	2,606	6,966	284	12.2	2,796	2,508	-288
1995								
January	4,365	2,045	6,410	466	29.5	45	644	599
February	4,368	1,542	5,910	451	41.4	44	564	519
March	4,362	1,332	5,694	374	39.0	104	327	223
April	4,360	1,379	5,740	207	17.7	177	127	-49
May	4,393	1,668	6,061	114	7.3	369	34	-335
June	4,406	2,014	6,420	118	6.2	410	40	-371
July	4,340	2,301	6,641	28	1.2	359	54	-306
August	4,339	2,495	6,834	-112	-4.3	293	86	-207
September	4,341	2,802	7,143	-110	-3.8	343	29	-313
October	4,338	2,996	7,334	-79	-2.6	274	68	-205
November	4,342	2,728	7,070	-249	-8.4	96	367	272
December	4,349	2,153	6,503	-453	-17.4	53	635	582
Total	—	—	—	—	—	2,566	2,974	408
1996								
January	4,348	1,461	5,809	-584	-28.6	48	746	699
February	4,342	1,019	5,361	-522	-33.9	95	542	447
March	4,284	755	5,039	-577	-43.3	77	401	324
April	4,306	851	5,156	-529	-38.3	225	111	-114
May	4,325	1,158	5,483	-511	-30.6	371	43	-328
June	4,334	1,525	5,860	-489	-24.3	408	33	-375
July	4,329	1,893	6,223	-408	-17.7	415	46	-369
August	4,326	2,240	6,566	-255	-10.2	396	50	-345
September	4,331	2,597	6,928	-205	-7.3	393	29	-364
October	4,329	2,800	7,128	-196	-6.6	272	68	-204
November	4,333	2,544	6,878	-184	-6.8	88	351	264
December	4,335	2,170	6,505	17	0.8	85	461	376
Total	—	—	—	—	—	2,872	2,883	11
1997								
January	4,334	1,497	5,831	36	2.4	59	732	672
February	4,336	1,154	5,491	135	13.3	49	405	356
March	4,331	985	5,316	230	30.4	124	280	156
April	4,330	1,048	5,378	197	23.2	197	141	-55
May	^R 4,329	^R 1,357	^R 5,686	^R 199	^R 17.2	357	37	^R -319
June(STIFS)	^E 4,329	^E 1,708	^E 6,037	^{RE} 232	^{RE} 15.2	NA	NA	^E -351
July(STIFS)	^E 4,329	^E 2,043	^E 6,372	^E 150	^E 7.9	NA	NA	^E -335

^a Total as of December 31.

^b Total underground storage capacity at the end of each calendar year (in billion cubic feet): 1991 - 7,993; 1992 - 7,932; 1993 - 7,989; 1994 - 8,043; 1995 - 7,927; and 1996 - 8,159.

^c Negative numbers indicate the volume of injections in excess of withdrawals. Positive numbers indicate the volume of withdrawals in excess of injections.

^R = Revised Data.

^E = Estimated Data.

^{RE} = Revised Estimated Data.

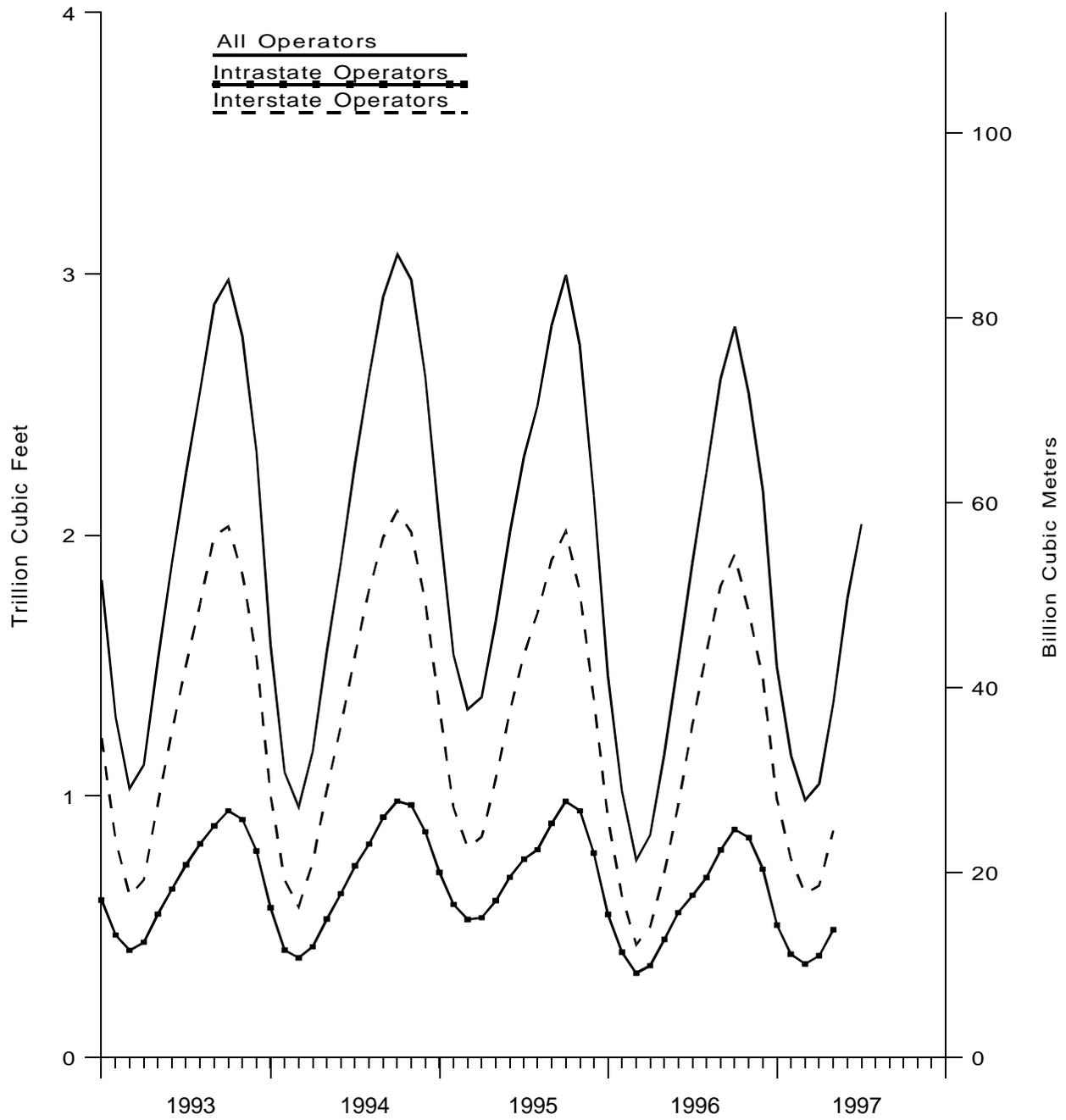
NA = Not Available.

— = Not Applicable.

Notes: Data for 1991 through 1995 are final. All other data are preliminary unless otherwise noted. Estimates for the most recent two months are derived from the Short-Term Integrated Forecasting System (STIFS). See Explanatory Note 7 of the *Natural Gas Monthly* for discussion of revision policy. Gas in storage at the end of a reporting period may not equal the quantity derived by adding or subtracting net injections or withdrawals during the period to the quantity of gas in storage at the beginning of the period. This is due to changes in the quantities of native gas included in base gas and/or losses in base gas due to migration from storage reservoirs. Totals may not equal sum of components because of independent rounding. Geographic coverage is the 50 States and the District of Columbia. In January 1995, 2 billion cubic feet was added to base gas for two new respondents. Positive net withdrawals indicate the volume of withdrawals in excess of injections. Negative net withdrawals indicate the volume of injections in excess of withdrawals.

Sources: Form EIA-191, "Underground Natural Gas Storage Report," Form EIA-176, "Annual Report of Natural and Supplemental Gas Supply and Disposition," and STIFS.

Figure 5. Underground Natural Gas Storage in the United States, 1993-1997



Sources: Energy Information Administration, Form EIA-857, "Monthly Report of Natural Gas Purchases and Deliveries to Consumers" and Form EIA-176, "Annual Report of Natural and Supplemental Gas Supply and Disposition."

Table 10. Underground Natural Gas Storage - Interstate Operators of Storage Fields, 1991-1997

(Volumes in Billion Cubic Feet)

Year and Month	Natural Gas in Underground Storage at End of Period			Change in Working Gas from Same Period Previous Year		Storage Activity		
	Base Gas	Working Gas	Total ^b	Volume	Percent	Injections	Withdrawals	Net Withdrawals
1991 Total^a	2,571	1,985	4,556	-218	-9.9	1,904	2,015	111
1992 Total^a	2,652	1,819	4,471	-166	-8.4	1,838	1,940	102
1993 Total^a	2,939	1,531	4,470	-288	-15.8	1,911	1,894	-17
1994 Total^a	2,960	1,743	4,703	212	13.8	1,913	1,701	-213
1995								
January	2,957	1,336	4,293	330	32.8	27	449	422
February	2,958	956	3,914	276	40.6	20	404	384
March	2,955	804	3,759	228	39.6	66	225	159
April	2,954	845	3,799	97	13.0	122	78	-43
May	2,956	1,067	4,024	43	4.2	250	17	-233
June	2,962	1,324	4,287	55	4.3	292	23	-268
July	2,896	1,543	4,438	3	0.2	257	28	-229
August	2,893	1,700	4,593	-90	-5.0	208	45	-163
September	2,894	1,906	4,800	-86	-4.3	225	16	-209
October	2,891	2,016	4,907	-78	-3.7	162	48	-114
November	2,895	1,785	4,680	-226	-11.3	38	272	234
December	2,899	1,372	4,271	-371	-21.3	25	442	417
Total	—	—	—	—	—	1,692	2,048	356
1996								
January	2,897	913	3,810	-423	-31.7	23	483	460
February	2,894	617	3,511	-339	-35.5	60	359	299
March	2,855	432	3,287	-371	-46.2	44	269	225
April	2,868	500	3,368	-345	-40.8	152	73	-79
May	2,885	706	3,590	-362	-33.9	250	27	-223
June	2,893	971	3,864	-354	-26.7	286	16	-270
July	2,892	1,273	4,164	-270	-17.5	313	17	-296
August	2,889	1,551	4,440	-149	-8.8	291	14	-277
September	2,893	1,803	4,696	-103	-5.4	269	12	-257
October	2,893	1,927	4,820	-89	-4.4	170	46	-124
November	2,893	1,704	4,596	-81	-4.6	40	264	224
December	2,894	1,449	4,343	78	5.7	47	304	257
Total	—	—	—	—	—	1,946	1,884	-62
1997								
January	2,893	990	3,883	77	8.4	38	498	461
February	2,895	760	3,655	143	23.2	32	278	245
March	2,885	627	3,512	195	45.0	72	195	123
April	2,885	658	3,543	158	31.5	111	87	-24
May	2,884	869	3,753	163	23.1	234	20	-214

^a Total as of December 31.

^b Total underground storage capacity at the end of each calendar year (in billion cubic feet): 1991 - 5,512; 1992 - 5,524; 1993 - 5,367; 1994 - 5,351; and 1995 - 5,314.

— = Not Applicable.

Notes: Data for 1991 through 1995 are final. All other data are preliminary unless otherwise noted. See Explanatory Note 7 of the *Natural Gas Monthly* for discussion of revision policy. Gas in storage at the end of a reporting period may not equal the quantity derived by adding or subtracting net injections or withdrawals during the period to the quantity of gas in storage at the beginning of the period. This is due to changes in the quantities of native gas included in base gas and/or losses in base gas due to migration from storage reservoirs. Totals may not equal sum of components because of independent rounding. Geographic coverage is the 50 States and the District of Columbia. Positive net withdrawals indicate the volume of withdrawals in excess of injections. Negative net withdrawals indicate the volume of injections in excess of withdrawals.

Sources: Form EIA-191, "Underground Natural Gas Storage Report," and Form EIA-176, "Annual Report of Natural and Supplemental Gas Supply and Disposition."

Table 11. Underground Natural Gas Storage - Intrastate Operators and Independent Producers, 1991-1997

(Volumes in Billion Cubic Feet)

Year and Month	Natural Gas in Underground Storage at End of Period			Change in Working Gas from Same Period Previous Year		Storage Activity		
	Base Gas	Working Gas	Total ^b	Volume	Percent	Injections	Withdrawals	Net Withdrawals
1991 Total^a	1,383	839	2,221	-25	-2.9	705	674	-31
1992 Total^a	1,392	778	2,170	-61	-7.3	717	784	67
1993 Total^a	1,388	791	2,179	13	1.7	826	802	-24
1994 Total^a	1,400	864	2,263	73	9.2	882	807	-75
1995								
January	1,409	709	2,118	136	23.7	17	195	177
February	1,410	586	1,995	175	42.6	24	160	136
March	1,407	528	1,935	146	38.2	38	102	64
April	1,406	535	1,941	111	26.1	55	49	-6
May	1,437	601	2,037	70	13.3	120	17	-103
June	1,443	690	2,133	63	10.0	119	16	-102
July	1,444	759	2,203	25	3.4	102	25	-77
August	1,446	795	2,241	-22	-2.7	85	41	-44
September	1,447	896	2,343	-24	-2.6	118	14	-104
October	1,446	980	2,427	-1	-0.1	112	20	-91
November	1,447	944	2,390	-23	-2.4	57	95	38
December	1,450	782	2,232	-82	-9.5	28	192	165
Total	—	—	—	—	—	874	926	52
1996								
January	1,451	548	1,999	-161	-22.7	24	263	239
February	1,448	403	1,851	-183	-31.2	34	183	148
March	1,429	323	1,752	-205	-38.8	33	133	99
April	1,438	351	1,788	-184	-34.4	73	39	-34
May	1,440	452	1,892	-149	-24.8	121	17	-104
June	1,441	555	1,996	-135	-19.6	122	17	-105
July	1,438	621	2,058	-138	-18.2	102	29	-73
August	1,437	689	2,126	-106	-13.3	104	36	-69
September	1,438	794	2,232	-102	-11.4	124	17	-107
October	1,436	873	2,308	-108	-11.0	102	22	-80
November	1,441	841	2,282	-103	-10.9	48	87	39
December	1,441	721	2,162	-61	-7.8	39	157	119
Total	—	—	—	—	—	926	999	73
1997								
January	1,441	507	1,948	-41	-7.5	22	234	212
February	1,441	395	1,836	-8	-1.9	17	128	111
March	1,446	358	1,804	35	10.8	53	85	33
April	1,445	390	1,835	40	11.3	85	54	-31
May	1,445	489	1,933	36	8.0	123	18	-105

^a Total as of December 31.

^b Total underground storage capacity at the end of each calendar year (in billion cubic feet): 1991 - 2,481; 1992 - 2,407; 1993 - 2,621; 1994 - 2,692.; and 1995 - 2,613.

— = Not Applicable.

Notes: Data for 1991 through 1995 are final. All other data are preliminary unless otherwise noted. See Explanatory Note 7 of the *Natural Gas Monthly* for discussion of revision policy. Gas in storage at the end of a reporting period may not equal the quantity derived by adding or subtracting net injections or withdrawals during the period to the quantity of gas in storage at the beginning of the period. This is due to changes in the quantities of native gas included in base gas and/or losses in base gas due to migration from storage reservoirs. Totals may not equal sum of components because of independent rounding. Geographic coverage is the 50 States and the District of Columbia. Positive net withdrawals indicate the volume of withdrawals in excess of injections. Negative net withdrawals indicate the volume of injections in excess of withdrawals.

Sources: Form EIA-191, "Underground Natural Gas Storage Report," and Form EIA-176, "Annual Report of Natural and Supplemental Gas Supply and Disposition."

Table 12. Net Withdrawals from Underground Storage, by State, 1995-1997
(Volumes in Million Cubic Feet)

State	1997					1996	
	May	April	March	February	January	Total	December
Alabama	-271	-130	-25	184	531	-1,224	761
Arkansas	-608	178	342	1,006	1,978	64	644
California	-24,048	-19,220	-442	19,742	38,477	49,108	15,529
Colorado	-5,328	5,569	2,069	4,862	5,523	-414	2,998
Illinois	-24,940	2,165	23,189	39,781	63,857	-15,745	35,297
Indiana	-110	1,444	2,498	2,866	7,273	-1,644	3,270
Iowa	-3,473	1,359	2,953	8,469	15,926	-293	18,525
Kansas	-9,678	-1,509	3,832	8,745	13,031	18,232	13,179
Kentucky	-7,482	-349	4,047	7,810	17,627	-7,269	8,090
Louisiana	-19,091	-4,291	-17,898	20,365	45,668	14,718	32,188
Maryland	-1,590	133	1,903	2,662	5,873	-1,808	787
Michigan	-46,356	-13,892	53,222	70,696	119,686	-36,637	82,503
Minnesota	-273	-31	188	117	588	40	228
Mississippi	-5,552	442	-2,306	2,924	12,169	-12,715	4,664
Missouri	-1,200	56	1,174	-252	1,126	-67	74
Montana	-846	1,810	2,591	3,983	5,608	11,680	5,505
Nebraska	-708	-43	-241	504	867	-1,391	1,055
New Mexico	-1,228	583	501	1,527	591	5,137	-856
New York	-7,727	-1,691	9,133	10,041	17,495	-13,453	8,062
Ohio	-33,899	-1,438	21,557	28,120	58,528	-10,813	34,940
Oklahoma	-18,258	-7,517	-8,092	8,255	27,666	26,130	21,887
Oregon	-1,239	543	920	1,078	1,341	1,405	1,240
Pennsylvania	-44,234	-3,299	50,202	52,191	94,224	-58,979	25,007
Texas	-26,009	-15,614	-20,402	24,285	48,252	61,749	24,219
Utah	-4,255	-2,150	-2,620	2,520	8,931	12,955	9,164
Washington	-5,880	-66	3,217	1,798	1,587	2,015	1,739
West Virginia	-23,964	1,715	23,312	28,900	53,643	-34,526	21,796
Wyoming	-1,119	127	1,082	2,976	4,361	5,056	3,529
Total	-319,364	-55,115	155,907	356,154	672,425	11,311	376,021

See footnotes at end of table.

Table 12. Net Withdrawals from Underground Storage, by State, 1995-1997
(Volumes in Million Cubic Feet) — Continued

State	1996						
	November	October	September	August	July	June	May
Alabama	129	-117	-440	-395	-205	-670	-367
Arkansas	562	-603	-1,153	-615	-744	-1,166	-1,302
California	-3,042	-6,542	-6,976	15,137	6,837	-9,894	-23,726
Colorado	130	-36	-3,793	-3,703	-5,336	-5,026	-2,247
Illinois	15,621	-28,518	-36,920	-35,442	-35,741	-32,391	-27,002
Indiana	-734	-2,706	-3,932	-6,158	-4,335	-2,421	-161
Iowa	5,704	-10,667	-12,673	-13,268	-12,464	-7,692	-1,625
Kansas	13,662	-5,835	-8,542	-8,116	-7,168	-12,110	-7,724
Kentucky	4,872	-2,825	-8,596	-10,080	-13,360	-14,232	-6,228
Louisiana	29,787	-13,921	-32,347	-32,118	-28,952	-15,803	-12,312
Maryland	1,274	-1,580	-1,699	-1,869	-1,912	-2,655	-2,189
Michigan	60,584	-50,388	-79,575	-82,659	-80,378	-79,051	-58,348
Minnesota	31	-33	-202	-210	-287	-294	-366
Mississippi	5,736	-3,365	-7,335	-7,882	-8,093	-6,681	-2,478
Missouri	305	-210	-204	-206	-240	-261	-1,319
Montana	4,755	336	-3,519	-3,502	-3,261	-3,578	780
Nebraska	457	572	-744	-1,277	-1,132	-1,826	-1,535
New Mexico	552	488	-1,850	366	812	49	32
New York	6,286	-2,599	-7,346	-12,590	-12,965	-12,170	-13,343
Ohio	25,546	-13,626	-23,686	-29,401	-35,840	-36,903	-29,890
Oklahoma	17,277	-11,668	-18,436	-14,723	-7,777	-11,641	-18,357
Oregon	552	207	-104	-437	-1,133	-1,173	-723
Pennsylvania	33,479	-15,457	-37,736	-52,148	-69,635	-62,217	-46,405
Texas	12,159	-22,471	-34,375	-17,650	-2,753	-14,053	-28,106
Utah	4,651	1,416	-2,204	-3,884	-6,821	-6,742	-5,533
Washington	456	1,642	-599	-1,966	-936	-3,317	-1,974
West Virginia	19,966	-15,212	-28,076	-19,867	-32,607	-29,512	-32,729
Wyoming	2,903	-272	-613	-771	-2,160	-1,760	-2,704
Total	263,660	-203,992	-363,677	-345,434	-368,585	-375,191	-327,881

See footnotes at end of table.

Table 12. Net Withdrawals from Underground Storage, by State, 1995-1997
(Volumes in Million Cubic Feet) — Continued

State	1996				1995		
	April	March	February	January	Total	December	November
Alabama	-153	162	17	54	73	400	189
Arkansas	-44	1,259	1,115	2,112	709	2,149	618
California	-12,087	1,292	25,281	47,300	-27,358	25,933	-1,980
Colorado	1,308	5,105	1,486	8,699	-3,152	5,194	-1,616
Illinois	-3,163	23,029	41,246	68,239	22,981	51,971	18,278
Indiana	990	3,541	3,831	7,170	711	4,401	-844
Iowa	2,012	6,372	8,820	16,663	6,443	17,220	12,827
Kansas	-5,531	10,743	7,491	28,184	4,875	16,419	7,352
Kentucky	395	7,956	12,252	14,488	7,178	11,394	9,279
Louisiana	-1,310	24,547	23,515	41,445	52,753	46,245	24,216
Maryland	71	1,500	2,677	3,787	4,049	3,350	689
Michigan	-14,604	51,244	82,900	131,134	117,409	115,938	66,298
Minnesota	-88	222	260	781	104	245	2
Mississippi	-4,093	6,048	3,026	7,739	7,783	6,445	9,486
Missouri	293	379	-100	1,423	-197	330	-165
Montana	645	3,877	3,437	6,207	3,599	5,251	3,048
Nebraska	-287	763	718	1,845	5,844	1,597	1,602
New Mexico	496	2,160	1,575	1,312	2,273	1,527	1,120
New York	-2,714	9,001	12,727	14,199	14,746	17,605	9,671
Ohio	-8,654	29,036	33,716	43,949	38,862	43,090	24,176
Oklahoma	-4,610	16,897	23,857	33,424	19,264	24,431	8,327
Oregon	132	651	940	1,252	-880	822	58
Pennsylvania	-22,349	43,702	64,404	80,378	63,786	78,025	45,269
Texas	-22,815	43,560	49,234	74,801	26,165	49,476	11,542
Utah	-188	2,388	8,372	12,335	-118	9,829	-1,367
Washington	-359	536	762	6,031	-2,363	1,015	-67
West Virginia	-16,154	27,054	30,565	40,250	41,129	39,382	23,047
Wyoming	-644	1,095	3,044	3,410	1,552	2,100	768
Total	-113,507	324,117	447,168	698,611	408,220	581,782	271,826

See footnotes at end of table.

Table 12. Net Withdrawals from Underground Storage, by State, 1995-1997
(Volumes in Million Cubic Feet) — Continued

State	1995					
	October	September	August	July	June	May
Alabama	73	-592	-218	-35	-42	-27
Arkansas	80	-157	-1,390	-1,494	-1,312	-211
California	-18,197	-15,258	1,565	-13,534	-26,115	-26,521
Colorado	-1,296	-2,943	-4,401	-6,280	-6,269	-2,314
Illinois	-38,814	-39,267	-39,596	-37,156	-35,273	-34,672
Indiana	-4,448	-4,766	-3,727	-2,861	-1,793	-310
Iowa	-7,844	-13,599	-17,800	-12,204	-9,889	-5,203
Kansas	-10,864	-16,412	-166	-4,798	-12,637	-9,576
Kentucky	-2,526	-6,766	-3,846	-6,815	-7,626	-12,777
Louisiana	-14,079	-23,381	-1,207	-20,851	-27,559	-18,801
Maryland	-1,123	-2,041	-1,114	332	-2,042	-2,010
Michigan	-32,377	-52,235	-54,249	-74,318	-65,350	-53,113
Minnesota	-6	-241	-234	-306	-262	-331
Mississippi	-2,596	-6,289	-740	-4,190	-1,631	-7,164
Missouri	-124	-463	-349	11	9	-621
Montana	554	-1,096	-3,206	-2,917	-2,140	-1,280
Nebraska	745	-385	-177	-278	-866	-643
New Mexico	-20	-505	1,063	-41	-1,130	-1,245
New York	-1,689	-8,910	-8,274	-7,285	-11,189	-8,564
Ohio	-8,835	-18,579	-23,432	-30,964	-31,750	-28,031
Oklahoma	-13,868	-7,816	2,877	-7,322	-14,113	-17,831
Oregon	0	-486	0	-695	-1,034	-1,179
Pennsylvania	-22,123	-44,608	-41,423	-35,648	-54,283	-43,325
Texas	-9,871	-22,880	6,956	-3,685	-22,690	-28,366
Utah	-528	-1,489	-3,512	-7,217	-6,043	-3,519
Washington	100	-2,494	271	-1,413	-1,551	-2,570
West Virginia	-14,545	-17,855	-8,978	-22,284	-24,564	-24,639
Wyoming	-1,125	-1,841	-1,566	-1,580	-1,447	-416
Total	-205,344	-313,356	-206,873	-305,827	-370,592	-335,260

Notes: This table contains total net withdrawals for each State with natural gas storage facilities. Positive numbers indicate the volume of withdrawals in excess of injections. Negative values indicate the volume of injections in excess of withdrawals. Data for 1995 are final. All other data are preliminary at this time and are not considered final until publication of the *Natural Gas Annual* for that year.
Source: Form EIA-191, "Underground Natural Gas Storage Report."

**Table 13. Activities of Underground Natural Gas Storage Operators, by State,
May 1997**

(Volumes in Million Cubic Feet)

State	Total Storage Capacity	Natural Gas in Underground Storage at End of Period			Change in Working Gas from Same Period Previous Year		Storage Activity	
		Base Gas	Working Gas	Total	Volume	Percent	Injections	Withdrawals
Alabama	3,280	1,190	830	2,020	337	68.4	271	0
Arkansas	31,871	12,016	2,052	14,068	545	36.2	651	44
California	469,696	247,419	125,316	372,735	-25,562	-16.9	25,999	1,952
Colorado	99,600	47,902	17,551	65,454	1,681	10.6	6,306	978
Illinois	898,239	651,467	98,084	749,551	11,691	13.5	26,433	1,492
Indiana	113,210	73,777	17,030	90,807	411	2.5	893	783
Iowa	270,200	200,700	11,505	212,205	6,482	129.0	3,803	330
Kansas	285,202	179,571	45,356	224,927	4,655	11.4	12,056	2,378
Kentucky	216,351	107,480	61,944	169,424	13,248	27.2	7,869	387
Louisiana	554,873	268,474	106,047	374,521	40,957	62.9	27,149	8,058
Maryland	62,000	46,677	3,947	50,625	-1,328	-25.2	1,590	0
Michigan	1,056,114	420,377	248,583	668,960	46,054	22.7	51,035	4,679
Minnesota	7,000	4,623	1,481	6,104	179	13.8	273	0
Mississippi	134,012	77,442	37,458	114,900	15,555	71.0	7,602	2,050
Missouri	31,126	21,600	8,089	29,689	-162	-2.0	1,207	7
Montana	375,010	167,386	44,829	212,216	-10,693	-19.3	1,682	836
Nebraska	39,469	31,507	1,571	33,078	1,571	0.0	790	82
New Mexico	96,600	25,746	4,398	30,145	187	4.4	1,724	496
New York	173,979	103,540	30,455	133,995	5,056	19.9	9,137	1,411
Ohio	557,452	351,045	49,546	400,591	3,442	7.5	34,392	493
Oklahoma	395,087	230,490	68,987	299,477	27,023	64.4	18,975	717
Oregon	11,623	4,896	2,324	7,220	-1,796	-43.6	1,239	0
Pennsylvania	680,006	356,968	151,194	508,162	30,745	25.5	45,347	1,113
Texas	672,534	252,934	130,824	383,758	31,249	31.4	33,521	7,513
Utah	121,980	62,100	15,222	77,322	969	6.8	4,481	226
Washington	37,300	22,096	9,152	31,249	2,410	35.7	6,091	211
West Virginia	484,597	298,582	51,656	350,238	2,835	5.8	25,069	1,105
Wyoming	105,869	60,701	11,823	72,524	-8,303	-41.3	1,196	77
Total	7,984,278	4,328,709	1,357,253	5,685,962	199,439	17.2	356,782	37,418

Notes: Gas in storage at the end of a reporting period may not equal the quantity derived by adding or subtracting net injections or withdrawals during the period to the quantity of gas in storage at the beginning of the period. This is due to changes in the quantities of native gas included in base gas and/or losses in base gas due to migration from storage reservoirs. Totals may not equal sum of components because of independent rounding. Geographic coverage is the 50 States and the District of Columbia.

Source: Form EIA-191, "Underground Natural Gas Storage Report."

Table 14. Natural Gas Deliveries to Residential Consumers, by State, 1995-1997
(Million Cubic Feet)

State	YTD 1997	YTD 1996	YTD 1995	1997		
				April	March	February
Alabama	26,949	37,033	28,814	3,187	5,337	9,116
Alaska	6,811	7,814	7,468	1,177	1,207	2,025
Arizona	17,901	15,349	15,381	2,291	4,296	5,250
Arkansas	24,261	28,763	23,162	3,291	4,939	7,749
California	229,418	212,845	226,327	39,268	48,372	66,682
Colorado	NA	65,224	53,452	NA	NA	NA
Connecticut	22,347	25,949	22,747	4,378	5,176	6,538
Delaware	5,370	6,313	5,128	939	1,265	1,614
District of Columbia	8,727	10,590	8,918	1,316	2,049	2,655
Florida	6,480	9,147	7,408	975	1,277	2,065
Georgia	54,472	70,533	55,798	8,178	8,953	15,912
Hawaii	NA	201	207	NA	45	49
Idaho	8,474	8,038	6,912	1,464	1,909	2,541
Illinois	271,809	291,679	260,660	41,163	61,373	69,290
Indiana	95,108	104,778	88,396	15,240	20,713	26,330
Iowa	45,941	61,387	42,882	6,970	9,526	11,879
Kansas	43,064	49,883	40,731	6,378	8,783	12,125
Kentucky	34,467	41,365	34,273	4,793	7,255	8,918
Louisiana	28,326	35,384	28,821	3,759	5,666	9,065
Maine	526	520	462	85	142	133
Maryland	NA	49,778	41,227	NA	NA	NA
Massachusetts	NA	66,195	59,351	12,092	15,090	17,611
Michigan	213,750	229,752	204,488	38,217	51,246	57,485
Minnesota	74,144	79,252	68,047	11,442	16,969	19,977
Mississippi	NA	19,020	15,593	1,908	^R 3,038	^R 4,967
Missouri	75,278	128,394	71,238	11,006	15,404	23,399
Montana	NA	11,514	9,708	NA	2,468	3,037
Nebraska	28,103	26,540	25,611	4,505	6,232	7,830
Nevada	13,485	11,795	11,374	2,018	3,172	3,825
New Hampshire	3,854	4,035	3,642	744	913	1,136
New Jersey	114,087	126,783	106,816	18,139	29,262	34,709
New Mexico	18,577	18,413	14,284	1,524	3,862	5,739
New York	NA	227,881	208,224	NA	NA	NA
North Carolina	29,947	38,650	29,261	4,087	5,810	10,001
North Dakota	7,027	7,076	6,230	1,154	1,576	1,984
Ohio	195,810	212,593	193,500	32,974	44,087	52,418
Oklahoma	41,765	47,106	39,942	6,149	9,054	12,665
Oregon	18,722	17,424	15,087	3,206	4,350	5,308
Pennsylvania	145,873	161,109	143,974	24,995	33,554	41,308
Rhode Island	10,236	10,956	9,425	1,994	2,462	2,891
South Carolina	14,326	19,102	15,234	1,760	2,568	4,948
South Dakota	7,699	7,801	6,771	1,250	1,625	2,089
Tennessee	NA	44,354	34,772	4,757	NA	11,985
Texas	125,793	127,819	109,311	15,705	25,405	36,868
Utah	29,062	27,085	23,521	4,875	5,945	8,366
Vermont	NA	1,507	1,324	283	^R 383	416
Virginia	40,370	46,609	37,864	6,677	9,143	11,396
Washington	NA	32,208	27,988	NA	8,132	^R 10,131
West Virginia	18,407	22,901	20,094	3,355	4,229	4,898
Wisconsin	NA	80,903	70,860	11,637	16,912	19,840
Wyoming	NA	7,666	6,185	NA	725	955
Total	2,715,048	2,937,994	2,588,892	435,242	^R602,375	^R768,079

See footnotes at end of table.

Table 14. Natural Gas Deliveries to Residential Consumers, by State, 1995-1997
(Million Cubic Feet) — Continued

State	1997	1996				
	January	Total	December	November	October	September
Alabama	9,309	56,666	6,687	3,421	1,652	1,325
Alaska	2,402	16,179	2,181	1,708	1,238	589
Arizona	6,063	28,056	4,101	2,351	1,096	911
Arkansas	8,281	46,354	6,294	3,773	1,427	1,045
California	75,096	473,940	62,990	43,757	30,502	26,139
Colorado	NA	111,045	15,832	9,582	4,891	2,776
Connecticut	6,255	43,764	5,842	3,522	1,840	992
Delaware	1,552	9,809	1,180	628	294	183
District of Columbia	2,708	17,482	2,432	1,266	584	405
Florida	2,164	16,381	1,650	975	754	691
Georgia	21,429	126,338	18,438	14,572	5,740	3,081
Hawaii	51	537	44	41	39	41
Idaho	2,560	14,936	2,224	1,570	646	363
Illinois	99,983	537,535	80,827	63,646	28,056	13,127
Indiana	32,825	181,822	27,844	18,565	8,114	3,509
Iowa	17,565	87,818	14,101	9,753	3,606	1,950
Kansas	15,778	85,074	14,383	9,474	3,058	1,994
Kentucky	13,500	71,001	10,309	9,129	3,075	1,418
Louisiana	9,835	57,043	6,217	3,537	2,118	1,900
Maine	166	971	120	105	67	28
Maryland	NA	85,401	11,460	7,816	3,674	2,244
Massachusetts	NA	114,318	13,940	10,012	5,047	2,696
Michigan	66,801	399,531	52,719	38,855	18,527	9,069
Minnesota	25,755	140,631	21,857	14,969	6,616	2,929
Mississippi	5,049	30,201	3,678	1,878	928	879
Missouri	25,469	137,214	20,538	11,686	4,321	2,749
Montana	3,893	22,602	3,351	2,511	1,306	648
Nebraska	9,536	46,714	7,347	4,079	2,192	974
Nevada	4,470	22,607	3,386	2,069	894	732
New Hampshire	1,061	7,015	855	667	312	169
New Jersey	31,977	215,617	29,469	18,609	9,747	4,811
New Mexico	7,451	35,932	6,025	3,925	1,415	898
New York	NA	NA	NA	NA	NA	NA
North Carolina	10,049	59,590	8,722	4,520	1,724	918
North Dakota	2,313	12,358	1,855	1,087	469	227
Ohio	66,331	375,884	52,532	38,603	18,996	7,156
Oklahoma	13,896	76,356	11,256	5,700	2,259	1,699
Oregon	5,857	33,224	5,198	3,163	1,357	820
Pennsylvania	46,015	275,013	37,266	25,929	12,899	5,623
Rhode Island	2,890	18,173	2,350	1,416	738	509
South Carolina	5,050	29,129	4,295	2,148	792	472
South Dakota	2,735	14,089	2,243	1,414	578	320
Tennessee	12,689	69,730	9,897	5,889	1,969	1,185
Texas	47,816	228,628	33,800	17,731	9,406	7,454
Utah	9,876	54,344	8,203	5,749	4,215	2,540
Vermont	419	2,523	302	208	100	56
Virginia	13,154	76,818	11,007	7,430	2,895	1,422
Washington	10,885	62,652	9,780	6,191	2,923	1,568
West Virginia	5,925	37,175	5,136	3,371	1,600	692
Wisconsin	26,187	147,984	21,279	16,720	7,304	3,129
Wyoming	1,150	14,755	1,901	1,454	1,185	401
Total	909,352	5,234,445	739,817	501,947	242,746	137,199

See footnotes at end of table.

Table 14. Natural Gas Deliveries to Residential Consumers, by State, 1995-1997
(Million Cubic Feet) — Continued

State	1996					
	August	July	June	May	April	March
Alabama	1,231	1,300	1,477	2,958	6,343	8,079
Alaska	544	493	647	964	1,424	1,918
Arizona	845	928	1,102	1,345	2,182	3,408
Arkansas	956	931	1,204	1,970	4,853	6,155
California	21,785	18,672	26,029	30,042	36,771	52,297
Colorado	2,508	2,872	4,320	6,909	11,539	14,701
Connecticut	954	1,088	1,274	2,303	4,399	6,245
Delaware	177	198	313	523	1,129	1,522
District of Columbia	384	417	588	816	1,731	2,402
Florida	659	741	787	1,016	1,640	2,062
Georgia	2,956	3,166	3,103	4,251	9,817	17,770
Hawaii	40	42	45	44	49	52
Idaho	277	300	542	976	1,314	1,847
Illinois	9,539	11,341	12,429	27,148	43,168	71,301
Indiana	3,115	3,268	4,511	8,914	16,810	24,959
Iowa	1,606	1,657	2,336	4,173	6,925	11,795
Kansas	1,623	1,786	1,739	3,050	6,272	11,160
Kentucky	1,276	1,129	1,331	2,278	5,612	10,268
Louisiana	1,835	1,832	1,980	2,579	5,193	7,557
Maine	23	25	29	53	81	137
Maryland	1,979	2,054	2,631	4,077	7,237	11,845
Massachusetts	2,480	2,834	3,958	7,621	11,645	16,649
Michigan	7,303	7,660	10,627	24,651	40,297	57,657
Minnesota	2,401	2,549	3,659	7,237	12,091	18,871
Mississippi	770	815	838	1,364	3,170	3,846
Missouri	2,447	2,687	3,404	6,251	13,132	18,851
Montana	439	470	753	1,438	2,087	2,701
Nebraska	884	937	1,373	2,434	4,435	6,165
Nevada	678	779	1,011	1,264	1,884	2,903
New Hampshire	155	159	233	429	698	998
New Jersey	4,634	5,016	5,832	10,716	20,214	30,417
New Mexico	889	1,727	1,812	654	2,763	3,300
New York	NA	10,183	14,050	25,108	41,145	59,700
North Carolina	874	901	1,226	2,160	6,272	7,490
North Dakota	209	213	399	818	1,348	1,640
Ohio	6,423	7,343	10,325	17,688	34,545	54,282
Oklahoma	1,509	1,622	1,981	3,309	7,669	10,126
Oregon	673	838	1,386	2,299	2,820	4,041
Pennsylvania	5,275	5,597	7,833	13,620	25,579	39,695
Rhode Island	450	484	692	1,216	1,831	2,664
South Carolina	415	421	542	945	2,968	3,706
South Dakota	231	239	464	803	1,367	1,865
Tennessee	1,098	1,158	1,319	2,339	7,012	9,454
Texas	6,493	7,173	7,783	9,595	19,163	28,188
Utah	1,416	1,533	1,351	2,252	4,540	5,419
Vermont	47	51	85	167	268	354
Virginia	1,432	1,510	2,100	2,550	6,609	11,307
Washington	1,270	1,624	2,626	4,463	5,445	7,639
West Virginia	534	586	812	1,642	3,855	5,463
Wisconsin	2,859	2,947	4,584	8,023	12,785	20,340
Wyoming	289	298	556	1,005	1,409	1,703
Total	117,658	124,594	162,036	270,452	473,531	704,913

See footnotes at end of table.

Table 14. Natural Gas Deliveries to Residential Consumers, by State, 1995-1997
(Million Cubic Feet) — Continued

State	1996		Total	1995		
	February	January		December	November	October
Alabama	11,261	10,931	49,570	7,563	3,902	1,542
Alaska	2,419	2,054	15,231	2,294	1,411	866
Arizona	4,274	5,511	26,893	3,154	1,554	1,027
Arkansas	8,725	9,021	41,107	7,034	3,522	1,295
California	58,085	66,870	477,495	56,731	33,646	24,743
Colorado	17,499	17,616	104,286	12,262	8,830	5,456
Connecticut	7,147	8,159	40,824	6,389	3,449	1,479
Delaware	1,941	1,721	8,505	1,231	601	230
District of Columbia	3,117	3,339	15,690	2,579	1,246	452
Florida	2,575	2,832	14,540	1,785	1,004	668
Georgia	19,247	24,195	114,670	21,351	14,965	6,067
Hawaii	51	49	574	45	43	44
Idaho	2,509	2,368	13,003	1,748	1,364	628
Illinois	81,128	95,825	500,796	81,457	64,407	26,650
Indiana	28,883	33,330	161,059	26,875	18,305	6,884
Iowa	13,686	16,229	82,238	14,248	11,222	3,803
Kansas	13,709	16,827	75,846	13,608	6,757	3,440
Kentucky	11,352	13,824	66,149	12,325	9,224	3,130
Louisiana	10,352	11,944	52,603	7,401	4,391	2,073
Maine	143	159	913	151	97	48
Maryland	14,351	16,033	76,552	12,985	7,601	2,927
Massachusetts	18,583	18,852	105,795	15,933	9,090	3,958
Michigan	63,694	68,472	380,025	61,290	39,707	17,636
Minnesota	22,363	25,091	128,736	21,117	14,915	6,969
Mississippi	5,892	6,143	26,960	4,212	2,326	631
Missouri	24,496	26,652	125,110	19,696	11,325	4,259
Montana	3,568	3,330	19,640	2,697	2,248	1,376
Nebraska	8,165	7,729	45,054	6,188	4,132	1,577
Nevada	3,264	3,744	20,686	2,357	1,349	817
New Hampshire	1,147	1,193	6,507	991	550	254
New Jersey	35,838	40,315	194,432	33,195	18,422	7,195
New Mexico	4,941	7,581	28,770	4,649	3,027	1,319
New York	61,146	68,834	375,005	56,841	32,655	13,159
North Carolina	11,875	12,907	49,379	8,581	4,445	1,402
North Dakota	2,160	1,932	11,209	1,695	1,095	424
Ohio	58,678	69,313	357,754	59,871	40,926	17,326
Oklahoma	14,443	14,782	68,702	9,769	5,029	2,526
Oregon	5,584	5,046	28,067	3,952	2,620	1,128
Pennsylvania	45,391	50,305	262,126	44,456	27,801	10,640
Rhode Island	3,119	2,704	17,342	2,634	1,336	672
South Carolina	5,887	6,539	25,164	4,422	2,262	646
South Dakota	2,221	2,343	12,610	1,828	1,332	705
Tennessee	13,711	14,700	59,994	9,171	7,624	1,801
Texas	35,810	46,031	206,415	30,741	17,917	8,860
Utah	8,571	8,555	48,975	7,214	4,684	3,857
Vermont	418	467	2,299	353	176	86
Virginia	13,807	14,750	68,712	12,753	7,059	2,245
Washington	10,136	8,988	52,763	7,611	5,683	2,444
West Virginia	6,564	6,918	35,379	5,867	3,626	1,441
Wisconsin	22,584	25,431	136,012	22,980	16,784	7,000
Wyoming	2,373	2,182	12,152	NA	NA	NA
Total	828,884	930,666	4,850,318	757,844	488,812	216,412

^R = Revised Data.

NA = Not Available.

Notes: Geographic coverage is the 50 States and the District of Columbia. See Appendix A, Explanatory Note 5 for discussion of computations and revision policy.

Source: Form EIA-857, "Monthly Report of Natural Gas Purchases and Deliveries to Consumers."

Table 15. Natural Gas Deliveries to Commercial Consumers, by State, 1995-1997
(Million Cubic Feet)

State	YTD 1997	YTD 1996	YTD 1995	1997		
				April	March	February
Alabama	13,096	15,866	13,132	2,194	2,614	4,064
Alaska	9,519	11,549	10,398	1,914	2,075	2,488
Arizona	13,292	12,317	12,076	2,589	3,184	3,621
Arkansas	15,178	17,525	14,061	2,173	3,150	4,732
California	96,820	85,598	104,952	21,134	23,659	26,160
Colorado	NA	36,957	32,874	NA	NA	NA
Connecticut	19,996	19,836	18,873	4,057	4,798	5,347
Delaware	3,459	3,873	3,145	601	844	1,019
District of Columbia	7,620	7,538	8,559	842	2,165	2,299
Florida	14,158	17,034	15,967	2,924	3,289	3,841
Georgia	25,302	31,355	26,106	4,116	4,822	7,855
Hawaii	NA	759	749	NA	180	188
Idaho	5,994	5,885	5,178	1,043	1,348	1,786
Illinois	107,242	112,233	103,858	16,758	23,407	30,011
Indiana	46,400	50,485	42,702	7,578	10,420	12,753
Iowa	26,890	29,071	25,216	3,970	5,750	7,047
Kansas	25,254	28,027	22,769	3,702	6,104	8,255
Kentucky	19,721	22,543	19,324	2,868	4,081	5,467
Louisiana	13,487	13,167	11,008	1,854	3,678	3,593
Maine	1,389	1,364	1,222	231	378	348
Maryland	NA	24,528	22,777	NA	NA	NA
Massachusetts	NA	45,644	39,548	9,100	11,671	13,903
Michigan	105,790	109,311	99,532	19,197	25,640	28,395
Minnesota	49,453	51,943	46,271	8,379	12,027	13,432
Mississippi	NA	11,257	9,300	1,563	^R 2,372	2,853
Missouri	39,159	40,860	34,858	5,788	7,974	12,834
Montana	NA	7,555	6,576	NA	1,652	1,948
Nebraska	NA	17,372	10,457	NA	4,111	8,086
Nevada	9,735	8,684	8,342	1,907	2,456	2,644
New Hampshire	3,844	3,885	3,474	739	954	1,079
New Jersey	67,718	79,206	70,301	13,646	19,888	14,211
New Mexico	13,390	12,626	10,637	1,932	3,045	4,095
New York	NA	NA	106,668	NA	NA	NA
North Carolina	18,721	23,702	19,177	2,978	3,812	5,861
North Dakota	6,358	6,467	6,084	1,084	1,410	1,881
Ohio	99,208	106,647	94,108	15,184	23,197	28,164
Oklahoma	23,333	24,573	20,488	3,543	5,001	7,126
Oregon	13,087	12,334	10,849	2,306	3,078	3,689
Pennsylvania	72,911	84,507	70,907	12,817	17,923	19,621
Rhode Island	6,324	6,512	5,993	1,144	1,740	1,745
South Carolina	8,611	9,778	8,719	1,367	1,801	2,667
South Dakota	5,830	6,057	5,474	941	1,236	1,608
Tennessee	NA	30,818	25,695	4,246	NA	9,422
Texas	NA	92,680	83,742	13,756	NA	20,898
Utah	15,621	14,766	12,945	2,685	3,376	4,490
Vermont	NA	1,577	1,424	296	^R 351	444
Virginia	29,466	28,543	27,385	5,744	7,209	7,878
Washington	NA	22,827	20,637	NA	5,641	—
West Virginia	18,267	15,994	12,391	8,310	2,807	3,276
Wisconsin	NA	49,803	42,271	7,548	^R 10,753	12,679
Wyoming	NA	6,588	5,122	NA	915	883
Total	1,534,399	1,602,453	1,434,318	271,731	356,895	425,545

See footnotes at end of table.

Table 15. Natural Gas Deliveries to Commercial Consumers, by State, 1995-1997
(Million Cubic Feet) — Continued

State	1997	1996				
	January	Total	December	November	October	September
Alabama	4,224	29,003	3,093	2,032	1,437	1,232
Alaska	3,042	24,990	2,873	2,405	2,016	1,368
Arizona	3,897	29,268	3,290	2,485	1,764	1,696
Arkansas	5,124	31,116	3,878	2,464	1,357	1,197
California	25,868	233,665	24,665	21,161	18,637	17,456
Colorado	NA	69,252	9,071	5,821	3,431	2,224
Connecticut	5,794	39,730	4,900	3,110	2,397	1,817
Delaware	995	6,678	788	496	278	224
District of Columbia	2,314	16,219	2,322	1,190	798	768
Florida	4,104	41,667	3,972	3,162	2,942	2,827
Georgia	8,509	60,854	7,371	5,414	3,302	2,701
Hawaii	188	2,115	175	158	169	170
Idaho	1,817	11,526	1,625	1,110	598	422
Illinois	37,066	215,307	32,478	25,266	12,121	7,149
Indiana	15,648	91,872	13,655	9,723	4,238	2,602
Iowa	10,123	53,929	8,483	5,879	2,103	1,925
Kansas	7,193	58,010	9,333	4,839	2,000	1,300
Kentucky	7,305	41,343	5,934	4,493	2,261	1,224
Louisiana	4,362	25,960	2,458	1,696	1,405	1,327
Maine	433	2,566	310	280	172	78
Maryland	NA	^R 51,067	6,148	4,987	^R 2,980	^R 2,368
Massachusetts	NA	95,814	11,764	9,749	5,415	4,783
Michigan	32,559	204,406	26,447	19,774	9,695	6,345
Minnesota	15,614	96,799	14,546	10,462	5,093	2,726
Mississippi	3,278	22,724	2,376	1,753	1,111	1,099
Missouri	12,562	73,164	10,251	6,170	2,979	2,251
Montana	2,554	14,943	2,189	1,725	848	499
Nebraska	5,963	41,000	5,074	3,713	2,852	2,345
Nevada	2,727	19,969	2,388	1,778	1,236	1,088
New Hampshire	1,073	6,954	873	661	344	196
New Jersey	19,973	146,937	18,703	12,497	7,674	5,325
New Mexico	4,319	27,775	3,682	2,547	1,429	1,140
New York	NA	NA	NA	NA	NA	NA
North Carolina	6,070	41,811	5,435	3,340	1,979	1,711
North Dakota	1,984	12,098	1,746	1,103	562	346
Ohio	32,664	189,648	26,180	18,193	8,717	4,129
Oklahoma	7,663	43,285	5,760	3,100	1,721	1,591
Oregon	4,014	25,553	3,589	2,310	1,303	1,021
Pennsylvania	22,550	155,253	21,487	14,218	7,701	4,297
Rhode Island	1,695	11,734	1,286	969	643	574
South Carolina	2,776	20,652	2,414	1,631	1,150	1,033
South Dakota	2,046	11,604	1,813	1,238	571	353
Tennessee	9,020	56,806	6,505	4,976	2,853	2,420
Texas	NA	NA	21,396	17,363	NA	13,418
Utah	5,070	29,544	4,228	3,191	2,077	1,282
Vermont	477	2,850	351	279	164	91
Virginia	8,636	58,649	7,512	5,771	3,373	2,464
Washington	7,492	48,167	6,633	4,495	2,705	1,923
West Virginia	3,874	29,288	3,500	2,611	1,715	1,250
Wisconsin	^R 16,328	94,566	13,530	11,157	4,538	2,556
Wyoming	995	17,081	3,889	2,457	1,395	351
Total	480,227	^R3,206,738	415,252	298,925	^R176,693	^R130,465

See footnotes at end of table.

Table 15. Natural Gas Deliveries to Commercial Consumers, by State, 1995-1997
(Million Cubic Feet) — Continued

State	1996					
	August	July	June	May	April	March
Alabama	1,158	1,192	1,252	1,722	2,866	3,714
Alaska	1,177	1,125	1,247	1,558	2,084	2,778
Arizona	1,769	1,796	2,014	2,129	2,555	3,012
Arkansas	1,061	1,057	1,053	1,520	2,966	3,897
California	17,453	17,060	15,671	16,245	17,216	21,546
Colorado	2,141	2,393	3,057	4,431	6,997	8,908
Connecticut	1,711	1,967	1,745	2,247	3,528	4,844
Delaware	204	203	246	366	694	889
District of Columbia	746	800	824	1,233	1,893	1,537
Florida	2,703	2,822	3,015	3,321	3,899	4,142
Georgia	2,613	2,730	2,499	3,274	5,371	7,474
Hawaii	165	174	175	171	189	182
Idaho	355	347	479	711	996	1,363
Illinois	5,332	5,446	5,713	9,682	17,310	26,484
Indiana	2,440	2,307	2,789	4,497	7,988	11,920
Iowa	1,077	1,212	1,629	2,572	4,548	7,047
Kansas	3,762	3,530	1,989	3,232	4,911	6,616
Kentucky	1,150	1,059	1,080	1,544	3,341	5,578
Louisiana	1,332	1,277	1,511	1,682	2,401	3,039
Maine	75	74	82	132	208	356
Maryland	^R 2,359	^R 2,127	^R 2,242	^R 3,327	^R 4,314	5,753
Massachusetts	4,272	3,744	4,200	6,576	8,952	11,127
Michigan	5,574	5,858	6,541	12,480	19,934	28,197
Minnesota	2,283	2,346	3,024	5,314	8,731	12,796
Mississippi	1,221	1,179	1,091	1,280	2,024	2,607
Missouri	2,375	2,307	2,395	3,583	6,656	9,543
Montana	375	386	508	861	1,330	1,761
Nebraska	2,556	3,631	1,499	1,958	3,223	4,055
Nevada	1,036	1,099	1,257	1,420	1,769	2,219
New Hampshire	186	172	237	399	654	963
New Jersey	5,490	5,454	5,697	8,016	14,342	17,802
New Mexico	1,457	1,514	1,721	1,549	2,569	2,617
New York	NA	NA	NA	NA	NA	NA
North Carolina	1,625	1,458	1,635	2,031	3,871	4,994
North Dakota	307	294	528	747	1,256	1,499
Ohio	4,490	4,662	7,635	8,922	16,758	26,529
Oklahoma	1,509	1,626	1,663	2,043	4,102	5,228
Oregon	904	966	1,302	1,781	2,056	2,895
Pennsylvania	5,633	4,271	5,389	7,903	13,699	20,751
Rhode Island	442	419	445	757	996	1,605
South Carolina	950	927	1,270	1,424	1,858	2,160
South Dakota	283	288	386	619	1,059	1,487
Tennessee	1,990	1,964	2,165	2,690	5,241	7,173
Texas	NA	15,399	15,909	18,409	21,434	26,607
Utah	876	906	894	1,354	2,475	3,124
Vermont	69	68	98	155	282	384
Virginia	2,085	2,571	2,998	3,407	5,062	7,205
Washington	1,696	1,859	2,669	3,430	4,143	5,445
West Virginia	1,331	1,393	1,141	1,596	2,573	3,522
Wisconsin	2,363	2,016	3,092	5,100	7,921	12,341
Wyoming	279	271	504	1,348	1,724	1,465
Total	^R 127,875	^R 128,795	^R 138,399	^R 187,881	^R 286,572	391,223

See footnotes at end of table.

Table 15. Natural Gas Deliveries to Commercial Consumers, by State, 1995-1997
(Million Cubic Feet) — Continued

State	1996		Total	1995		
	February	January		December	November	October
Alabama	4,775	4,529	26,232	3,502	2,177	1,323
Alaska	3,264	3,096	24,979	3,190	2,461	1,846
Arizona	3,136	3,620	28,329	2,802	2,056	1,702
Arkansas	5,251	5,414	27,411	4,311	2,265	1,183
California	23,078	23,477	279,606	26,152	22,818	21,272
Colorado	10,393	10,385	66,657	7,282	5,703	3,787
Connecticut	5,472	5,992	37,890	4,491	2,808	1,850
Delaware	1,186	1,104	5,743	851	417	209
District of Columbia	1,952	2,156	17,045	2,194	1,116	794
Florida	4,248	4,613	40,459	3,883	3,171	2,840
Georgia	8,401	9,702	56,538	8,062	5,706	3,379
Hawaii	190	198	2,199	177	178	179
Idaho	1,785	1,735	10,380	1,300	997	591
Illinois	32,431	35,894	203,833	30,734	22,408	11,880
Indiana	13,850	15,863	82,825	13,009	9,142	4,181
Iowa	8,289	9,164	50,329	8,170	5,952	3,021
Kansas	7,729	8,771	53,124	9,850	4,066	2,903
Kentucky	6,364	7,315	38,613	6,426	4,746	1,892
Louisiana	3,876	3,956	23,854	2,613	1,823	1,410
Maine	386	413	2,426	389	254	129
Maryland	6,627	7,835	46,924	7,538	4,871	1,907
Massachusetts	12,640	12,591	82,282	11,594	7,597	4,026
Michigan	30,779	32,781	194,105	29,922	19,742	9,647
Minnesota	13,776	15,703	90,684	13,839	10,937	5,456
Mississippi	3,404	3,581	20,171	2,627	1,693	1,013
Missouri	11,719	12,936	65,092	9,698	5,747	2,756
Montana	2,276	2,185	13,497	1,898	1,454	899
Nebraska	4,681	5,413	40,044	NA	NA	NA
Nevada	2,262	2,418	18,812	1,871	1,444	1,151
New Hampshire	1,118	1,151	6,515	989	620	285
New Jersey	22,520	23,419	138,971	20,914	10,830	6,263
New Mexico	3,427	4,123	24,007	2,920	2,149	1,330
New York	NA	NA	231,479	30,309	22,325	13,394
North Carolina	6,615	7,117	37,371	5,279	3,263	1,740
North Dakota	1,861	1,850	11,656	1,723	1,209	549
Ohio	29,596	33,837	175,347	27,649	18,650	7,916
Oklahoma	7,469	7,474	39,756	5,164	3,020	1,836
Oregon	3,900	3,526	22,437	2,837	2,010	1,166
Pennsylvania	23,598	26,306	143,744	22,596	19,918	6,583
Rhode Island	1,917	1,682	12,066	1,523	1,216	580
South Carolina	2,743	3,092	18,869	2,414	1,674	1,054
South Dakota	1,685	1,821	10,689	1,452	1,118	665
Tennessee	9,108	9,722	51,238	7,681	4,908	2,582
Texas	20,625	26,789	209,613	22,432	16,279	13,673
Utah	4,596	4,541	26,925	3,724	2,605	1,905
Vermont	449	462	2,672	410	242	130
Virginia	7,874	8,327	56,991	8,287	5,766	2,687
Washington	6,843	6,326	42,675	5,274	4,052	2,304
West Virginia	4,103	4,551	25,879	3,533	2,739	1,557
Wisconsin	13,930	16,022	84,920	13,817	10,676	4,968
Wyoming	1,714	1,685	9,849	NA	NA	NA
Total	442,864	481,794	3,033,751	419,620	296,702	170,849

^R = Revised Data.

NA = Not Available.

— = Not Applicable.

Notes: Geographic coverage is the 50 States and the District of Columbia. Deliveries for total year 1995 may not equal the sum of the twelve months. Gas volumes delivered for use as vehicle fuel are included in the annual total but not in the monthly components. See Appendix A, Explanatory Note 5 for discussion of computations and revision policy.

Source: Form EIA-857, "Monthly Report of Natural Gas Purchases and Deliveries to Consumers."

Table 16. Natural Gas Deliveries to Industrial Consumers, by State, 1995-1997
(Million Cubic Feet)

State	YTD 1997	YTD 1996	YTD 1995	1997		
				April	March	February
Alabama	70,153	69,198	68,592	18,501	17,182	16,628
Alaska	26,974	23,809	16,531	6,443	6,993	6,448
Arizona	8,049	8,208	9,968	1,989	2,071	1,949
Arkansas	48,789	46,850	47,432	11,508	12,214	12,093
California	225,899	204,114	220,294	57,426	57,011	55,950
Colorado	NA	28,888	26,990	NA	NA	NA
Connecticut	12,949	10,781	12,497	3,308	3,521	3,031
Delaware	5,138	4,611	6,163	1,353	1,286	1,220
District of Columbia	0	0	0	0	0	0
Florida	48,710	44,933	45,041	12,641	11,944	11,564
Georgia	63,258	57,484	62,089	16,463	15,885	16,131
Hawaii	0	0	0	0	0	0
Idaho ^a	12,347	12,458	12,117	3,179	3,200	2,802
Illinois	124,188	133,494	120,277	26,548	29,745	32,917
Indiana	105,298	104,591	106,644	23,632	26,729	25,623
Iowa	39,419	41,054	39,232	9,085	9,804	9,788
Kansas	37,772	39,968	43,144	8,529	9,310	8,069
Kentucky	35,199	33,311	34,260	7,720	8,310	8,859
Louisiana	NA	341,801	350,069	79,307	71,810	NA
Maine	771	672	605	247	182	162
Maryland	NA	16,583	16,516	NA	NA	NA
Massachusetts	NA	33,880	39,383	10,356	10,484	10,338
Michigan	127,424	136,414	122,566	28,290	33,140	32,661
Minnesota	36,910	36,539	37,726	8,270	9,256	9,999
Mississippi	NA	26,631	29,820	6,751	^b 6,911	6,986
Missouri	29,196	28,685	26,878	7,198	5,107	9,633
Montana	NA	6,236	6,147	NA	1,695	2,197
Nebraska	12,147	11,020	14,817	2,861	3,165	3,087
Nevada	10,225	10,416	9,694	2,424	2,665	2,462
New Hampshire	2,024	1,569	1,548	632	570	411
New Jersey	66,060	67,650	77,006	16,587	16,496	15,694
New Mexico	7,705	7,394	7,749	1,733	1,741	1,897
New York	NA	90,546	99,129	NA	NA	NA
North Carolina	39,985	31,881	35,751	10,552	10,332	9,942
North Dakota	4,255	2,397	2,454	780	1,417	1,128
Ohio	125,211	132,861	128,097	27,028	30,676	32,615
Oklahoma	72,076	68,513	67,722	17,287	17,159	18,742
Oregon	27,975	25,941	23,081	6,322	6,726	6,525
Pennsylvania	89,709	102,172	93,390	21,351	21,915	23,150
Rhode Island	8,878	9,005	11,553	2,514	2,241	1,993
South Carolina	34,310	27,931	32,706	9,177	9,070	7,983
South Dakota	2,997	3,685	2,335	624	705	792
Tennessee	NA	42,269	45,508	12,931	NA	12,935
Texas	724,855	717,618	613,023	167,280	189,847	175,662
Utah	15,041	14,720	16,345	3,757	3,777	3,698
Vermont	NA	623	758	200	^r 194	197
Virginia	26,875	30,429	27,320	6,382	4,118	7,950
Washington	NA	37,769	39,037	NA	9,259	^s 8,361
West Virginia	13,119	17,820	18,120	1,811	2,640	4,167
Wisconsin	NA	61,303	57,690	13,590	15,417	14,670
Wyoming	NA	14,837	16,295	NA	NA	NA
Total	3,070,134	3,030,702	2,942,106	729,857	765,983	766,563

See footnotes at end of table.

Table 16. Natural Gas Deliveries to Industrial Consumers, by State, 1995-1997
(Million Cubic Feet) — Continued

State	1997	1996				
	January	Total	December	November	October	September
Alabama	17,842	205,175	17,247	17,651	18,646	17,183
Alaska	7,090	75,616	7,034	6,450	6,421	6,288
Arizona	2,041	25,726	2,555	2,304	2,361	2,279
Arkansas	12,974	122,324	11,396	12,010	12,470	7,896
California	55,512	681,527	63,374	61,298	59,429	59,349
Colorado	NA	84,273	7,618	7,290	6,037	6,107
Connecticut	3,088	32,706	2,989	3,337	3,060	2,548
Delaware	1,279	14,268	1,213	1,218	1,338	1,138
District of Columbia	0	0	0	0	0	0
Florida	12,562	138,506	11,512	12,071	11,303	11,770
Georgia	14,779	179,015	15,597	15,990	15,321	14,813
Hawaii	0	0	0	0	0	0
Idaho ^a	3,166	34,573	2,890	2,747	3,023	2,802
Illinois	34,978	334,839	37,247	32,295	25,278	20,140
Indiana	29,314	290,093	24,424	25,343	24,136	20,413
Iowa	10,742	^R 114,720	10,739	11,266	9,530	7,552
Kansas	11,864	130,980	9,681	11,581	8,438	9,960
Kentucky	10,309	94,470	9,695	8,841	7,704	6,743
Louisiana	83,386	1,062,482	87,647	96,051	90,104	92,337
Maine	180	2,190	171	234	239	185
Maryland	NA	50,614	5,002	4,046	4,261	4,121
Massachusetts	NA	99,801	9,345	8,613	9,307	8,116
Michigan	33,333	353,173	32,225	30,623	25,882	25,020
Minnesota	9,385	106,636	10,004	10,609	9,041	7,792
Mississippi	7,602	82,199	6,764	6,812	7,271	6,642
Missouri	7,259	69,929	6,394	6,018	4,833	4,469
Montana	1,913	17,362	1,850	1,545	1,502	1,335
Nebraska	3,033	29,199	3,063	2,596	2,612	1,857
Nevada	2,675	32,435	2,843	2,691	2,532	2,714
New Hampshire	411	4,979	391	527	486	404
New Jersey	17,283	206,196	25,326	16,937	16,252	16,094
New Mexico	2,335	^R 20,665	1,995	1,699	1,622	1,570
New York	NA	268,329	24,948	24,861	21,118	20,727
North Carolina	9,160	106,381	8,860	10,882	10,781	9,211
North Dakota	930	7,565	1,018	1,030	760	561
Ohio	34,892	348,266	31,607	31,586	28,023	23,475
Oklahoma	18,887	202,151	19,290	16,009	16,798	16,821
Oregon	8,402	87,754	8,500	8,527	8,658	7,933
Pennsylvania	23,292	257,884	20,225	22,305	18,980	17,633
Rhode Island	2,131	26,985	2,166	2,355	2,501	2,296
South Carolina	8,080	93,933	8,462	8,603	8,800	7,925
South Dakota	877	8,273	819	798	557	443
Tennessee	11,832	128,418	12,872	13,066	11,146	10,558
Texas	192,066	2,071,780	166,935	159,473	167,443	170,430
Utah	3,809	42,335	3,705	3,674	3,603	3,445
Vermont	181	1,926	189	208	172	149
Virginia	8,425	84,864	9,500	7,510	6,510	5,368
Washington	9,112	114,620	9,782	10,903	10,712	10,209
West Virginia	4,501	51,432	4,572	4,541	4,418	4,781
Wisconsin	^R 17,780	149,696	15,515	14,706	11,628	9,591
Wyoming	NA	43,925	4,057	4,214	4,156	3,205
Total	807,731	^R8,793,189	781,255	765,945	727,203	694,397

See footnotes at end of table.

Table 16. Natural Gas Deliveries to Industrial Consumers, by State, 1995-1997
(Million Cubic Feet) — Continued

State	1996					
	August	July	June	May	April	March
Alabama	16,496	16,794	15,727	16,863	17,310	17,354
Alaska	6,961	6,577	6,268	5,808	6,123	6,764
Arizona	2,172	2,220	2,180	1,453	2,042	2,112
Arkansas	8,990	7,390	7,565	7,760	9,395	12,224
California	64,670	60,431	53,941	53,833	52,449	49,361
Colorado	6,630	5,807	6,309	6,597	8,185	7,182
Connecticut	2,781	2,286	2,457	2,467	2,809	3,036
Delaware	1,117	1,122	1,303	1,207	1,046	1,314
District of Columbia	0	0	0	0	0	0
Florida	11,552	11,552	10,988	12,826	11,552	11,679
Georgia	15,983	14,011	14,632	15,449	15,477	15,227
Hawaii	0	0	0	0	0	0
Idaho ^a	2,408	2,697	2,698	2,850	2,856	3,206
Illinois	21,041	19,178	21,336	25,635	27,988	32,566
Indiana	19,676	20,037	42,147	9,883	22,984	26,207
Iowa	8,875	8,305	8,419	^R 9,150	9,701	10,401
Kansas	11,693	11,254	11,669	9,541	10,308	10,938
Kentucky	6,430	6,045	8,704	6,403	7,246	8,414
Louisiana	89,426	87,374	90,176	87,567	91,694	88,725
Maine	177	144	186	181	155	182
Maryland	4,402	4,262	3,970	4,064	4,983	4,673
Massachusetts	8,889	7,274	7,212	7,165	8,260	8,835
Michigan	24,539	24,946	26,087	28,405	30,792	35,200
Minnesota	7,566	7,989	8,586	8,510	9,983	9,162
Mississippi	6,532	6,839	6,590	6,733	7,012	7,373
Missouri	5,765	4,070	4,644	5,311	6,382	6,973
Montana	1,380	1,224	1,174	1,286	1,311	1,435
Nebraska	1,928	1,976	2,127	2,114	2,576	2,857
Nevada	2,773	2,847	2,710	2,858	2,524	2,649
New Hampshire	405	382	390	424	450	432
New Jersey	15,593	16,756	15,540	16,175	17,426	15,442
New Mexico	^R 1,606	^R 1,625	^R 1,679	^R 1,475	^R 1,776	^R 1,614
New York	22,197	21,237	21,379	19,349	22,857	19,921
North Carolina	8,952	8,169	8,361	9,110	8,777	9,025
North Dakota	409	434	353	605	608	630
Ohio	23,938	22,619	29,133	26,206	28,680	31,069
Oklahoma	17,167	16,923	14,670	15,962	14,948	17,717
Oregon	7,887	7,327	6,795	6,704	5,970	6,376
Pennsylvania	19,207	17,214	18,560	19,897	21,123	23,168
Rhode Island	2,362	1,914	2,114	2,210	2,087	1,833
South Carolina	7,991	7,710	7,826	8,236	8,275	7,668
South Dakota	496	489	478	509	550	1,684
Tennessee	10,115	9,710	9,995	9,460	9,591	9,912
Texas	174,691	165,822	170,788	179,149	178,591	183,201
Utah	3,382	3,261	3,171	3,374	3,435	3,636
Vermont	153	106	152	175	133	223
Virginia	7,286	7,089	4,478	6,649	5,953	9,957
Washington	9,965	8,949	7,684	8,630	8,821	9,105
West Virginia	4,033	4,033	3,815	4,020	4,070	4,458
Wisconsin	9,206	8,540	9,186	10,790	13,184	15,050
Wyoming	3,337	3,112	3,545	3,462	3,610	3,464
Total	^R 711,229	^R 678,073	^R 709,897	^R 694,487	^R 734,057	^R 761,628

See footnotes at end of table.

Table 16. Natural Gas Deliveries to Industrial Consumers, by State, 1995-1997
(Million Cubic Feet) — Continued

State	1996		Total	1995		
	February	January		December	November	October
Alabama	16,957	16,946	204,060	17,790	17,076	16,919
Alaska	6,115	4,807	64,977	4,714	3,999	4,128
Arizona	1,897	2,152	27,663	2,296	2,248	2,248
Arkansas	12,109	13,120	138,803	11,998	12,094	12,026
California	51,616	51,774	687,921	56,444	54,388	62,097
Colorado	9,397	7,112	72,439	5,739	5,243	3,766
Connecticut	2,777	2,159	33,106	3,028	3,158	2,538
Delaware	1,082	1,170	19,399	1,287	1,669	1,683
District of Columbia	0	0	0	0	0	0
Florida	10,963	10,739	133,477	15,661	10,973	10,332
Georgia	12,024	14,490	183,692	16,401	16,694	17,455
Hawaii	0	0	0	0	0	0
Idaho ^a	3,062	3,335	34,024	3,129	2,943	3,109
Illinois	33,454	38,681	321,465	35,704	32,284	25,162
Indiana	25,615	29,228	275,487	26,872	24,695	21,086
Iowa	9,701	11,082	115,080	12,216	9,887	10,106
Kansas	11,844	14,074	129,515	12,193	10,508	9,357
Kentucky	8,194	10,051	90,764	8,834	8,071	7,545
Louisiana	82,114	79,267	1,044,136	85,024	83,880	87,298
Maine	164	171	1,993	169	242	199
Maryland	3,251	3,579	48,963	3,106	3,881	4,694
Massachusetts	8,005	8,780	107,730	9,656	9,132	7,483
Michigan	35,214	34,241	326,551	32,701	27,912	24,493
Minnesota	7,846	9,548	106,189	10,889	9,114	8,724
Mississippi	7,151	6,481	84,526	7,352	7,334	6,649
Missouri	7,163	7,906	68,924	7,185	6,164	5,389
Montana	1,512	1,807	18,135	1,821	1,753	1,645
Nebraska	2,666	2,828	44,767	3,141	4,125	3,084
Nevada	2,545	2,750	30,641	2,702	2,612	2,371
New Hampshire	330	357	4,607	348	450	416
New Jersey	16,487	18,169	209,014	19,886	18,318	14,764
New Mexico	1,960	2,044	21,095	2,469	2,100	989
New York	22,936	26,799	278,576	26,167	24,647	22,686
North Carolina	6,955	7,299	106,731	8,684	9,303	9,306
North Dakota	577	581	6,505	627	600	549
Ohio	33,410	38,520	336,552	35,635	30,953	26,516
Oklahoma	16,794	19,054	194,101	15,082	16,493	16,186
Oregon	6,164	6,913	68,904	6,418	5,836	6,158
Pennsylvania	22,258	37,314	249,928	22,158	24,198	19,361
Rhode Island	1,647	3,499	35,109	4,305	3,048	1,846
South Carolina	6,330	6,107	98,332	6,928	8,251	8,301
South Dakota	823	629	6,933	702	730	542
Tennessee	10,208	11,785	125,814	11,360	10,937	10,358
Texas	176,101	179,155	1,923,763	179,078	163,975	168,086
Utah	3,721	3,928	42,373	3,805	3,378	3,396
Vermont	148	119	2,159	254	221	181
Virginia	7,239	7,326	97,499	9,819	7,113	7,333
Washington	9,810	10,049	109,997	9,389	9,594	10,139
West Virginia	4,176	4,516	52,239	4,576	4,834	4,576
Wisconsin	15,019	17,283	146,070	15,931	14,483	11,474
Wyoming	4,317	3,446	48,856	NA	NA	NA
Total	741,844	793,172	8,579,585	786,266	736,229	709,183

^a Small volumes of natural gas representing onsystem sales to industrial consumers in Idaho are included in the annual total but not in monthly components. Deliveries for total year 1995 in Idaho do not equal the sum of the twelve months.

^R = Revised Data.

NA = Not Available.

Notes: Geographic coverage is the 50 States and the District of Columbia. See Appendix A, Explanatory Note 5 for discussion of computations and revision policy.

Source: Form EIA-857, "Monthly Report of Natural Gas Purchases and Deliveries to Consumers."

**Table 17. Natural Gas Deliveries to Electric Utility^a Consumers,
by State, 1995-1997**
(Million Cubic Feet)

State	YTD 1997	YTD 1996	YTD 1995	1997		
				April	March	February
Alabama	835	462	1,057	386	168	156
Alaska	12,177	10,609	9,988	2,924	3,594	2,439
Arizona	1,989	3,053	3,879	723	588	358
Arkansas	1,710	5,535	4,523	614	253	217
California	81,590	71,615	120,513	25,412	24,423	14,231
Colorado	1,255	1,060	1,240	267	328	261
Connecticut	3,573	379	6,484	1,229	944	1,208
Delaware	7,937	6,629	8,047	1,841	2,280	2,069
District of Columbia	0	0	0	0	0	0
Florida	84,083	67,664	82,123	27,872	28,725	17,001
Georgia	266	188	473	176	30	18
Hawaii	0	0	0	0	0	0
Idaho	0	0	0	0	0	0
Illinois	10,359	4,676	9,881	4,976	2,503	1,679
Indiana	683	1,191	1,628	200	199	137
Iowa	1,166	901	564	269	405	231
Kansas	2,349	3,723	4,964	840	553	409
Kentucky	438	500	238	117	130	80
Louisiana	63,321	57,645	80,195	19,113	15,854	13,608
Maine	0	0	0	0	0	0
Maryland	2,047	523	2,835	1,478	337	47
Massachusetts	16,224	5,980	12,333	6,611	5,258	2,785
Michigan	9,008	9,306	9,017	2,282	2,434	2,375
Minnesota	2,101	1,122	1,870	621	698	124
Mississippi	11,889	14,751	28,950	3,034	2,932	2,717
Missouri	391	575	2,109	175	78	53
Montana	125	107	28	15	18	27
Nebraska	365	544	492	174	82	78
Nevada	10,171	10,812	9,758	3,518	3,822	1,363
New Hampshire	1	1	18	0	0	0
New Jersey	5,729	4,591	8,708	1,869	2,092	1,023
New Mexico	9,367	7,125	10,610	2,548	2,769	1,991
New York	42,382	18,205	62,367	11,135	14,307	12,117
North Carolina	36	50	254	26	1	9
North Dakota	0	0	0	0	0	0
Ohio	371	381	788	106	71	71
Oklahoma	24,898	30,349	38,549	7,058	6,712	4,867
Oregon	495	0	6,808	0	200	0
Pennsylvania	1,248	951	5,592	326	324	316
Rhode Island	8,144	7,292	0	1,854	2,180	2,021
South Carolina	99	28	712	72	12	4
South Dakota	170	20	28	85	39	19
Tennessee	0	29	0	0	0	0
Texas	234,613	278,105	290,092	59,323	60,401	54,897
Utah	513	553	3,519	123	134	118
Vermont	10	3	58	3	3	2
Virginia	2,678	1,925	6,990	1,398	1,058	44
Washington	14	149	1,209	5	0	2
West Virginia	67	78	156	9	23	23
Wisconsin	6,898	1,289	1,252	1,777	2,165	1,782
Wyoming	28	25	42	6	6	7
Total	663,812	630,698	840,942	192,593	189,131	142,984

See footnotes at end of table.

**Table 17. Natural Gas Deliveries to Electric Utility^a Consumers,
by State, 1995-1997**
(Million Cubic Feet) — Continued

State	1997	1996				
	January	Total	December	November	October	September
Alabama	125	6,146	291	480	384	593
Alaska	3,220	31,767	3,078	2,683	2,637	2,449
Arizona	319	19,248	443	296	2,242	2,145
Arkansas	626	33,988	1,226	297	201	4,215
California	17,524	318,035	17,182	22,900	32,454	35,564
Colorado	398	5,511	454	319	506	724
Connecticut	192	10,456	131	912	1,643	2,168
Delaware	1,746	23,370	1,048	2,129	2,330	2,562
District of Columbia	0	0	0	0	0	0
Florida	10,485	283,557	13,124	17,908	28,677	33,595
Georgia	42	4,674	43	80	9	243
Hawaii	0	0	0	0	0	0
Idaho	0	0	0	0	0	0
Illinois	1,201	25,863	550	1,859	1,046	2,309
Indiana	147	4,330	236	256	144	197
Iowa	261	3,491	236	232	211	277
Kansas	547	22,607	672	578	808	1,959
Kentucky	111	1,836	82	104	65	83
Louisiana	14,747	252,139	12,921	14,958	18,877	21,484
Maine	0	0	0	0	0	0
Maryland	185	8,455	211	263	485	1,521
Massachusetts	1,570	45,037	1,562	3,081	8,648	9,009
Michigan	1,916	32,559	2,888	3,151	2,705	3,320
Minnesota	658	5,301	419	403	469	602
Mississippi	3,207	83,251	3,671	6,561	5,392	9,812
Missouri	86	5,223	69	238	193	287
Montana	64	470	72	85	42	35
Nebraska	31	2,351	82	94	122	161
Nevada	1,468	46,766	2,311	2,458	4,266	4,900
New Hampshire	0	3	0	1	0	0
New Jersey	746	25,825	445	1,038	1,481	3,575
New Mexico	2,059	29,969	2,244	2,423	2,787	2,492
New York	4,823	142,688	5,108	10,715	14,459	21,421
North Carolina	0	2,381	1	1	112	75
North Dakota	0	3	0	0	0	1
Ohio	124	2,867	106	259	56	257
Oklahoma	6,260	136,436	6,107	8,068	9,395	13,201
Oregon	295	14,015	334	1,289	3,049	3,801
Pennsylvania	281	7,239	282	654	650	1,150
Rhode Island	2,088	25,071	2,167	2,449	2,424	2,236
South Carolina	11	1,206	20	16	23	350
South Dakota	26	725	35	80	5	76
Tennessee	0	572	0	1	0	79
Texas	59,992	1,039,155	51,332	59,062	75,410	90,570
Utah	138	3,428	142	130	133	554
Vermont	2	24	3	3	3	3
Virginia	178	10,275	333	193	473	1,677
Washington	6	6,590	21	358	801	2,251
West Virginia	12	205	43	3	1	26
Wisconsin	1,174	7,303	702	803	572	739
Wyoming	9	87	6	6	7	8
Total	139,104	2,732,496	132,434	169,879	226,394	284,758

See footnotes at end of table.

**Table 17. Natural Gas Deliveries to Electric Utility^a Consumers,
by State, 1995-1997**
(Million Cubic Feet) — Continued

State	1996					
	August	July	June	May	April	March
Alabama	708	1,457	931	840	112	134
Alaska	2,595	2,514	2,611	2,592	2,434	2,763
Arizona	4,797	3,286	1,940	1,047	828	649
Arkansas	5,421	7,029	5,722	4,342	3,663	1,181
California	53,941	42,047	23,684	18,648	18,202	13,728
Colorado	798	665	400	584	246	317
Connecticut	2,269	1,409	951	595	298	28
Delaware	2,416	2,342	2,724	1,189	1,291	1,742
District of Columbia	0	0	0	0	0	0
Florida	33,376	29,468	28,311	31,435	21,801	15,773
Georgia	588	1,514	1,010	1,000	61	98
Hawaii	0	0	0	0	0	0
Idaho	0	0	0	0	0	0
Illinois	4,289	4,369	4,205	2,562	2,103	856
Indiana	570	483	746	506	248	233
Iowa	298	355	545	435	289	274
Kansas	4,148	4,884	4,175	1,661	728	726
Kentucky	281	249	235	236	139	119
Louisiana	32,455	35,959	31,317	26,523	13,556	15,080
Maine	0	0	0	0	0	0
Maryland	1,920	1,273	1,278	980	220	126
Massachusetts	7,190	3,508	3,616	2,443	2,108	1,485
Michigan	2,746	2,767	3,062	2,613	2,011	2,100
Minnesota	624	690	699	273	342	351
Mississippi	12,074	10,509	11,998	8,484	4,734	3,311
Missouri	896	1,152	1,011	802	184	111
Montana	23	45	52	8	4	37
Nebraska	213	348	466	320	202	139
Nevada	6,394	6,552	4,802	4,271	2,737	2,474
New Hampshire	0	0	0	0	0	0
New Jersey	4,064	4,441	4,207	1,984	647	483
New Mexico	3,456	3,480	2,895	3,067	1,997	2,383
New York	24,086	18,789	16,773	13,132	5,595	5,703
North Carolina	196	766	802	377	3	3
North Dakota	1	0	1	0	0	0
Ohio	593	312	477	426	46	58
Oklahoma	19,557	19,747	17,701	12,313	7,340	7,490
Oregon	3,202	2,339	0	0	0	0
Pennsylvania	1,778	676	591	506	262	225
Rhode Island	2,417	2,031	2,045	2,011	1,700	2,395
South Carolina	64	239	278	188	9	9
South Dakota	178	155	174	2	3	6
Tennessee	240	130	78	15	0	29
Texas	119,967	136,109	114,370	114,229	72,920	72,619
Utah	870	810	227	8	128	137
Vermont	2	3	4	0	2	0
Virginia	1,578	1,704	1,532	860	107	314
Washington	2,558	451	0	1	0	57
West Virginia	15	11	21	9	16	13
Wisconsin	1,198	532	772	696	229	353
Wyoming	9	4	17	5	5	8
Total	367,059	357,604	299,454	264,216	169,550	156,120

See footnotes at end of table.

**Table 17. Natural Gas Deliveries to Electric Utility^a Consumers,
by State, 1995-1997**
(Million Cubic Feet) — Continued

State	1996		1995			
	February	January	Total	December	November	October
Alabama	125	92	7,377	107	226	260
Alaska	2,573	2,839	29,809	2,528	2,436	2,350
Arizona	550	1,025	18,846	510	502	375
Arkansas	433	258	32,750	813	622	2,059
California	15,742	23,942	394,698	23,944	30,266	34,916
Colorado	305	193	3,798	259	230	341
Connecticut	27	26	19,310	44	928	1,000
Delaware	939	2,657	27,010	1,964	2,478	2,356
District of Columbia	0	0	0	0	0	0
Florida	13,992	16,097	318,854	17,056	25,857	30,486
Georgia	15	13	7,834	17	63	184
Hawaii	0	0	0	0	0	0
Idaho	0	0	0	0	0	0
Illinois	421	1,296	39,143	2,782	3,216	1,456
Indiana	337	373	8,349	671	623	246
Iowa	162	176	3,614	145	129	215
Kansas	701	1,568	27,945	1,090	1,050	629
Kentucky	56	186	866	170	124	30
Louisiana	14,146	14,863	322,923	16,716	21,614	26,302
Maine	0	0	0	0	0	0
Maryland	69	109	18,833	140	435	632
Massachusetts	1,435	952	64,623	1,732	3,431	5,658
Michigan	2,214	2,981	35,784	3,540	3,217	2,521
Minnesota	200	229	8,292	255	456	562
Mississippi	2,838	3,868	111,229	6,426	5,181	6,374
Missouri	134	146	12,830	234	500	416
Montana	23	43	388	27	32	16
Nebraska	80	123	3,059	265	269	246
Nevada	2,488	3,113	40,134	2,686	2,463	3,138
New Hampshire	0	0	2,248	0	9	2
New Jersey	1,291	2,171	45,897	2,199	2,576	2,133
New Mexico	861	1,883	31,924	1,842	2,025	1,917
New York	3,392	3,514	246,265	8,774	16,690	19,517
North Carolina	9	35	3,146	66	114	194
North Dakota	0	0	1	0	0	0
Ohio	90	187	7,459	315	402	179
Oklahoma	6,910	8,610	154,114	9,251	7,826	8,438
Oregon	0	0	19,136	455	1,700	2,940
Pennsylvania	120	344	24,697	267	380	1,527
Rhode Island	1,523	1,674	5,002	2,061	1,571	426
South Carolina	5	4	6,615	12	10	1,064
South Dakota	10	1	931	26	35	32
Tennessee	0	0	2,055	0	0	0
Texas	61,382	71,184	1,047,274	61,416	55,785	75,055
Utah	151	138	8,707	188	452	865
Vermont	0	1	138	48	13	3
Virginia	505	998	16,414	761	1,209	1,191
Washington	26	65	6,356	12	268	1,134
West Virginia	16	33	410	23	40	45
Wisconsin	271	436	9,289	610	465	243
Wyoming	5	7	128	8	11	8
Total	136,572	168,455	3,196,507	172,457	197,926	239,680

^a Includes all steam electric utility generating plants with a combined capacity of 50 megawatts or greater.

Notes: Geographic coverage is the 50 States and the District of Columbia. See Appendix A, Explanatory Note 5 for discussion of computations and revision policy.

Source: Form EIA-759, "Monthly Power Plant Report."

Table 18. Natural Gas Deliveries to All Consumers, by State, 1995-1997
(Million Cubic Feet)

State	YTD 1997	YTD 1996	YTD 1995	1997		
				April	March	February
Alabama	111,034	121,529	111,595	24,268	25,301	29,964
Alaska	55,481	53,453	44,384	12,458	13,869	13,399
Arizona	41,231	38,954	41,304	7,593	10,140	11,178
Arkansas	89,939	98,665	89,178	17,586	20,556	24,791
California	633,727	576,157	672,085	143,240	153,465	163,023
Colorado	NA	130,975	114,556	NA	28,343	32,974
Connecticut	58,865	56,946	60,601	12,972	14,439	16,125
Delaware	21,903	21,426	22,483	4,734	5,675	5,923
District of Columbia	16,347	18,127	17,477	2,158	4,214	4,954
Florida	153,432	138,608	150,540	44,411	45,235	34,471
Georgia	143,298	159,384	144,466	28,933	29,690	39,917
Hawaii	NA	960	955	NA	225	237
Idaho	26,814	26,381	24,207	5,686	6,456	7,129
Illinois	513,598	540,907	494,676	89,445	117,027	133,897
Indiana	247,489	258,828	239,369	46,650	58,062	64,843
Iowa	113,415	119,469	107,893	20,294	25,485	28,945
Kansas	108,440	126,881	111,609	19,448	24,751	28,858
Kentucky	89,825	98,059	88,094	15,498	19,777	23,324
Louisiana	418,937	447,763	470,093	104,033	97,008	105,567
Maine	2,685	2,556	2,289	562	702	643
Maryland	NA	91,004	83,356	NA	20,410	23,671
Massachusetts	164,903	150,899	150,614	38,160	42,503	44,637
Michigan	455,972	486,562	435,603	87,986	112,460	120,917
Minnesota	162,607	167,082	153,914	28,712	38,950	43,532
Mississippi	65,166	73,434	83,663	13,255	^R 15,253	^R 17,523
Missouri	144,024	152,982	135,083	24,166	28,562	45,919
Montana	NA	25,412	22,458	NA	5,833	7,209
Nebraska	NA	55,337	51,377	NA	13,589	19,080
Nevada	43,615	41,742	39,168	9,867	12,114	10,293
New Hampshire	9,723	9,490	8,681	2,115	2,437	2,626
New Jersey	253,594	276,979	262,831	50,241	67,737	65,638
New Mexico	49,040	45,841	43,280	7,737	11,417	13,722
New York	NA	NA	476,388	NA	129,729	142,900
North Carolina	88,690	93,246	84,443	17,643	19,956	25,812
North Dakota	17,641	15,941	14,768	3,018	4,403	4,992
Ohio	420,600	455,599	416,492	75,292	98,030	113,267
Oklahoma	162,072	170,154	166,700	34,037	37,926	43,401
Oregon	60,279	55,698	55,826	11,834	14,354	15,522
Pennsylvania	309,741	350,136	313,864	59,489	73,716	84,396
Rhode Island	33,582	32,877	26,971	7,506	8,623	8,649
South Carolina	57,346	57,362	57,370	12,376	13,452	15,601
South Dakota	16,696	17,554	14,609	2,900	3,604	4,507
Tennessee	116,486	117,471	105,974	21,934	26,669	34,342
Texas	1,166,069	1,219,801	1,096,169	256,063	293,722	288,325
Utah	60,237	57,095	56,329	11,440	13,231	16,672
Vermont	3,849	3,710	3,563	782	^R 930	1,059
Virginia	99,389	107,341	99,559	20,201	21,529	27,267
Washington	NA	92,952	88,871	NA	23,033	^R 25,043
West Virginia	49,860	54,847	50,761	13,484	9,699	12,364
Wisconsin	NA	193,178	172,073	34,552	45,247	48,970
Wyoming	NA	29,115	27,644	NA	4,848	5,149
Total	7,983,393	8,201,847	7,806,257	1,629,423	^R1,914,383	^R2,103,172

See footnotes at end of table.

Table 18. Natural Gas Deliveries to All Consumers, by State, 1995-1997
(Million Cubic Feet) — Continued

State	1997	1996				
	January	Total	December	November	October	September
Alabama	31,500	296,990	27,319	23,583	22,119	20,332
Alaska	15,754	148,552	15,166	13,247	12,312	10,693
Arizona	12,320	102,298	10,389	7,436	7,463	7,031
Arkansas	27,006	233,781	22,795	18,544	15,455	14,353
California	173,999	1,707,167	168,211	149,115	141,022	138,509
Colorado	37,006	270,081	32,976	23,011	14,865	11,832
Connecticut	15,328	126,655	13,863	10,880	8,940	7,524
Delaware	5,571	54,125	4,229	4,471	4,241	4,108
District of Columbia	5,022	33,701	4,755	2,456	1,382	1,173
Florida	29,314	480,111	30,258	34,115	43,675	48,884
Georgia	44,759	370,880	41,449	36,056	24,373	20,839
Hawaii	238	2,652	219	199	208	211
Idaho	7,543	61,034	6,739	5,427	4,266	3,587
Illinois	173,229	1,113,544	151,102	123,066	66,501	42,724
Indiana	77,935	568,117	66,160	53,888	36,632	26,721
Iowa	38,692	^R 259,958	33,559	27,130	15,451	11,705
Kansas	35,382	296,671	34,068	26,472	14,303	15,213
Kentucky	31,225	208,649	26,021	22,567	13,104	9,468
Louisiana	112,329	1,397,624	109,242	116,242	112,504	117,049
Maine	778	5,726	601	619	478	291
Maryland	28,214	^R 195,537	22,821	17,112	^R 11,400	^R 10,255
Massachusetts	39,603	354,970	36,611	31,456	28,417	24,605
Michigan	134,610	989,668	114,278	92,403	56,809	43,754
Minnesota	51,412	349,367	46,826	36,442	21,218	14,049
Mississippi	19,136	218,375	16,490	17,003	14,701	18,432
Missouri	45,376	285,530	37,252	24,113	12,326	9,756
Montana	8,424	55,377	7,463	5,865	3,699	2,517
Nebraska	18,564	119,265	15,566	10,482	7,778	5,337
Nevada	11,340	121,777	10,928	8,996	8,928	9,434
New Hampshire	2,545	18,951	2,120	1,856	1,143	769
New Jersey	69,978	594,576	73,944	49,081	35,154	29,805
New Mexico	16,164	^R 114,340	13,947	10,595	7,253	6,099
New York	142,444	NA	117,412	91,875	66,767	61,672
North Carolina	25,279	210,163	23,018	18,744	14,596	11,915
North Dakota	5,227	32,024	4,619	3,219	1,791	1,135
Ohio	134,011	916,665	110,426	88,642	55,791	35,016
Oklahoma	46,707	458,228	42,413	32,877	30,172	33,312
Oregon	18,569	160,546	17,620	15,290	14,366	13,575
Pennsylvania	92,139	695,388	79,260	63,106	40,230	28,704
Rhode Island	8,804	81,964	7,968	7,190	6,306	5,616
South Carolina	15,917	144,920	15,190	12,398	10,765	9,779
South Dakota	5,685	34,691	4,910	3,529	1,711	1,192
Tennessee	33,541	255,525	29,273	23,932	15,968	14,241
Texas	327,959	3,566,301	273,464	253,629	267,075	281,873
Utah	18,893	129,651	16,278	12,744	10,028	7,821
Vermont	1,078	7,324	844	697	439	299
Virginia	30,393	230,607	28,351	20,904	13,251	10,930
Washington	27,497	232,030	26,216	21,948	17,141	15,951
West Virginia	14,312	118,099	13,251	10,525	7,734	6,749
Wisconsin	NA	399,549	51,027	43,385	24,041	16,015
Wyoming	6,193	75,849	9,853	8,132	6,744	3,965
Total	2,336,415	^R 19,966,868	2,068,759	1,736,696	^R 1,373,036	^R 1,246,820

See footnotes at end of table.

Table 18. Natural Gas Deliveries to All Consumers, by State, 1995-1997
(Million Cubic Feet) — Continued

State	1996					
	August	July	June	May	April	March
Alabama	19,593	20,743	19,388	22,384	26,632	29,281
Alaska	11,277	10,709	10,773	10,922	12,065	14,222
Arizona	9,583	8,229	7,237	5,974	7,607	9,180
Arkansas	16,427	16,407	15,543	15,591	20,877	23,458
California	157,850	138,209	119,325	118,768	124,638	136,932
Colorado	12,078	11,736	14,087	18,521	26,966	31,107
Connecticut	7,714	6,750	6,427	7,612	11,035	14,152
Delaware	3,913	3,865	4,587	3,285	4,160	5,467
District of Columbia	1,129	1,216	1,412	2,050	3,623	3,939
Florida	48,289	44,583	43,102	48,597	38,893	33,656
Georgia	22,140	21,421	21,244	23,975	30,727	40,569
Hawaii	204	216	220	215	238	234
Idaho	3,040	3,344	3,719	4,536	5,166	6,416
Illinois	40,200	40,334	43,682	65,026	90,570	131,207
Indiana	25,801	26,095	50,192	23,800	48,030	63,320
Iowa	11,855	11,529	12,929	^R 16,330	21,463	29,517
Kansas	21,226	21,453	19,572	17,483	22,219	29,440
Kentucky	9,138	8,482	11,350	10,460	16,338	24,378
Louisiana	125,047	126,442	124,985	118,351	112,844	114,401
Maine	274	242	297	366	444	676
Maryland	^R 10,660	^R 9,716	^R 10,121	^R 12,448	^R 16,754	22,396
Massachusetts	22,832	17,360	18,985	23,805	30,966	38,096
Michigan	40,163	41,232	46,318	68,149	93,033	123,153
Minnesota	12,873	13,574	15,967	21,334	31,147	41,181
Mississippi	20,596	19,342	20,516	17,860	16,940	17,137
Missouri	11,484	10,217	11,454	15,946	26,353	35,478
Montana	2,217	2,125	2,487	3,594	4,732	5,934
Nebraska	5,580	6,892	5,465	6,827	10,437	13,215
Nevada	10,882	11,277	9,779	9,812	8,913	10,245
New Hampshire	747	714	861	1,252	1,801	2,393
New Jersey	29,780	31,667	31,275	36,891	52,628	64,143
New Mexico	^R 7,408	^R 8,345	^R 8,107	^R 6,745	^R 9,105	^R 9,915
New York	63,917	59,261	62,398	72,723	93,201	117,367
North Carolina	11,647	11,294	12,024	13,678	18,923	21,512
North Dakota	925	942	1,281	2,170	3,212	3,769
Ohio	35,443	34,936	47,570	53,242	80,030	111,938
Oklahoma	39,743	39,918	36,014	33,626	34,058	40,561
Oregon	12,666	11,471	9,482	10,784	10,846	13,312
Pennsylvania	31,894	27,758	32,373	41,927	60,662	83,838
Rhode Island	5,671	4,849	5,296	6,192	6,613	8,498
South Carolina	9,420	9,297	9,916	10,794	13,110	13,543
South Dakota	1,188	1,171	1,502	1,932	2,978	5,043
Tennessee	13,443	12,963	13,556	14,505	21,844	26,568
Texas	315,725	324,503	308,851	321,382	292,108	310,615
Utah	6,544	6,510	5,643	6,988	10,578	12,315
Vermont	272	227	339	497	685	962
Virginia	12,380	12,873	11,109	13,466	17,731	28,783
Washington	15,489	12,883	12,980	16,524	18,409	22,245
West Virginia	5,913	6,024	5,790	7,267	10,514	13,456
Wisconsin	15,625	14,035	17,634	24,608	34,119	48,084
Wyoming	3,913	3,685	4,622	5,819	6,747	6,641
Total	^R 1,323,822	^R 1,289,067	^R 1,309,786	^R 1,417,036	^R 1,663,710	^R 2,013,885

See footnotes at end of table.

Table 18. Natural Gas Deliveries to All Consumers, by State, 1995-1997
(Million Cubic Feet) — Continued

State	1996		1995			
	February	January	Total	December	November	October
Alabama	33,118	32,499	287,239	28,963	23,381	20,043
Alaska	14,370	12,796	134,996	12,726	10,307	9,190
Arizona	9,858	12,308	101,731	8,762	6,361	5,351
Arkansas	26,518	27,813	240,071	24,157	18,503	16,563
California	148,523	166,064	1,839,721	163,271	141,117	143,028
Colorado	37,595	35,307	247,180	25,542	20,007	13,350
Connecticut	15,422	16,336	131,130	13,952	10,343	6,867
Delaware	5,148	6,651	60,658	5,333	5,165	4,478
District of Columbia	5,070	5,495	32,735	4,773	2,362	1,247
Florida	31,778	34,281	507,329	38,384	41,005	44,326
Georgia	39,687	48,401	362,734	45,832	37,428	27,085
Hawaii	241	247	2,773	223	221	223
Idaho	7,356	7,439	57,407	6,178	5,305	4,328
Illinois	147,434	171,695	1,065,238	150,677	122,315	65,148
Indiana	68,685	78,793	527,719	67,428	52,765	32,397
Iowa	31,838	36,652	251,262	34,779	27,190	17,145
Kansas	33,982	41,240	286,430	36,741	22,381	16,329
Kentucky	25,967	31,376	196,392	27,754	22,164	12,598
Louisiana	110,488	110,030	1,443,515	111,753	111,708	117,082
Maine	693	743	5,333	709	593	376
Maryland	24,298	27,557	191,272	23,769	16,788	10,160
Massachusetts	40,663	41,174	360,429	38,915	29,250	21,124
Michigan	131,901	138,475	936,466	127,454	90,578	54,297
Minnesota	44,184	50,570	333,900	46,101	35,421	21,711
Mississippi	19,284	20,073	242,887	20,617	16,534	14,668
Missouri	43,511	47,640	271,956	36,814	23,737	12,821
Montana	7,379	7,365	51,660	6,443	5,486	3,935
Nebraska	15,592	16,093	132,923	NA	NA	NA
Nevada	10,560	12,024	110,273	9,616	7,869	7,477
New Hampshire	2,595	2,701	19,877	2,329	1,629	957
New Jersey	76,135	84,073	588,315	76,194	50,145	30,355
New Mexico	11,189	15,632	105,796	11,879	9,301	5,555
New York	NA	NA	1,131,325	122,091	96,317	68,756
North Carolina	25,453	27,358	196,626	22,610	17,125	12,641
North Dakota	4,599	4,362	29,371	4,046	2,905	1,522
Ohio	121,775	141,857	877,112	123,470	90,931	51,937
Oklahoma	45,614	49,920	456,674	39,265	32,367	28,987
Oregon	15,649	15,484	138,545	13,661	12,166	11,392
Pennsylvania	91,367	114,269	680,495	89,477	72,297	38,110
Rhode Island	8,208	9,559	69,520	10,522	7,171	3,525
South Carolina	14,966	15,743	148,980	13,776	12,196	11,065
South Dakota	4,739	4,795	31,164	4,008	3,215	1,943
Tennessee	33,026	36,206	239,100	28,212	23,469	14,742
Texas	293,918	323,160	3,387,065	293,668	253,956	265,673
Utah	17,039	17,162	126,981	14,931	11,120	10,024
Vermont	1,015	1,049	7,268	1,065	653	400
Virginia	29,425	31,401	239,616	31,620	21,147	13,455
Washington	26,815	25,428	211,791	22,286	19,597	16,021
West Virginia	14,859	16,018	113,908	13,999	11,239	7,619
Wisconsin	51,803	59,172	376,291	53,338	42,409	23,685
Wyoming	8,408	7,319	70,986	NA	NA	NA
Total	2,150,165	2,374,087	19,657,487	2,136,187	1,719,670	1,336,124

^R = Revised Data.

NA = Not Available.

Notes: Geographic coverage is the 50 States and the District of Columbia. Gas volumes delivered for use as vehicle fuel are included in the annual total for commercial deliveries but not in the monthly components. See Appendix A, Explanatory Note 5 for discussion of computations and revision policy.

Source: Form EIA-857, "Monthly Report of Natural Gas Purchases and Deliveries to Consumers" and Form EIA-759, "Monthly Power Plant Report."

Table 19. Average City Gate Price, by State, 1995-1997

(Dollars per Thousand Cubic Feet)

State	YTD 1997	YTD 1996	YTD 1995	1997				1996
				April	March	February	January	Total
Alabama	3.86	3.22	2.60	3.16	3.20	4.02	4.44	3.48
Alaska	1.11	1.58	1.70	0.38	1.84	1.80	1.88	1.58
Arizona	3.16	2.12	2.08	2.61	2.22	2.85	4.21	2.78
Arkansas	3.31	2.52	2.36	2.48	2.46	3.16	4.18	2.76
California	3.05	2.29	1.98	2.30	2.25	3.21	4.15	2.59
Colorado	NA	2.14	2.70	NA	NA	NA	NA	2.71
Connecticut	5.46	5.22	4.68	4.94	4.82	6.00	5.82	5.11
Delaware	4.58	3.51	2.65	2.93	4.07	5.09	6.92	3.59
District of Columbia	—	—	—	—	—	—	—	—
Florida	4.26	3.80	2.58	3.49	4.04	4.56	4.61	3.69
Georgia	4.09	3.57	2.94	3.08	3.31	4.16	4.80	3.76
Hawaii	6.79	5.59	4.98	—	6.50	7.73	6.16	6.05
Idaho	2.14	2.07	2.18	2.08	1.85	2.13	2.37	2.24
Illinois	3.19	3.21	2.37	2.48	2.43	3.30	3.79	3.27
Indiana	3.14	3.21	2.67	2.07	2.31	3.20	4.08	NA
Iowa	3.51	3.03	2.66	2.83	3.05	3.66	3.99	3.47
Kansas	1.73	2.83	2.15	0.33	2.67	3.67	4.43	3.07
Kentucky	3.76	3.13	2.84	3.69	3.40	3.47	^R 4.17	3.41
Louisiana	3.21	3.32	2.14	2.36	2.44	3.49	3.84	3.13
Maine	4.17	4.20	3.14	3.43	4.26	3.52	4.96	4.29
Maryland	NA	NA	2.62	NA	3.32	3.82	^R 4.14	NA
Massachusetts	NA	3.43	3.02	3.26	2.97	4.12	NA	4.01
Michigan	3.17	3.01	2.74	2.56	2.66	3.28	3.98	2.90
Minnesota	3.47	2.81	2.40	2.41	2.70	3.48	4.51	3.07
Mississippi	NA	3.34	2.33	2.91	^R 2.92	^R 3.48	4.25	3.29
Missouri	3.53	2.68	2.43	3.18	2.78	3.50	4.05	3.25
Montana	NA	2.83	3.26	NA	2.70	3.50	3.74	3.03
Nebraska	3.52	2.67	2.31	2.28	2.84	3.65	4.43	3.06
Nevada	3.48	2.66	2.76	2.81	2.96	3.37	4.13	3.17
New Hampshire	4.24	4.07	3.28	3.15	3.99	4.42	4.93	4.20
New Jersey	4.08	3.61	3.14	3.15	3.95	4.20	4.70	3.82
New Mexico	2.63	1.48	1.51	1.91	1.38	^R 2.39	3.86	1.99
New York	NA	3.28	2.41	NA	NA	NA	NA	3.29
North Carolina	4.03	3.68	2.84	3.40	3.51	4.34	4.36	3.74
North Dakota	3.35	2.73	2.78	2.54	2.43	3.59	4.22	2.94
Ohio	5.32	3.95	3.95	5.79	5.01	5.41	^R 5.24	4.37
Oklahoma	3.27	2.54	2.72	2.22	3.09	3.68	3.52	2.56
Oregon	2.35	2.17	2.43	1.95	1.92	2.35	2.95	2.42
Pennsylvania	3.94	3.56	3.03	3.68	3.48	4.12	4.22	3.97
Rhode Island	4.00	3.80	2.89	3.46	3.16	4.26	4.85	4.41
South Carolina	3.71	3.95	3.10	3.25	2.95	3.97	4.20	3.90
South Dakota	3.55	2.79	2.78	3.02	2.54	^R 3.95	4.11	3.19
Tennessee	NA	3.47	2.52	3.24	NA	3.73	4.03	4.04
Texas	3.89	3.20	3.09	2.38	3.01	4.23	4.73	3.23
Utah	NA	2.19	3.36	2.15	2.72	^R 2.76	^R 2.65	2.25
Vermont	NA	2.90	2.45	2.39	—	2.16	^R 1.57	2.74
Virginia	4.12	3.59	2.88	3.27	3.49	^R 3.96	5.14	3.89
Washington	NA	2.06	2.39	NA	1.89	^R 2.62	3.45	2.44
West Virginia	3.15	3.32	2.73	2.87	2.10	^R 3.52	3.70	3.33
Wisconsin	NA	2.94	2.65	3.12	2.82	3.54	^R 4.13	3.37
Wyoming	NA	NA	2.79	NA	2.96	^R 3.33	^R 3.82	NA
Total	3.55	3.16	2.74	2.66	3.05	^R3.77	^R4.26	3.34

See footnotes at end of table.

Table 19. Average City Gate Price, by State, 1995-1997

(Dollars per Thousand Cubic Feet) — Continued

State	1996							
	December	November	October	September	August	July	June	May
Alabama	4.07	3.63	3.44	3.62	4.11	4.04	3.78	3.52
Alaska	1.59	1.60	1.55	1.57	1.54	1.54	1.57	1.56
Arizona	4.14	3.29	2.66	3.02	3.58	2.94	2.57	2.46
Arkansas	3.68	3.04	2.46	2.29	2.59	2.76	2.82	2.59
California	3.81	3.00	2.38	2.35	2.78	2.43	2.56	2.14
Colorado	4.91	3.13	2.65	2.28	2.29	2.29	2.40	2.50
Connecticut	6.15	4.60	4.46	4.65	4.42	4.75	5.03	4.94
Delaware	4.82	3.42	2.85	3.03	3.80	4.22	3.44	3.18
District of Columbia	—	—	—	—	—	—	—	—
Florida	4.49	3.90	3.28	3.03	3.57	3.58	3.31	3.39
Georgia	4.66	3.71	3.14	3.32	4.00	4.20	3.66	3.74
Hawaii	6.67	6.30	6.33	6.00	6.05	6.34	6.27	6.32
Idaho	2.30	2.10	2.11	2.72	2.48	5.26	3.39	2.28
Illinois	4.05	3.25	2.65	2.80	3.25	3.69	3.12	2.83
Indiana	NA	3.16	2.49	2.04	2.70	3.30	3.10	2.56
Iowa	4.09	3.46	3.12	4.28	7.96	7.45	4.61	4.19
Kansas	3.77	3.38	2.91	2.65	3.08	3.57	3.51	3.22
Kentucky	4.40	3.59	2.94	3.16	3.04	3.07	3.08	3.83
Louisiana	4.30	3.24	2.20	2.26	2.69	3.01	2.71	2.65
Maine	4.34	3.64	3.93	3.91	4.35	5.04	5.51	5.32
Maryland	4.65	3.71	3.44	5.20	5.85	6.04	5.63	4.35
Massachusetts	4.82	3.72	3.60	5.36	5.68	5.53	6.05	4.40
Michigan	3.73	3.07	2.49	2.31	2.98	2.87	2.64	2.69
Minnesota	3.78	3.19	2.65	2.91	3.32	4.13	2.88	2.81
Mississippi	4.34	3.14	2.83	2.59	2.89	3.10	2.90	2.70
Missouri	4.03	3.20	3.47	4.14	5.12	4.82	4.51	3.86
Montana	3.46	3.04	3.08	3.24	4.11	3.60	3.05	2.81
Nebraska	3.99	3.11	2.93	2.69	4.83	3.30	3.50	3.41
Nevada	3.97	3.46	2.96	3.22	3.80	3.44	3.37	3.17
New Hampshire	5.01	4.15	3.19	3.86	4.47	5.03	4.64	4.09
New Jersey	4.90	3.84	3.12	3.51	3.71	3.77	3.82	4.61
New Mexico	3.60	2.68	1.88	1.66	2.07	1.60	1.40	1.22
New York	4.38	3.03	2.86	2.61	3.15	3.13	3.17	3.18
North Carolina	4.26	3.48	3.22	3.67	3.94	3.75	3.75	3.69
North Dakota	3.80	3.10	2.49	2.54	3.44	2.90	2.78	2.64
Ohio	4.79	4.95	5.06	6.11	5.58	4.53	8.17	4.87
Oklahoma	2.84	2.44	1.99	2.53	2.65	2.51	2.40	2.61
Oregon	2.95	2.41	2.24	2.98	3.15	3.89	2.11	2.40
Pennsylvania	4.43	4.11	4.03	4.25	5.07	5.40	4.96	3.94
Rhode Island	5.20	4.04	3.91	5.94	6.51	7.46	6.42	5.06
South Carolina	4.60	3.76	3.26	3.53	3.87	4.01	3.49	3.96
South Dakota	3.98	3.37	2.87	3.42	6.37	4.74	3.96	2.92
Tennessee	6.64	3.71	2.92	3.39	3.67	3.48	3.67	3.72
Texas	4.21	3.49	2.73	2.95	3.06	3.04	2.91	2.81
Utah	2.39	3.32	1.66	2.22	2.08	2.15	2.12	1.93
Vermont	2.67	2.49	2.18	2.36	2.69	3.68	3.01	2.66
Virginia	5.13	3.69	3.34	3.40	4.42	4.52	4.93	4.00
Washington	3.14	2.50	1.94	2.71	3.21	3.57	3.39	2.30
West Virginia	3.53	3.25	3.57	3.77	4.29	3.66	3.28	3.89
Wisconsin	4.12	3.61	3.00	3.87	4.71	4.65	4.81	3.42
Wyoming	2.55	2.18	1.91	2.84	2.92	2.44	NA	NA
Total	4.20	3.47	2.93	3.03	3.48	3.48	3.39	3.18

See footnotes at end of table.

Table 19. Average City Gate Price, by State, 1995-1997

(Dollars per Thousand Cubic Feet) — Continued

State	1996				1995			
	April	March	February	January	Total	December	November	October
Alabama	3.27	3.15	3.35	3.13	2.89	2.83	2.84	3.52
Alaska	1.58	1.60	1.60	1.56	1.67	1.67	1.66	1.63
Arizona	2.05	1.97	2.36	2.08	2.10	1.86	2.19	2.24
Arkansas	2.50	2.57	2.52	2.52	2.32	2.46	2.28	2.19
California	2.22	2.42	2.25	2.29	2.03	1.90	2.15	2.14
Colorado	2.93	2.16	2.18	2.08	2.65	2.60	2.56	2.41
Connecticut	5.22	4.66	5.37	5.55	4.70	4.60	4.13	4.27
Delaware	3.75	4.20	3.43	3.27	2.70	3.01	2.89	2.81
District of Columbia	—	—	—	—	—	—	—	—
Florida	3.97	3.83	3.60	3.84	2.74	3.32	3.05	2.75
Georgia	3.51	3.82	3.36	3.71	2.96	2.95	2.80	3.00
Hawaii	5.74	5.53	5.49	5.60	5.20	4.65	5.43	5.90
Idaho	2.21	2.12	2.08	1.98	2.18	1.98	2.14	1.83
Illinois	2.93	3.49	3.73	2.66	2.59	2.53	2.32	2.94
Indiana	2.90	3.06	3.32	3.11	2.84	2.82	2.67	2.96
Iowa	3.13	2.82	3.03	2.62	2.82	2.73	2.63	2.84
Kansas	3.23	2.70	2.67	2.66	2.36	2.44	2.38	2.82
Kentucky	3.50	3.29	3.05	3.19	2.80	2.87	2.45	2.61
Louisiana	3.06	3.29	3.24	3.58	2.21	2.78	2.44	2.23
Maine	5.34	4.01	3.89	3.95	3.35	3.08	3.03	2.72
Maryland	4.01	3.70	NA	3.82	2.87	2.68	2.71	3.44
Massachusetts	3.97	3.32	3.17	3.65	3.53	3.35	3.14	4.13
Michigan	2.80	3.11	2.91	3.14	2.61	2.81	2.56	2.54
Minnesota	2.72	2.79	2.78	2.90	2.52	2.65	2.50	2.43
Mississippi	3.37	3.36	3.07	3.49	2.53	3.23	2.71	2.77
Missouri	3.20	2.61	2.59	2.52	2.73	2.57	2.55	3.21
Montana	3.18	2.52	2.98	2.83	3.01	2.72	2.65	2.68
Nebraska	3.04	2.71	2.45	2.66	2.49	2.34	2.43	2.80
Nevada	2.90	2.64	2.75	2.51	2.73	2.20	2.62	2.64
New Hampshire	4.09	4.06	3.99	4.14	3.39	3.60	3.44	2.89
New Jersey	3.75	3.15	3.49	4.09	3.34	3.40	3.45	3.74
New Mexico	1.18	1.40	1.69	1.53	1.46	1.44	1.58	1.42
New York	3.40	3.34	3.19	3.42	2.47	2.98	2.61	2.53
North Carolina	3.95	3.60	3.66	3.65	2.95	2.95	2.77	2.98
North Dakota	2.62	2.45	2.82	2.94	2.58	2.55	2.25	2.31
Ohio	4.06	3.90	3.80	3.81	3.84	3.46	3.34	4.01
Oklahoma	2.53	2.58	2.60	2.46	2.52	2.27	2.24	1.97
Oregon	2.27	2.19	1.96	2.06	2.42	1.71	2.36	2.41
Pennsylvania	4.66	3.62	3.28	3.26	3.09	2.95	2.63	3.22
Rhode Island	3.53	3.85	3.92	3.28	3.57	3.34	3.13	4.54
South Carolina	3.96	3.94	3.77	4.01	3.25	3.27	3.16	3.04
South Dakota	2.63	2.84	2.79	2.54	2.88	2.68	2.62	2.73
Tennessee	3.28	3.29	4.56	4.50	2.71	3.01	2.68	2.69
Texas	3.13	3.05	3.13	3.20	2.95	3.06	2.97	2.75
Utah	1.98	2.34	2.10	2.27	2.88	2.43	2.46	2.18
Vermont	3.10	2.83	2.82	2.93	2.61	2.38	2.19	2.89
Virginia	3.38	3.58	3.36	3.88	2.92	3.10	2.57	3.40
Washington	2.23	1.99	2.12	1.98	2.18	2.07	2.14	2.02
West Virginia	3.26	3.24	3.48	2.60	2.85	3.04	2.26	3.48
Wisconsin	3.48	2.88	2.78	2.87	2.83	2.75	2.48	2.99
Wyoming	NA	NA	NA	NA	2.72	NA	NA	NA
Total	3.22	3.17	3.16	3.13	2.78	2.83	2.67	2.83

^R = Revised Data.

NA = Not Available.

— = Not Applicable.

Notes: Geographic coverage is the 50 States and the District of Columbia. Prices in this table represent the average price of natural gas by State at the point where the gas transferred from a pipeline to a local distribution company within the State. See Appendix A, Explanatory Note 5 for discussion of computations and revision policy.

Source: Form EIA-857, "Monthly Report of Natural Gas Purchases and Deliveries to Consumers."

Table 20. Average Price of Natural Gas Delivered to Residential Consumers, by State, 1995-1997

(Dollars per Thousand Cubic Feet)

State	YTD 1997	YTD 1996	YTD 1995	1997				1996
				April	March	February	January	Total
Alabama	8.01	6.42	6.48	9.21	8.65	7.61	7.62	7.20
Alaska	3.69	3.33	3.54	3.75	3.79	3.66	3.63	3.42
Arizona	6.91	6.88	7.29	7.93	7.03	6.71	6.62	7.50
Arkansas	6.28	5.31	5.23	6.40	6.14	6.09	6.48	5.90
California	6.29	6.31	6.38	6.18	6.42	6.27	6.27	6.43
Colorado	NA	4.07	4.60	NA	NA	NA	NA	4.32
Connecticut	10.33	9.92	9.86	10.07	9.66	10.96	10.41	10.08
Delaware	7.77	6.38	6.26	8.08	7.87	7.74	7.53	7.10
District of Columbia	9.22	8.50	8.09	8.74	8.57	9.36	9.81	8.84
Florida	11.22	10.14	8.77	12.61	12.12	10.69	10.57	11.41
Georgia	7.15	6.03	6.36	6.23	8.88	7.47	6.53	6.66
Hawaii	NA	18.88	16.92	NA	22.62	25.55	21.15	19.91
Idaho	4.89	5.04	5.54	5.10	4.95	4.80	4.81	5.18
Illinois	5.89	4.68	4.55	5.10	5.28	6.50	6.15	5.27
Indiana	6.13	4.93	5.33	6.70	6.28	6.06	5.82	5.49
Iowa	5.64	4.89	4.72	5.24	5.58	6.01	5.57	5.56
Kansas	6.30	5.23	4.45	6.11	5.98	6.58	6.34	5.66
Kentucky	6.14	4.90	4.88	6.85	6.32	6.02	5.87	5.57
Louisiana	6.81	5.89	5.32	6.09	6.28	6.86	7.34	6.75
Maine	8.54	7.65	7.38	9.05	8.65	8.66	8.10	7.88
Maryland	NA	6.80	6.18	NA	NA	NA	NA	7.45
Massachusetts	NA	9.03	9.25	9.90	9.70	9.62	NA	8.86
Michigan	4.94	4.50	4.42	4.92	4.82	4.94	5.04	4.89
Minnesota	5.64	4.98	4.55	4.66	4.81	5.81	6.50	5.46
Mississippi	NA	5.16	4.96	6.42	^R 5.49	^R 5.61	6.17	5.54
Missouri	6.22	5.34	4.55	5.32	5.70	6.50	6.67	5.97
Montana	NA	4.65	5.02	NA	4.69	4.49	4.47	4.89
Nebraska	5.57	4.86	4.50	4.85	4.86	5.75	6.23	5.34
Nevada	5.75	5.82	6.42	6.16	5.78	5.76	5.54	6.19
New Hampshire	8.72	6.95	7.02	6.62	9.36	9.24	9.10	7.34
New Jersey	7.52	7.14	6.86	7.71	7.34	7.47	7.62	7.38
New Mexico	5.53	3.99	5.08	8.78	4.46	5.06	5.79	4.30
New York	NA	7.98	7.82	NA	NA	NA	NA	NA
North Carolina	8.91	6.81	6.55	8.68	9.59	8.76	8.77	7.57
North Dakota	4.29	4.29	4.31	4.18	4.14	4.32	4.43	4.56
Ohio	6.67	5.22	5.35	6.60	6.51	6.83	6.68	5.88
Oklahoma	6.00	4.90	5.01	5.96	5.66	5.79	6.44	5.57
Oregon	5.82	5.99	6.55	6.04	5.85	5.76	5.73	6.25
Pennsylvania	7.99	6.73	7.18	8.46	8.05	8.05	7.64	7.39
Rhode Island	9.22	7.74	7.41	9.67	9.39	9.18	8.79	8.60
South Carolina	8.74	7.23	7.64	8.36	9.24	8.69	8.67	7.62
South Dakota	5.16	4.62	4.64	4.95	4.83	5.09	5.50	5.25
Tennessee	NA	5.99	5.58	6.39	NA	7.00	6.84	6.33
Texas	6.02	5.32	5.49	5.66	5.56	6.05	6.35	5.77
Utah	4.83	4.32	4.75	4.16	5.14	4.89	4.91	4.47
Vermont	NA	6.06	6.54	6.23	^R 6.08	6.04	6.04	6.40
Virginia	8.33	7.06	6.94	8.12	7.56	8.46	8.87	7.94
Washington	NA	5.44	5.73	NA	5.48	^R 4.89	5.39	5.63
West Virginia	6.75	6.84	6.76	6.89	6.78	6.70	6.68	7.05
Wisconsin	NA	5.85	5.84	6.25	6.26	6.66	^R 7.04	6.00
Wyoming	NA	4.12	4.71	NA	4.14	4.01	3.96	4.16
Total	6.64	5.82	5.86	6.51	6.49	6.76	6.69	6.29

See footnotes at end of table.

Table 20. Average Price of Natural Gas Delivered to Residential Consumers, by State, 1995-1997

(Dollars per Thousand Cubic Feet) — Continued

State	1996							
	December	November	October	September	August	July	June	May
Alabama	7.34	7.82	9.68	10.60	10.95	10.74	10.53	8.08
Alaska	3.32	3.37	3.46	3.77	3.82	3.87	3.71	3.53
Arizona	6.83	7.41	9.25	10.03	10.37	9.99	9.32	8.67
Arkansas	6.62	6.03	7.03	7.72	8.27	8.41	7.85	6.72
California	6.19	6.40	6.66	5.93	6.84	8.27	6.98	6.38
Colorado	3.88	4.24	4.91	6.28	6.64	6.13	5.10	4.42
Connecticut	10.49	10.26	10.58	10.65	10.69	10.34	9.94	9.62
Delaware	7.71	7.98	9.02	10.51	10.12	10.20	8.86	7.78
District of Columbia	9.83	8.83	9.86	10.37	7.52	7.80	9.02	9.83
Florida	11.27	12.72	13.80	14.22	14.49	13.77	13.63	12.55
Georgia	6.72	5.81	8.49	10.28	10.46	10.93	11.34	10.43
Hawaii	19.60	20.81	21.05	20.57	20.60	20.91	20.22	20.54
Idaho	4.88	5.21	5.59	6.09	6.45	6.33	5.70	5.38
Illinois	5.13	5.05	5.93	8.13	9.25	8.42	8.20	6.76
Indiana	5.25	5.54	6.57	8.47	8.71	8.45	7.83	6.52
Iowa	5.78	5.37	6.74	9.26	12.82	8.98	7.96	6.26
Kansas	5.83	5.52	6.52	7.15	8.46	7.28	7.70	6.87
Kentucky	6.13	5.76	6.65	7.88	8.43	8.14	7.53	7.24
Louisiana	7.29	7.74	8.30	8.33	8.70	9.29	8.52	8.18
Maine	8.53	8.05	7.04	8.23	8.90	8.57	8.06	8.27
Maryland	7.64	7.14	8.26	10.48	10.70	10.63	9.69	8.38
Massachusetts	9.47	9.46	7.49	9.24	9.50	9.04	7.84	6.02
Michigan	4.99	4.94	5.50	6.45	7.21	7.07	6.45	5.12
Minnesota	6.17	5.46	5.47	6.65	7.66	7.49	6.69	5.76
Mississippi	6.37	6.08	6.14	6.06	6.19	6.26	6.15	5.96
Missouri	6.02	5.94	7.58	9.53	10.20	9.53	8.45	6.87
Montana	4.62	4.92	5.56	6.22	6.67	6.34	5.32	4.94
Nebraska	5.78	5.42	6.04	7.33	7.56	7.24	6.36	5.65
Nevada	5.69	6.05	7.40	7.91	8.13	7.66	7.04	6.68
New Hampshire	8.34	8.60	6.99	8.19	8.51	8.38	7.23	6.29
New Jersey	7.21	7.49	7.87	8.80	8.95	9.20	8.81	7.16
New Mexico	3.58	3.66	5.58	8.21	7.08	4.44	4.21	11.39
New York	NA	NA	NA	NA	NA	10.86	9.83	8.64
North Carolina	7.88	8.19	9.90	12.48	12.77	11.10	11.45	9.04
North Dakota	4.36	4.37	5.42	6.88	7.33	7.10	5.78	4.46
Ohio	6.26	6.53	7.26	8.38	8.94	8.07	7.04	6.31
Oklahoma	5.25	5.91	8.02	9.06	9.46	9.18	8.43	6.87
Oregon	5.90	6.24	6.95	7.78	8.20	7.74	6.93	6.50
Pennsylvania	7.60	7.73	8.59	10.72	10.31	10.24	9.08	8.21
Rhode Island	8.68	9.36	9.90	11.33	11.29	11.05	9.82	8.39
South Carolina	8.07	7.71	8.44	9.52	9.99	9.84	9.09	8.12
South Dakota	5.39	5.41	5.94	7.74	11.79	8.33	6.65	5.65
Tennessee	6.18	6.00	7.17	8.54	8.87	8.54	8.40	7.34
Texas	6.04	5.24	6.97	7.73	8.24	7.87	7.21	6.81
Utah	4.75	4.81	3.79	4.15	5.19	4.99	5.40	4.59
Vermont	6.19	6.42	7.21	8.41	8.92	8.73	7.49	6.59
Virginia	8.48	8.26	9.78	11.94	12.50	12.40	10.73	8.78
Washington	5.43	5.59	6.08	6.86	7.17	6.71	6.06	5.71
West Virginia	6.83	7.04	7.58	9.26	10.28	9.77	9.21	7.55
Wisconsin	6.86	6.24	5.07	6.00	6.34	6.26	5.81	5.56
Wyoming	3.87	3.66	3.85	5.16	5.54	5.57	4.90	4.47
Total	6.39	6.31	7.00	7.94	8.62	8.55	7.75	6.77

See footnotes at end of table.

Table 20. Average Price of Natural Gas Delivered to Residential Consumers, by State, 1995-1997

(Dollars per Thousand Cubic Feet) — Continued

State	1996				1995			
	April	March	February	January	Total	December	November	October
Alabama	6.87	6.82	6.33	5.97	6.86	5.97	6.61	8.86
Alaska	3.40	3.34	3.30	3.32	3.63	3.51	3.60	3.76
Arizona	7.57	6.97	6.80	6.60	7.82	7.04	8.18	9.33
Arkansas	5.44	5.40	5.25	5.22	5.48	4.46	5.65	6.99
California	6.00	6.20	6.32	6.47	6.42	5.92	5.78	6.66
Colorado	4.20	4.10	4.02	4.02	4.80	4.29	4.52	5.24
Connecticut	10.06	9.80	9.85	10.00	10.00	9.46	9.96	11.06
Delaware	6.70	6.38	6.25	6.32	6.60	6.09	6.83	8.27
District of Columbia	10.18	8.96	8.42	7.37	8.03	7.26	7.74	9.62
Florida	10.95	10.55	9.93	9.61	9.85	9.19	10.60	12.16
Georgia	7.30	5.54	5.97	5.06	6.18	4.98	4.79	6.72
Hawaii	19.29	19.21	18.82	18.20	17.55	18.80	17.92	17.89
Idaho	5.28	5.06	4.98	4.97	5.59	5.29	5.46	5.77
Illinois	5.51	4.91	4.55	4.24	4.66	4.18	4.10	4.82
Indiana	5.73	5.07	4.85	4.68	5.37	4.55	4.67	5.67
Iowa	5.13	4.82	4.86	4.51	5.09	4.89	4.56	5.53
Kansas	5.77	5.31	5.17	4.99	4.91	5.04	5.22	5.73
Kentucky	5.13	5.11	4.71	4.82	5.05	4.52	4.27	5.94
Louisiana	7.00	5.64	5.44	6.11	6.01	6.14	6.33	7.68
Maine	8.27	7.88	7.78	7.02	7.32	7.01	7.21	7.17
Maryland	7.19	6.99	6.83	6.47	6.62	6.19	6.50	7.72
Massachusetts	9.42	9.02	9.01	9.00	9.04	8.86	9.53	8.24
Michigan	4.72	4.37	4.53	4.45	4.72	4.49	4.64	5.23
Minnesota	5.37	4.96	4.87	4.94	4.80	4.80	4.82	5.28
Mississippi	5.46	5.36	4.75	5.26	5.28	5.18	5.47	6.43
Missouri	5.71	5.47	5.31	5.11	5.16	5.10	5.45	6.71
Montana	4.71	4.65	4.59	4.66	5.15	4.80	4.93	5.48
Nebraska	5.12	4.94	4.73	4.78	4.83	4.74	4.96	5.84
Nevada	6.22	5.86	5.76	5.64	6.76	5.97	6.92	8.05
New Hampshire	5.89	7.31	7.19	7.03	7.16	7.18	7.77	7.24
New Jersey	7.58	7.12	7.06	7.01	7.27	7.03	7.20	8.29
New Mexico	4.60	4.54	4.16	3.42	5.04	3.55	3.86	5.51
New York	8.22	7.93	8.01	7.73	8.42	7.77	8.70	11.09
North Carolina	7.29	7.52	6.81	6.13	6.93	6.21	6.50	8.94
North Dakota	4.43	4.31	4.20	4.28	4.66	4.29	4.50	6.32
Ohio	5.37	5.33	5.38	4.92	5.46	4.97	5.01	6.10
Oklahoma	5.21	5.09	4.76	4.74	5.56	5.04	5.84	7.32
Oregon	6.34	6.17	5.67	6.05	6.74	6.32	6.75	7.57
Pennsylvania	7.38	6.73	6.68	6.42	7.16	5.60	6.42	8.00
Rhode Island	7.92	8.06	7.88	7.97	8.02	7.89	8.70	9.41
South Carolina	6.97	7.68	7.40	7.02	7.54	6.76	6.84	8.27
South Dakota	5.21	4.36	4.67	4.43	5.05	4.86	5.07	5.05
Tennessee	6.70	6.51	6.04	5.53	5.77	6.26	4.31	6.92
Texas	5.98	5.32	5.06	4.84	5.92	5.23	5.77	7.08
Utah	3.90	4.94	3.97	4.51	4.74	4.72	4.99	4.09
Vermont	6.24	6.09	6.02	5.98	6.82	6.09	6.88	7.92
Virginia	7.53	6.88	7.23	6.83	7.18	6.44	5.55	9.33
Washington	5.59	5.44	5.38	5.41	5.89	5.57	5.68	6.26
West Virginia	6.94	6.74	6.69	6.67	7.05	6.67	6.91	7.77
Wisconsin	5.90	5.87	5.75	5.90	5.82	5.88	5.74	5.14
Wyoming	4.31	4.19	3.94	4.14	4.83	NA	NA	NA
Total	6.22	5.89	5.78	5.60	6.06	5.54	5.61	6.62

^R = Revised Data.

NA = Not Available.

Notes: Data for 1995 are final. All other data are preliminary unless otherwise indicated. Geographic coverage is the 50 States and the District of Columbia. See Appendix A, Explanatory Note 5 for discussion of computations and revision policy.

Source: Form EIA-857, "Monthly Report of Natural Gas Purchases and Deliveries to Consumers."

Table 21. Average Price of Natural Gas Sold to Commercial Consumers, by State, 1995-1997

(Dollars per Thousand Cubic Feet)

State	YTD 1997	YTD 1996	YTD 1995	1997				1996
				April	March	February	January	Total
Alabama	7.04	5.88	5.85	7.18	7.26	6.92	6.97	6.18
Alaska	2.52	2.35	2.35	2.37	2.32	2.62	2.63	2.29
Arizona	5.09	4.94	5.39	5.09	5.27	5.03	5.01	4.98
Arkansas	5.12	4.36	4.05	4.90	4.86	5.07	5.42	4.68
California	6.79	6.48	6.61	6.10	6.71	6.98	7.18	6.02
Colorado	NA	3.65	4.26	NA	NA	NA	NA	3.57
Connecticut	7.92	7.76	7.76	7.24	7.66	8.45	8.09	7.37
Delaware	6.45	5.40	5.21	6.59	6.52	6.49	6.27	5.77
District of Columbia	8.34	7.29	6.15	10.06	7.61	8.03	8.30	7.09
Florida	6.75	6.46	5.24	6.65	6.96	6.84	6.56	6.47
Georgia	6.58	5.45	5.68	5.57	7.53	6.66	6.44	5.82
Hawaii	NA	13.50	12.67	NA	15.72	15.07	14.79	14.52
Idaho	4.36	4.47	4.83	4.62	4.36	4.29	4.30	4.55
Illinois	5.46	4.43	4.44	4.64	4.97	5.68	5.89	4.91
Indiana	5.40	4.25	4.56	5.97	5.37	5.43	5.14	4.58
Iowa	4.93	4.03	3.93	4.34	4.81	5.32	4.96	4.62
Kansas	5.85	4.96	3.93	5.23	5.46	6.25	5.98	5.13
Kentucky	5.73	4.54	4.69	5.82	5.72	5.80	5.64	5.04
Louisiana	6.30	5.74	4.96	5.09	5.78	6.49	7.09	6.08
Maine	8.03	7.06	6.75	8.28	8.10	8.12	7.75	7.09
Maryland	NA	5.79	4.97	NA	NA	NA	NA	5.90
Massachusetts	NA	7.40	7.31	7.94	8.14	8.28	NA	6.71
Michigan	4.81	4.46	4.30	4.63	4.71	4.80	4.99	4.69
Minnesota	4.99	4.38	3.96	3.89	4.16	5.23	6.02	4.62
Mississippi	NA	4.68	4.51	4.93	^R 5.04	5.58	5.61	5.11
Missouri	5.94	5.12	4.18	4.55	5.07	6.47	6.58	5.34
Montana	NA	4.60	4.90	NA	4.57	4.45	4.46	4.72
Nebraska	NA	4.35	4.12	NA	4.23	2.54	6.00	4.47
Nevada	4.97	4.85	5.39	5.18	4.95	4.86	4.97	4.91
New Hampshire	8.24	6.68	6.61	6.52	8.67	8.81	8.41	6.76
New Jersey	6.69	7.74	5.76	5.57	7.00	7.10	6.70	7.03
New Mexico	4.54	3.18	4.12	4.63	3.54	4.35	5.34	3.18
New York	NA	NA	6.28	NA	NA	NA	NA	NA
North Carolina	7.48	5.89	5.33	6.50	7.85	7.67	7.52	6.15
North Dakota	3.98	3.84	3.80	3.71	3.65	4.09	4.24	3.96
Ohio	6.38	4.92	4.97	6.18	6.03	6.74	6.41	5.38
Oklahoma	5.73	4.46	4.53	4.81	5.26	5.75	6.40	4.65
Oregon	4.57	4.88	5.22	4.61	4.57	4.55	4.56	4.86
Pennsylvania	7.38	6.10	6.41	7.71	7.37	7.55	7.07	6.38
Rhode Island	8.15	6.89	6.47	8.46	8.17	8.20	7.88	7.28
South Carolina	7.32	6.34	6.49	6.74	7.20	7.54	7.46	6.18
South Dakota	4.29	3.80	3.73	4.04	3.96	4.28	4.61	4.21
Tennessee	NA	5.63	5.27	5.01	NA	6.19	6.51	5.75
Texas	NA	4.37	4.30	4.29	NA	5.31	NA	NA
Utah	3.67	3.32	3.67	3.09	3.81	3.75	3.81	3.38
Vermont	NA	5.23	5.50	5.10	^R 5.21	5.21	5.24	5.23
Virginia	6.56	5.57	5.18	6.29	5.92	6.81	6.97	5.85
Washington	NA	4.75	5.07	NA	4.71	—	4.65	4.79
West Virginia	6.19	6.15	6.03	6.41	6.21	6.17	6.09	6.02
Wisconsin	NA	4.77	4.64	5.00	^R 5.10	5.62	^R 5.98	4.77
Wyoming	NA	3.73	4.33	NA	3.47	3.45	3.38	3.44
Total	5.85	5.28	5.15	5.45	5.69	5.98	6.07	5.38

See footnotes at end of table.

Table 21. Average Price of Natural Gas Sold to Commercial Consumers, by State, 1995-1997

(Dollars per Thousand Cubic Feet) — Continued

State	1996							
	December	November	October	September	August	July	June	May
Alabama	6.49	6.30	6.59	6.80	6.87	6.81	6.98	6.40
Alaska	2.36	2.31	2.20	2.00	1.87	2.13	2.19	2.24
Arizona	4.95	4.98	5.12	5.15	5.11	5.06	4.96	4.92
Arkansas	5.58	5.01	4.71	4.86	4.85	4.97	5.11	4.84
California	6.43	5.55	5.75	5.52	5.31	5.56	5.48	5.61
Colorado	3.23	3.32	3.66	3.82	3.92	3.80	3.69	3.54
Connecticut	7.86	7.80	6.17	5.90	5.67	5.86	6.45	7.25
Delaware	6.14	5.95	6.34	6.40	6.83	6.88	6.77	6.02
District of Columbia	7.71	7.72	7.63	7.07	5.65	5.60	6.08	6.04
Florida	6.49	6.44	6.42	6.39	6.40	6.46	6.54	6.63
Georgia	6.26	5.66	6.01	5.80	5.81	6.50	6.99	7.00
Hawaii	15.25	15.43	15.48	14.74	15.06	15.46	14.76	14.53
Idaho	4.33	4.62	4.85	4.90	4.91	4.92	4.77	4.77
Illinois	5.19	4.82	5.22	6.24	7.64	7.07	6.66	6.18
Indiana	4.56	4.63	4.98	5.87	5.84	5.84	5.69	5.27
Iowa	5.19	5.13	5.36	5.65	8.76	6.02	5.15	4.48
Kansas	5.45	5.07	5.21	6.05	6.65	4.14	5.15	5.26
Kentucky	5.62	5.45	5.74	5.89	6.28	5.76	5.57	5.72
Louisiana	6.86	6.57	6.14	5.88	6.10	6.62	6.09	6.53
Maine	7.87	7.58	6.17	6.55	6.57	7.96	6.44	6.31
Maryland	6.42	5.53	5.71	6.09	^R 6.32	6.16	6.16	5.95
Massachusetts	7.85	7.25	4.75	4.84	4.83	5.02	4.74	4.27
Michigan	4.91	4.79	5.18	5.45	6.02	5.85	5.52	4.72
Minnesota	5.66	4.58	3.98	4.26	4.95	4.88	4.67	4.52
Mississippi	5.61	4.76	4.22	4.16	4.05	4.23	4.24	12.58
Missouri	5.81	5.30	5.34	5.92	6.35	6.00	5.61	5.39
Montana	4.56	4.76	5.15	5.36	5.41	5.26	4.83	4.74
Nebraska	5.38	4.03	4.93	3.35	4.37	4.16	4.26	5.40
Nevada	4.88	4.89	5.13	5.14	5.10	4.92	4.92	4.93
New Hampshire	7.75	7.78	5.86	6.14	6.23	6.29	5.91	5.76
New Jersey	7.22	6.53	5.27	4.90	5.12	5.16	5.24	5.59
New Mexico	3.18	2.99	3.23	3.96	3.24	2.67	2.60	3.93
New York	NA	NA	NA	NA	NA	NA	NA	NA
North Carolina	6.71	6.65	6.33	6.37	6.35	7.11	5.65	6.22
North Dakota	4.08	3.58	3.80	4.22	4.93	6.39	4.49	3.88
Ohio	5.81	6.14	6.42	6.66	6.87	6.28	5.94	5.60
Oklahoma	5.00	4.76	5.03	5.06	5.07	4.65	4.95	4.93
Oregon	4.67	4.84	5.11	5.13	5.11	5.11	4.85	4.83
Pennsylvania	6.75	6.46	6.78	7.39	7.26	7.24	6.91	6.62
Rhode Island	7.71	7.60	8.04	7.76	7.76	7.92	7.53	7.12
South Carolina	7.01	6.37	5.66	5.76	5.74	5.69	5.27	5.38
South Dakota	4.34	4.20	4.07	5.22	8.54	5.68	5.55	4.72
Tennessee	5.72	5.34	5.55	6.10	6.45	5.96	6.13	6.03
Texas	5.47	4.65	NA	4.44	NA	3.92	3.90	3.90
Utah	3.69	3.80	2.96	3.07	3.32	3.25	3.34	3.01
Vermont	5.19	5.10	5.10	5.18	5.43	5.44	5.55	5.37
Virginia	6.65	5.86	6.00	6.38	6.56	6.64	6.17	5.10
Washington	4.74	4.77	4.86	5.01	5.08	5.14	4.75	4.76
West Virginia	5.84	6.24	5.81	6.25	4.84	4.66	8.05	6.81
Wisconsin	5.71	4.97	3.72	4.01	4.38	4.71	4.25	4.12
Wyoming	2.89	2.44	3.50	3.81	3.66	3.87	3.85	3.73
Total	5.74	5.38	5.30	5.44	5.54	5.43	5.37	5.34

See footnotes at end of table.

Table 21. Average Price of Natural Gas Sold to Commercial Consumers, by State, 1995-1997

(Dollars per Thousand Cubic Feet) — Continued

State	1996				1995			
	April	March	February	January	Total	December	November	October
Alabama	6.07	6.20	5.77	5.62	5.80	5.48	5.53	5.90
Alaska	2.37	2.34	2.43	2.33	2.27	2.34	2.23	2.08
Arizona	4.97	4.94	4.95	4.90	5.25	4.91	5.10	5.09
Arkansas	4.47	4.34	4.37	4.31	4.09	3.89	4.27	4.32
California	6.05	6.68	6.26	6.82	6.21	7.01	4.67	6.04
Colorado	3.59	3.73	3.59	3.61	4.23	3.78	3.87	4.27
Connecticut	7.72	7.69	8.29	7.37	7.57	8.53	7.48	6.37
Delaware	5.48	5.60	5.30	5.29	5.28	4.97	5.64	5.38
District of Columbia	6.63	8.41	7.83	6.57	6.04	6.01	6.40	5.96
Florida	6.62	6.68	6.39	6.20	5.33	5.66	5.43	5.35
Georgia	5.90	5.41	5.62	5.16	5.20	4.72	4.21	4.96
Hawaii	13.69	13.95	13.50	12.92	13.00	13.46	13.19	13.17
Idaho	4.66	4.42	4.41	4.45	4.87	4.69	5.22	4.96
Illinois	4.99	4.74	4.30	4.06	4.42	4.00	4.11	4.23
Indiana	4.94	4.36	4.18	4.04	4.39	3.93	3.75	4.08
Iowa	3.87	4.13	4.07	4.01	4.14	4.05	4.10	4.04
Kansas	4.85	5.16	5.04	4.81	3.93	4.12	4.07	3.56
Kentucky	4.87	4.54	4.49	4.45	4.60	4.38	4.13	4.55
Louisiana	6.39	5.45	5.33	6.07	5.14	5.85	5.50	5.45
Maine	7.22	7.32	7.32	6.51	6.51	6.48	6.58	5.92
Maryland	5.54	5.97	6.03	5.57	5.06	5.16	5.00	5.18
Massachusetts	7.35	7.39	7.50	7.51	6.59	7.25	6.57	4.73
Michigan	4.51	4.46	4.46	4.41	4.46	4.39	4.49	4.71
Minnesota	4.43	4.37	4.37	4.44	3.98	4.24	3.95	3.94
Mississippi	4.74	4.73	4.43	4.87	4.25	4.68	4.50	2.83
Missouri	5.13	5.26	5.17	4.96	4.39	4.76	4.69	4.52
Montana	4.60	4.61	4.58	4.63	4.92	4.65	4.78	5.09
Nebraska	4.34	4.37	4.53	4.20	3.96	NA	NA	NA
Nevada	4.90	4.86	4.84	4.80	5.39	4.88	5.31	5.59
New Hampshire	5.79	7.00	6.94	6.67	6.44	6.70	6.48	5.66
New Jersey	6.19	6.75	6.67	10.42	5.76	6.12	6.81	5.57
New Mexico	3.19	3.38	3.40	2.99	3.74	2.94	3.00	3.39
New York	NA	NA	NA	NA	6.09	6.16	5.51	5.46
North Carolina	5.83	6.34	6.10	5.39	5.24	5.19	5.18	5.11
North Dakota	3.89	3.78	3.87	3.84	3.90	3.77	3.74	4.42
Ohio	5.00	5.02	5.07	4.68	4.92	4.69	4.66	5.05
Oklahoma	4.24	4.60	4.46	4.48	4.47	4.47	4.33	4.25
Oregon	4.94	4.83	4.82	4.83	5.23	4.98	5.34	5.42
Pennsylvania	6.62	6.07	6.05	5.89	6.28	5.60	5.62	6.22
Rhode Island	6.07	7.29	7.26	7.04	6.41	6.94	5.94	6.35
South Carolina	6.05	6.49	6.66	6.22	6.09	5.78	5.77	5.67
South Dakota	4.36	3.47	4.04	3.54	3.99	3.91	3.85	3.68
Tennessee	6.02	5.99	5.81	5.26	5.18	5.02	4.88	5.16
Texas	3.98	4.32	4.32	4.45	4.09	4.31	4.17	3.99
Utah	2.86	3.69	3.06	3.59	3.65	3.92	3.91	3.24
Vermont	5.23	5.18	5.23	5.27	5.43	5.13	5.23	5.39
Virginia	5.58	5.37	5.86	5.46	5.08	4.92	4.52	5.24
Washington	4.78	4.74	4.74	4.73	5.00	4.89	4.89	4.95
West Virginia	6.32	6.09	6.02	6.00	6.08	6.09	6.04	5.98
Wisconsin	4.79	4.73	4.65	4.78	4.50	4.72	4.43	3.75
Wyoming	3.78	3.83	3.56	3.80	4.23	NA	NA	NA
Total	5.29	5.31	5.24	5.30	5.05	5.00	4.77	4.82

^R = Revised Data.

NA = Not Available.

— = Not Applicable.

Notes: Data for 1995 are final. All other data are preliminary unless otherwise indicated. Geographic coverage is the 50 States and the District of Columbia. Average prices for gas delivered to commercial consumers reflect onsystem sales prices only. See Appendix A, Explanatory Note 5 for discussion of computations and revision policy. See Table 24 for data on onsystem sales expressed as a percentage of both total commercial and total industrial deliveries.

Source: Form EIA-857, "Monthly Report of Natural Gas Purchases and Deliveries to Consumers."

Table 22. Average Price of Natural Gas Sold to Industrial Consumers, by State, 1995-1997

(Dollars per Thousand Cubic Feet)

State	YTD 1997	YTD 1996	YTD 1995	1997				1996
				April	March	February	January	Total
Alabama	3.65	3.90	3.04	2.99	3.15	3.91	4.73	3.72
Alaska	1.55	1.51	1.44	1.53	1.55	1.57	1.55	1.52
Arizona	4.08	3.92	3.67	4.31	4.06	3.71	4.32	3.86
Arkansas	3.73	3.01	2.93	3.19	3.31	^R 3.78	^R 4.45	3.06
California	4.61	3.79	3.98	3.45	4.24	5.30	5.40	3.69
Colorado	NA	1.78	NA	NA	NA	NA	NA	2.04
Connecticut	5.32	5.46	4.84	4.46	4.91	5.76	6.11	4.80
Delaware	4.65	3.96	3.16	3.86	4.52	5.09	5.29	4.38
District of Columbia	—	—	—	—	—	—	—	—
Florida	4.54	4.39	3.17	4.34	4.42	4.68	4.69	4.30
Georgia	5.44	4.45	3.59	4.39	5.07	5.69	6.45	4.59
Hawaii	—	—	—	—	—	—	—	—
Idaho ^a	2.75	3.20	3.84	2.73	2.74	2.76	2.78	3.02
Illinois	5.55	3.91	3.89	4.10	4.80	5.86	6.49	4.14
Indiana	4.31	3.33	3.24	4.67	4.41	4.21	4.19	3.42
Iowa	3.97	3.25	3.17	3.14	4.04	4.73	3.94	3.61
Kansas	3.09	2.52	2.21	2.32	2.34	3.45	4.36	2.32
Kentucky	4.45	3.78	3.40	3.79	3.97	4.67	4.89	3.87
Louisiana	NA	2.97	1.75	2.78	2.69	NA	4.19	2.81
Maine	6.65	6.18	5.32	5.77	7.08	7.10	6.95	5.31
Maryland	NA	5.17	3.37	NA	NA	NA	NA	5.43
Massachusetts	NA	6.59	5.78	6.35	7.12	8.35	NA	5.45
Michigan	4.11	4.02	3.54	4.12	4.15	4.02	4.16	4.10
Minnesota	3.41	2.90	2.75	2.58	2.74	3.73	4.69	2.95
Mississippi	NA	3.48	2.89	2.98	^R 3.41	4.17	4.45	3.44
Missouri	5.03	4.58	3.55	3.74	4.48	5.94	5.35	4.35
Montana	NA	4.81	4.81	NA	4.84	0.51	4.79	4.88
Nebraska	3.92	3.17	2.93	2.66	3.19	4.14	5.16	3.30
Nevada	5.88	4.95	5.46	5.80	4.67	4.64	9.50	4.90
New Hampshire	6.02	5.19	4.67	4.02	6.10	7.97	7.94	4.87
New Jersey	4.37	4.30	3.43	2.87	4.79	5.03	4.89	3.78
New Mexico	3.41	2.87	4.14	5.10	3.40	4.02	3.01	^R 2.74
New York	NA	5.24	4.95	NA	NA	NA	NA	4.92
North Carolina	5.23	4.45	3.74	4.14	4.80	5.41	5.63	4.35
North Dakota	3.13	3.33	2.90	2.37	1.60	4.94	4.39	3.07
Ohio	5.94	4.55	4.11	5.96	5.49	6.71	5.52	4.90
Oklahoma	4.45	2.86	2.47	3.08	3.90	4.53	5.41	3.07
Oregon	3.23	3.23	3.44	3.16	3.25	3.24	3.25	3.23
Pennsylvania	5.08	4.32	3.67	4.80	4.91	5.25	5.25	4.24
Rhode Island	4.51	5.06	5.07	3.56	4.50	5.52	5.64	4.61
South Carolina	3.88	4.04	3.24	3.21	3.43	4.22	4.74	3.74
South Dakota	3.95	1.90	3.18	3.12	3.00	4.00	4.99	2.57
Tennessee	NA	3.82	3.75	3.18	NA	4.75	4.80	3.80
Texas	2.86	2.49	1.65	2.06	1.99	3.28	4.11	2.61
Utah	2.43	2.07	2.55	2.32	2.53	2.44	2.44	2.03
Vermont	NA	3.58	3.47	2.98	^R 3.14	3.14	3.32	3.43
Virginia	4.15	4.72	4.03	3.11	4.79	6.00	3.56	4.28
Washington	NA	2.51	2.78	NA	2.88	^R 3.29	4.36	2.70
West Virginia	2.98	2.81	2.61	2.49	2.78	3.08	3.44	2.87
Wisconsin	NA	3.80	3.06	3.73	3.50	4.26	^R 4.89	3.75
Wyoming	NA	2.97	3.38	NA	NA	NA	NA	3.01
Total	3.84	3.46	2.78	3.03	3.35	^R4.22	4.59	3.35

See footnotes at end of table.

Table 22. Average Price of Natural Gas Sold to Industrial Consumers, by State, 1995-1997

(Dollars per Thousand Cubic Feet) — Continued

State	1996							
	December	November	October	September	August	July	June	May
Alabama	4.56	3.76	3.30	3.12	3.62	3.57	3.44	3.38
Alaska	1.54	1.50	1.51	1.48	1.54	1.55	1.54	1.52
Arizona	3.87	3.86	3.84	3.82	3.74	3.64	3.90	3.90
Arkansas	3.93	3.39	2.75	2.74	2.77	3.03	2.92	2.93
California	4.26	3.92	3.29	3.53	3.48	3.54	3.29	3.28
Colorado	3.63	2.90	1.92	1.70	1.76	1.72	1.71	1.75
Connecticut	5.81	4.95	4.00	3.98	3.83	4.02	4.07	4.21
Delaware	5.00	4.77	4.68	4.64	4.77	4.73	4.35	4.85
District of Columbia	—	—	—	—	—	—	—	—
Florida	4.66	4.39	4.05	3.96	4.19	4.22	4.24	4.17
Georgia	5.09	3.93	4.33	2.86	4.24	6.99	5.67	4.68
Hawaii	—	—	—	—	—	—	—	—
Idaho ^a	2.63	2.73	3.00	2.99	2.98	3.18	3.04	3.09
Illinois	4.18	4.12	4.20	5.07	5.01	4.84	5.37	4.58
Indiana	3.71	3.48	3.51	3.94	3.94	3.68	3.85	2.49
Iowa	3.94	3.79	3.43	3.91	3.54	4.41	4.26	3.55
Kansas	4.23	3.28	2.28	2.86	2.51	2.56	2.65	2.52
Kentucky	4.66	3.89	3.68	3.61	3.85	3.71	3.59	3.73
Louisiana	4.03	2.92	2.20	2.20	2.35	2.76	2.69	2.54
Maine	6.71	6.67	4.11	4.03	4.03	4.22	4.02	5.12
Maryland	4.66	6.09	7.92	6.28	7.50	6.45	6.17	6.15
Massachusetts	7.10	5.62	4.22	3.81	3.77	4.05	3.80	4.15
Michigan	4.17	4.18	4.34	4.30	4.47	4.57	4.12	3.93
Minnesota	4.23	3.18	2.43	2.35	2.96	2.72	2.55	2.77
Mississippi	4.38	3.52	3.53	2.98	3.15	3.37	3.17	3.09
Missouri	4.86	4.03	3.76	4.14	4.29	4.25	3.89	3.98
Montana	4.87	4.95	5.02	5.04	5.16	5.09	5.01	4.65
Nebraska	4.32	3.63	2.76	2.87	3.41	3.21	3.10	2.93
Nevada	4.67	4.68	5.01	5.10	5.15	4.80	4.86	4.90
New Hampshire	6.93	5.20	7.74	3.53	3.39	3.51	3.43	3.62
New Jersey	4.53	3.43	3.02	3.38	3.09	3.44	3.42	3.66
New Mexico	2.50	2.63	2.75	3.36	^R 3.27	^R 2.75	^R 2.56	^R 3.15
New York	5.07	4.69	4.36	4.31	4.61	4.64	4.54	4.81
North Carolina	5.13	4.63	4.04	4.02	3.81	3.86	3.63	3.83
North Dakota	3.96	2.40	2.32	2.75	3.02	3.38	3.05	3.22
Ohio	5.38	5.58	5.43	5.06	5.33	5.56	4.55	4.73
Oklahoma	3.66	3.13	3.00	3.32	3.10	3.21	3.37	2.90
Oregon	3.31	3.38	3.10	3.18	3.23	3.32	3.25	3.20
Pennsylvania	4.55	4.32	4.09	4.08	3.98	3.93	4.08	4.05
Rhode Island	9.56	4.58	3.67	3.69	3.79	4.26	3.86	4.08
South Carolina	4.52	3.98	3.25	3.26	3.44	3.53	3.35	3.39
South Dakota	4.51	3.52	3.46	4.05	3.85	3.52	3.98	3.39
Tennessee	4.23	3.63	3.30	3.77	3.90	3.58	3.69	3.76
Texas	4.03	3.06	2.07	2.09	2.55	2.77	2.63	2.40
Utah	2.20	2.14	1.90	1.93	1.96	1.90	1.95	1.98
Vermont	3.17	3.19	3.43	3.16	3.30	3.36	3.54	3.73
Virginia	4.43	3.77	4.05	4.33	4.42	3.96	4.13	3.81
Washington	3.85	2.81	2.55	1.95	3.88	2.38	2.82	2.50
West Virginia	3.06	3.17	2.80	2.92	2.50	2.70	2.82	2.75
Wisconsin	5.10	4.37	2.94	3.02	3.36	3.52	3.34	3.29
Wyoming	3.12	3.19	3.16	3.06	3.02	2.97	2.85	3.15
Total	4.25	3.58	2.85	2.83	3.06	3.19	3.12	3.07

See footnotes at end of table.

Table 22. Average Price of Natural Gas Sold to Industrial Consumers, by State, 1995-1997

(Dollars per Thousand Cubic Feet) — Continued

State	1996				1995			
	April	March	February	January	Total	December	November	October
Alabama	3.68	3.84	4.10	3.90	2.96	3.16	3.05	2.83
Alaska	1.51	1.52	1.50	1.50	1.45	1.42	1.43	1.44
Arizona	3.90	3.92	3.94	3.91	3.81	4.68	3.99	3.95
Arkansas	2.95	3.04	2.95	3.09	2.78	2.99	2.84	2.52
California	3.61	3.69	3.89	4.35	3.70	3.89	2.71	3.94
Colorado	1.70	1.91	1.72	1.80	2.86	NA	NA	NA
Connecticut	4.69	5.21	5.68	6.52	4.39	5.41	4.41	3.79
Delaware	4.04	3.93	4.15	3.79	2.94	3.78	2.88	2.85
District of Columbia	—	—	—	—	—	—	—	—
Florida	4.62	4.26	4.57	4.16	3.28	2.94	3.44	3.37
Georgia	4.28	4.72	4.79	4.84	3.55	3.73	3.27	2.60
Hawaii	—	—	—	—	—	—	—	—
Idaho ^a	3.00	3.18	3.17	3.47	3.67	3.93	3.82	3.34
Illinois	3.27	4.66	3.84	3.59	3.57	3.32	3.22	3.39
Indiana	3.66	3.37	3.53	3.04	3.41	3.54	3.28	3.32
Iowa	3.08	3.35	3.39	3.20	3.23	1.77	3.12	3.25
Kansas	2.27	2.82	2.49	0.78	2.23	2.55	2.39	2.21
Kentucky	3.75	3.82	3.85	3.93	3.26	3.51	3.18	3.11
Louisiana	2.82	3.01	2.75	3.28	1.82	2.27	1.90	1.82
Maine	6.27	6.38	6.50	5.60	4.46	5.43	4.54	3.74
Maryland	5.47	5.19	5.89	4.17	3.21	1.24	4.83	2.61
Massachusetts	5.91	6.52	7.00	6.89	4.43	5.05	4.70	3.80
Michigan	3.92	4.06	4.05	4.04	3.62	3.58	3.63	3.71
Minnesota	2.72	2.90	3.11	2.98	2.45	2.55	2.48	2.41
Mississippi	3.41	3.51	3.20	3.75	2.71	3.46	3.01	1.50
Missouri	4.22	4.92	4.58	4.31	3.48	4.19	3.58	3.02
Montana	4.84	4.74	4.72	4.94	4.87	4.86	4.88	4.98
Nebraska	3.14	3.11	3.20	3.20	2.79	2.91	2.38	2.54
Nevada	4.91	4.96	4.98	4.93	5.34	4.92	5.15	5.23
New Hampshire	4.27	5.43	6.08	5.23	3.80	4.97	3.79	2.99
New Jersey	4.13	4.19	4.83	4.11	3.11	3.53	3.22	2.78
New Mexico	^R 3.01	^R 4.31	3.74	2.30	2.83	1.71	2.21	2.05
New York	5.29	5.14	5.54	5.07	4.69	4.94	4.62	4.08
North Carolina	3.89	4.60	5.02	4.40	3.56	4.03	3.66	3.11
North Dakota	3.34	3.14	3.34	3.44	2.90	3.18	2.94	2.79
Ohio	4.78	4.70	4.38	4.51	3.93	3.91	3.99	3.36
Oklahoma	2.83	2.90	2.87	2.82	2.27	2.67	2.50	1.91
Oregon	3.14	3.27	3.25	3.19	3.41	3.25	3.46	3.31
Pennsylvania	4.24	4.24	4.37	4.41	3.90	3.56	3.44	3.56
Rhode Island	4.42	5.58	5.40	4.68	4.09	4.83	3.33	3.85
South Carolina	3.74	3.97	4.20	4.35	3.11	3.64	3.26	2.96
South Dakota	3.33	1.48	2.11	3.08	3.44	3.20	2.76	4.05
Tennessee	3.98	3.93	4.29	3.48	3.34	3.38	3.16	3.08
Texas	2.54	2.36	2.60	2.45	1.89	2.17	1.81	1.72
Utah	2.00	2.27	1.75	2.26	2.34	2.07	2.20	2.04
Vermont	3.74	3.53	3.62	3.45	3.39	2.98	3.27	3.34
Virginia	5.13	4.31	4.61	4.52	3.35	3.50	2.83	4.00
Washington	2.49	2.56	2.66	2.41	2.74	2.98	2.84	2.57
West Virginia	2.97	2.99	2.93	2.70	2.60	2.77	2.92	2.60
Wisconsin	3.74	3.69	3.64	3.83	2.96	3.57	3.16	2.40
Wyoming	3.09	3.11	2.54	3.14	3.18	NA	NA	NA
Total	3.34	3.51	3.54	3.46	2.71	3.07	2.68	2.44

^R = Revised Data.

NA = Not Available.

— = Not Applicable.

Notes: Data for 1995 are final. All other data are preliminary unless otherwise indicated. Geographic coverage is the 50 States and the District of Columbia. Average prices for gas delivered to industrial consumers reflect onsystem sales prices only. See Appendix A, Explanatory Note 5 for discussion of computations and revision policy. See Table 24 for data on onsystem sales expressed as a percentage of both total commercial and total industrial deliveries.

Source: Form EIA-857, "Monthly Report of Natural Gas Purchases and Deliveries to Consumers."

Table 23. Average Price of Natural Gas Delivered to Electric Utility^a Consumers, by State, 1996-1997

(Dollars per Thousand Cubic Feet)

State	YTD 1997	YTD 1996	YTD 1995	1997			1996	
				March	February	January	Total	December
Alabama	2.72	3.23	1.99	2.12	2.04	4.37	2.95	4.32
Alaska	1.63	1.30	1.34	1.55	1.69	1.68	1.45	1.64
Arizona	3.90	2.71	1.69	2.85	4.01	5.70	3.03	7.53
Arkansas	3.14	3.63	1.42	1.60	1.92	4.18	2.52	3.88
California	3.83	2.86	2.39	3.04	4.14	4.67	2.75	4.55
Colorado	3.14	1.81	1.66	2.26	3.32	3.76	2.09	4.30
Connecticut	2.90	—	2.10	2.45	3.08	3.97	2.76	4.97
Delaware	3.36	4.06	2.40	2.61	2.90	4.87	3.13	4.06
District of Columbia	—	—	—	—	—	—	—	—
Florida	2.55	3.43	1.96	2.05	2.13	4.60	3.12	4.75
Georgia	3.71	5.37	4.88	3.34	8.15	2.08	2.88	6.28
Hawaii	—	—	—	—	—	—	—	—
Idaho	—	—	—	—	—	—	—	—
Illinois	2.59	3.17	1.55	2.00	2.93	3.34	2.62	3.82
Indiana	3.72	3.71	2.45	2.74	3.74	5.04	3.48	4.80
Iowa	3.68	4.32	2.97	2.73	3.74	5.11	3.23	3.77
Kansas	3.10	2.30	1.65	1.80	2.92	4.56	2.25	4.10
Kentucky	3.89	3.82	2.61	3.20	3.69	4.85	3.49	4.64
Louisiana	3.11	3.66	1.78	2.10	2.93	4.35	2.94	4.37
Maine	—	—	—	—	—	—	—	—
Maryland	4.59	6.01	2.50	4.18	5.75	5.04	3.11	5.92
Massachusetts	3.27	4.56	2.16	2.64	3.29	5.37	3.07	4.85
Michigan	0.62	0.78	0.84	0.69	0.59	0.56	0.74	0.55
Minnesota	2.31	2.26	1.96	2.17	3.35	2.26	2.18	2.32
Mississippi	2.99	5.04	1.66	2.08	2.61	4.15	2.78	4.27
Missouri	4.09	3.19	1.50	2.26	4.62	5.41	2.58	4.90
Montana	5.17	8.77	14.27	4.08	9.68	3.54	2.89	1.81
Nebraska	2.81	2.19	1.95	2.29	3.20	3.22	2.07	4.37
Nevada	2.13	2.11	1.63	2.05	2.33	2.14	2.12	2.19
New Hampshire	—	—	1.85	—	—	—	—	—
New Jersey	3.24	2.90	1.80	2.57	3.60	4.65	2.96	4.39
New Mexico	2.88	2.16	1.58	2.01	2.85	4.07	2.31	3.80
New York	3.14	3.99	2.22	2.56	3.35	4.36	2.96	4.22
North Carolina	6.89	3.07	2.97	—	—	6.89	3.11	4.41
North Dakota	2.93	3.58	3.66	2.93	—	—	2.93	2.81
Ohio	3.99	3.80	2.44	4.03	4.16	3.87	3.44	4.27
Oklahoma	3.75	3.50	2.35	2.88	4.36	4.21	2.98	4.43
Oregon	1.73	—	1.45	1.40	—	1.96	1.33	2.01
Pennsylvania	3.37	4.40	2.48	2.72	2.91	4.65	2.85	4.57
Rhode Island	3.38	2.39	—	2.90	4.09	3.18	2.29	3.14
South Carolina	4.71	4.50	1.46	2.84	4.22	6.95	4.56	5.08
South Dakota	—	—	—	—	—	—	—	—
Tennessee	—	—	—	—	—	—	—	—
Texas	2.95	2.47	1.93	2.12	2.85	3.89	2.51	3.80
Utah	—	20.25	2.66	—	—	—	—	—
Vermont	3.57	3.06	1.85	2.61	3.60	5.05	3.22	4.42
Virginia	2.78	2.41	2.71	2.76	1.80	3.13	2.98	3.42
Washington	7.58	5.17	4.63	65.04	4.50	5.11	4.98	4.75
West Virginia	5.21	3.93	3.57	3.82	7.68	3.15	2.99	2.94
Wisconsin	3.26	3.22	2.31	2.33	3.42	4.74	3.04	4.29
Wyoming	12.45	15.63	8.40	22.85	2.47	13.99	12.59	26.41
Total	3.02	2.89	2.01	2.30	2.98	4.04	2.69	3.98

See footnotes at end of table.

Table 23. Average Price of Natural Gas Delivered to Electric Utility^a Consumers, by State, 1996-1997

(Dollars per Thousand Cubic Feet) — Continued

State	1996							
	November	October	September	August	July	June	May	April
Alabama	3.16	2.27	2.14	2.66	3.04	2.71	2.59	3.10
Alaska	1.63	1.73	1.71	1.66	1.58	1.47	1.04	1.16
Arizona	4.76	2.53	2.98	2.61	3.09	3.33	4.43	2.30
Arkansas	2.62	1.36	1.89	2.47	2.57	2.40	2.30	2.54
California	3.40	2.60	2.51	2.63	2.32	2.41	2.59	2.49
Colorado	2.93	2.47	1.54	1.72	2.32	1.52	1.85	2.06
Connecticut	3.26	2.78	2.30	2.78	3.01	2.69	2.62	2.79
Delaware	3.65	2.32	2.32	2.35	3.39	3.01	3.19	4.14
District of Columbia	—	—	—	—	—	—	—	—
Florida	3.38	2.56	2.59	2.99	3.28	3.09	2.91	3.18
Georgia	2.50	3.08	2.72	2.51	2.23	3.25	3.80	5.05
Hawaii	—	—	—	—	—	—	—	—
Idaho	—	—	—	—	—	—	—	—
Illinois	3.10	2.12	1.98	2.25	2.70	2.60	2.43	3.03
Indiana	3.86	3.38	2.99	2.95	3.14	3.32	3.21	3.40
Iowa	3.45	2.95	1.80	2.87	2.83	2.55	2.64	3.82
Kansas	2.62	1.88	1.81	2.35	2.19	2.16	2.13	2.45
Kentucky	3.51	2.82	2.59	3.05	3.36	3.15	3.78	3.40
Louisiana	3.12	2.25	2.16	2.64	2.96	2.72	2.63	2.99
Maine	—	—	—	—	—	—	—	—
Maryland	4.02	2.65	2.85	2.49	3.25	3.12	3.13	3.97
Massachusetts	3.85	2.69	2.33	2.71	3.37	3.03	3.08	3.62
Michigan	0.73	0.55	0.59	0.91	0.73	0.88	0.90	0.71
Minnesota	2.19	2.14	2.14	2.10	2.14	2.09	2.36	2.63
Mississippi	3.23	2.10	2.00	2.52	2.85	2.64	2.49	2.95
Missouri	2.61	2.38	2.24	2.41	2.63	2.50	2.42	2.20
Montana	1.66	0.65	6.59	6.79	3.49	4.69	5.95	8.98
Nebraska	2.85	1.85	1.81	2.16	2.27	1.74	1.58	1.94
Nevada	2.37	2.71	1.96	2.20	1.83	2.06	1.90	2.08
New Hampshire	—	—	—	—	—	—	—	—
New Jersey	3.16	2.36	2.42	2.79	3.15	3.14	3.37	3.50
New Mexico	2.94	2.17	1.94	2.33	2.01	1.99	2.04	2.17
New York	3.39	2.37	2.26	2.74	3.06	2.89	2.80	3.35
North Carolina	4.20	2.55	2.80	3.31	3.51	2.93	2.66	3.23
North Dakota	3.92	2.94	—	3.32	2.71	2.81	2.91	—
Ohio	3.92	2.96	2.80	2.70	3.18	3.51	2.99	3.48
Oklahoma	3.61	2.93	2.38	2.64	2.70	2.72	2.95	3.15
Oregon	1.42	1.42	1.27	1.24	1.25	—	—	—
Pennsylvania	3.31	2.70	1.67	2.63	3.52	2.74	3.38	2.64
Rhode Island	2.34	1.81	1.78	2.32	2.27	2.13	2.10	2.36
South Carolina	4.47	5.32	4.01	4.67	3.94	3.69	4.75	4.44
South Dakota	—	—	—	—	2.36	—	—	—
Tennessee	—	—	—	—	—	—	—	—
Texas	2.82	2.23	2.10	2.45	2.63	2.46	2.35	2.48
Utah	—	—	1.50	1.67	1.57	2.39	—	—
Vermont	3.37	2.68	2.70	3.15	3.45	3.17	—	2.72
Virginia	2.04	3.77	2.93	2.83	3.36	3.14	3.61	1.51
Washington	5.03	4.35	4.01	4.98	6.14	5.52	4.05	4.22
West Virginia	2.87	3.69	—	3.28	3.35	3.31	2.82	3.00
Wisconsin	3.48	2.55	2.38	2.87	2.97	2.56	2.71	3.01
Wyoming	17.57	17.64	3.19	7.72	3.19	6.99	3.44	30.24
Total	3.05	2.37	2.24	2.57	2.69	2.59	2.52	2.68

See footnotes at end of table.

Table 23. Average Price of Natural Gas Delivered to Electric Utility^a Consumers, by State, 1996-1997

(Dollars per Thousand Cubic Feet) — Continued

State	1996			1995				
	March	February	January	Total	December	November	October	September
Alabama	3.29	2.82	3.71	2.01	2.68	2.19	2.02	1.94
Alaska	1.30	1.29	1.32	1.29	1.24	1.30	1.28	1.29
Arizona	2.31	3.19	2.71	1.77	2.35	1.94	1.84	1.92
Arkansas	2.71	7.11	2.02	1.74	2.68	1.80	1.83	1.68
California	2.83	3.16	2.68	2.28	2.57	2.32	2.37	2.08
Colorado	1.79	1.83	1.80	1.74	1.90	1.73	1.82	1.90
Connecticut	—	—	—	2.01	—	2.10	1.85	1.80
Delaware	2.89	4.63	4.63	2.34	3.70	2.64	2.13	2.06
District of Columbia	—	—	—	—	—	—	—	—
Florida	3.50	2.83	3.87	2.26	3.07	2.43	2.29	2.22
Georgia	5.18	4.90	7.30	2.79	4.55	3.67	3.14	3.06
Hawaii	—	—	—	—	—	—	—	—
Idaho	—	—	—	—	—	—	—	—
Illinois	3.12	3.24	3.19	1.71	2.48	2.04	1.78	1.68
Indiana	3.85	3.98	3.39	2.49	3.01	2.72	2.78	2.49
Iowa	5.45	3.44	3.36	2.72	2.94	3.02	2.73	2.71
Kansas	2.18	2.46	2.28	1.58	2.06	1.58	1.50	1.57
Kentucky	3.72	3.57	3.96	3.01	3.14	2.57	2.87	2.50
Louisiana	3.25	4.04	3.72	1.88	2.72	2.08	1.93	1.85
Maine	—	—	—	—	—	—	—	—
Maryland	5.72	6.54	6.01	2.24	5.16	2.80	2.51	2.03
Massachusetts	4.17	3.70	6.47	2.06	3.92	2.59	2.02	1.93
Michigan	0.83	0.90	0.65	0.73	0.61	0.71	0.43	0.77
Minnesota	2.43	2.13	2.10	1.77	2.11	2.19	1.60	1.67
Mississippi	3.50	8.16	4.08	1.78	2.76	1.96	1.90	1.73
Missouri	3.37	3.12	3.11	1.69	2.38	2.10	1.88	1.91
Montana	20.05	3.68	1.86	3.84	3.84	1.40	7.42	2.07
Nebraska	2.39	2.19	1.96	1.65	1.91	1.67	1.50	1.51
Nevada	2.14	2.22	1.99	1.71	2.02	1.80	1.82	1.75
New Hampshire	—	—	—	1.86	—	—	1.93	1.81
New Jersey	3.67	2.85	2.76	2.18	3.12	2.63	2.26	2.12
New Mexico	2.23	2.16	2.07	1.57	1.83	1.74	1.65	1.64
New York	3.72	3.91	4.49	2.13	3.10	2.58	2.03	1.93
North Carolina	—	—	3.07	2.40	—	3.04	2.07	2.00
North Dakota	—	—	3.58	3.71	3.58	3.59	—	4.07
Ohio	3.74	3.54	3.94	2.34	3.04	2.28	2.66	2.16
Oklahoma	3.35	4.13	3.13	2.34	2.88	2.78	2.95	2.16
Oregon	—	—	—	1.31	1.53	1.73	1.42	1.01
Pennsylvania	3.61	5.41	4.57	2.04	2.63	2.72	1.90	1.80
Rhode Island	2.37	2.45	2.38	1.90	2.06	1.70	1.76	2.05
South Carolina	4.72	4.35	4.23	1.64	3.70	3.55	1.55	1.59
South Dakota	—	—	—	1.58	2.39	2.02	—	1.64
Tennessee	—	—	—	—	—	—	—	—
Texas	2.35	2.60	2.48	1.93	2.42	2.09	1.96	1.89
Utah	—	20.25	—	2.26	—	2.40	1.80	1.52
Vermont	—	—	3.06	1.95	1.96	1.85	2.13	2.31
Virginia	3.09	1.99	2.41	2.67	3.32	2.44	2.58	2.36
Washington	5.51	4.90	4.98	4.60	4.21	3.99	5.97	3.54
West Virginia	2.70	2.75	5.00	3.58	3.09	4.92	2.57	3.30
Wisconsin	4.19	2.88	2.64	2.23	2.65	2.51	2.30	2.37
Wyoming	18.59	23.99	6.80	8.32	16.25	12.28	4.15	4.56
Total	2.74	3.07	2.88	2.02	2.58	2.22	2.09	1.95

^a Includes all steam electric utility generating plants with a combined capacity of 50 megawatts or greater.

— = Not Applicable.

Notes: Data for 1995 are final. All other data are preliminary unless otherwise indicated. Geographic coverage is the 50 States and the District of Columbia. See Appendix A, Explanatory Note 5 for discussion of computations and revision policy.

Sources: Form FERC-423, "Monthly Report of Cost and Quality of Fuels for Electric Plants," and Form EIA-176, "Annual Report of Natural and Supplemental Gas Supply and Disposition."

Table 24. Percentage of Total Deliveries Represented by Onsystem Sales, by State, 1995-1997

State	YTD 1997		YTD 1996		YTD 1995		1997	
	Commercial	Industrial	Commercial	Industrial	Commercial	Industrial	April	
							Commercial	Industrial
Alabama	74.9	17.3	82.5	17.3	84.2	26.7	59.3	17.3
Alaska	67.0	98.1	73.4	97.8	87.4	74.8	65.8	98.8
Arizona	86.7	22.2	87.9	24.4	90.3	27.1	83.8	21.2
Arkansas	95.6	12.7	96.4	16.1	96.9	15.6	93.5	11.4
California	55.9	11.2	60.9	12.6	60.4	15.1	51.6	10.6
Colorado	NA	NA	94.5	21.1	95.4	24.3	NA	NA
Connecticut	88.8	71.5	92.6	94.4	85.8	84.7	87.1	68.2
Delaware	100.0	34.1	100.0	51.0	100.0	67.4	100.0	35.5
District of Columbia	67.3	—	84.0	—	82.4	—	100.0	—
Florida	97.2	7.7	96.9	12.6	97.3	17.4	99.8	9.4
Georgia	91.2	17.7	95.5	30.7	95.0	39.9	87.2	15.9
Hawaii	NA	—	100.0	—	100.0	—	NA	—
Idaho	88.1	2.1	88.7	1.3	88.1	2.3	86.1	2.1
Illinois	56.8	10.6	57.9	15.1	53.1	13.5	53.2	8.4
Indiana	90.0	16.0	94.1	23.4	89.3	18.1	82.1	10.6
Iowa	89.7	7.9	89.9	8.6	91.2	9.3	90.3	7.2
Kansas	71.3	11.0	76.8	21.4	79.6	10.9	68.7	12.5
Kentucky	90.6	18.2	91.5	32.1	90.2	26.3	88.1	14.7
Louisiana	83.2	NA	99.5	14.9	98.1	31.6	99.2	8.6
Maine	100.0	95.3	100.0	93.4	100.0	100.0	100.0	91.3
Maryland	NA	NA	92.3	19.6	97.9	19.1	NA	NA
Massachusetts	NA	NA	81.9	31.3	89.4	31.8	72.2	38.5
Michigan	67.9	9.5	72.2	9.5	71.2	13.0	65.3	10.4
Minnesota	98.6	43.2	95.0	40.1	94.3	32.4	98.0	42.6
Mississippi	NA	NA	100.5	42.2	97.4	44.0	92.4	35.2
Missouri	82.9	22.1	87.1	27.0	87.1	25.9	80.7	16.8
Montana	NA	NA	92.4	4.7	92.5	4.3	NA	NA
Nebraska	NA	24.4	81.2	27.6	80.4	19.7	NA	20.3
Nevada	76.5	2.5	79.2	2.1	80.5	2.2	69.2	8.0
New Hampshire	96.4	54.1	99.2	60.6	99.6	65.0	92.0	62.3
New Jersey	72.7	52.5	76.5	50.7	91.6	57.0	64.0	36.9
New Mexico	70.5	10.1	62.8	1.6	63.0	3.0	58.1	2.8
New York	NA	NA	NA	17.1	80.1	15.5	NA	NA
North Carolina	95.0	44.2	95.2	82.2	92.4	49.4	87.5	22.4
North Dakota	92.8	49.6	90.0	26.3	84.5	22.7	91.8	39.4
Ohio	69.5	4.8	75.9	7.6	79.5	9.8	64.8	3.3
Oklahoma	89.4	6.5	91.1	9.2	89.4	21.4	86.3	3.8
Oregon	98.8	18.9	98.9	25.1	98.4	28.9	98.5	19.3
Pennsylvania	67.3	15.7	76.0	20.3	74.2	19.1	64.2	13.4
Rhode Island	87.9	18.7	94.3	12.1	100.0	10.6	88.5	55.8
South Carolina	98.2	80.6	100.8	84.9	97.0	78.5	95.8	77.7
South Dakota	86.2	28.2	87.1	49.5	90.2	36.8	85.7	22.6
Tennessee	NA	NA	96.6	40.7	94.5	45.0	90.4	29.5
Texas	NA	17.8	71.1	20.5	72.1	29.5	59.2	19.3
Utah	85.4	9.2	83.8	9.8	84.4	12.0	83.8	9.2
Vermont	NA	NA	100.0	100.0	100.0	100.0	100.0	100.0
Virginia	80.5	15.3	92.7	13.4	87.9	18.2	72.6	12.2
Washington	NA	NA	87.8	30.5	93.9	39.1	NA	NA
West Virginia	41.6	17.0	54.8	15.3	56.1	14.1	13.0	27.3
Wisconsin	NA	NA	96.2	41.0	93.4	51.0	91.4	21.6
Wyoming	NA	NA	85.1	0.7	92.8	2.9	NA	NA
Total	69.7	16.6	75.3	19.7	80.8	26.3	65.0	15.8

See footnotes at end of table.

Table 24. Percentage of Total Deliveries Represented by Onsystem Sales, by State, 1995-1997 — Continued

State	1997						1996	
	March		February		January		Total	
	Commercial	Industrial	Commercial	Industrial	Commercial	Industrial	Commercial	Industrial
Alabama	76.2	17.9	79.7	19.5	77.7	14.6	64.9	13.5
Alaska	59.4	98.6	71.1	97.9	69.5	97.1	70.3	96.2
Arizona	86.5	22.8	88.0	24.9	87.4	19.9	83.7	20.6
Arkansas	94.9	12.2	96.6	^R 13.7	96.1	^R 13.6	94.2	16.4
California	54.5	11.0	58.5	11.1	58.0	11.7	53.9	10.7
Colorado	NA	NA	NA	NA	NA	NA	87.7	21.0
Connecticut	87.0	68.2	90.2	78.8	90.1	76.0	87.1	84.0
Delaware	100.0	34.7	100.0	35.5	100.0	30.8	100.0	37.7
District of Columbia	59.5	—	62.5	—	67.6	—	71.8	—
Florida	97.0	6.7	96.6	8.0	96.1	8.2	79.1	8.9
Georgia	88.9	15.7	92.5	20.2	93.4	19.3	84.9	20.8
Hawaii	100.0	—	100.0	—	100.0	—	100.0	—
Idaho	87.8	2.1	89.7	2.2	87.8	1.9	86.6	1.4
Illinois	54.4	10.3	54.3	9.4	62.0	13.7	53.2	11.4
Indiana	86.5	12.7	93.0	19.8	93.7	20.1	85.6	15.9
Iowa	88.5	7.4	89.4	7.2	90.3	9.6	85.6	^R 8.9
Kansas	60.1	11.4	65.7	13.2	88.8	8.2	58.0	11.8
Kentucky	89.6	15.5	90.8	19.4	92.0	22.0	82.2	20.9
Louisiana	64.5	10.9	97.8	NA	80.1	9.5	91.1	9.1
Maine	100.0	91.8	100.0	100.0	100.0	100.0	100.0	91.0
Maryland	NA	NA	NA	NA	NA	NA	^R 83.9	11.1
Massachusetts	70.9	34.4	67.3	36.8	NA	NA	72.2	24.4
Michigan	66.4	12.8	69.4	14.2	69.2	14.7	60.6	5.9
Minnesota	99.0	47.3	98.7	45.5	98.6	37.1	91.8	36.8
Mississippi	^R 96.3	^R 36.2	96.0	38.0	96.9	38.4	84.7	34.0
Missouri	83.9	27.3	79.9	19.1	86.3	27.7	80.3	23.0
Montana	90.4	4.1	93.0	28.6	90.9	4.4	90.3	3.6
Nebraska	70.8	21.8	92.8	27.0	75.6	28.2	68.5	24.6
Nevada	78.1	7.3	79.7	15.2	77.2	8.3	74.9	1.6
New Hampshire	94.0	53.6	99.1	52.1	98.8	44.2	99.0	58.6
New Jersey	67.5	34.5	93.5	36.0	69.0	40.8	72.6	49.1
New Mexico	70.5	3.9	72.6	2.1	74.1	19.4	56.4	^R 3.6
New York	NA	NA	NA	NA	NA	NA	NA	9.8
North Carolina	91.6	30.2	95.9	39.6	100.0	90.1	92.0	49.4
North Dakota	91.4	59.4	93.9	49.5	93.4	43.3	86.3	28.3
Ohio	69.2	5.5	68.5	5.6	72.9	4.7	69.5	5.2
Oklahoma	88.1	5.9	90.5	8.7	90.7	7.4	83.5	6.9
Oregon	98.8	19.6	98.9	20.2	98.8	17.0	98.3	18.0
Pennsylvania	64.3	15.4	69.8	14.9	69.3	18.9	69.3	15.6
Rhode Island	82.2	61.7	91.7	45.9	89.6	38.1	91.6	16.4
South Carolina	97.4	80.3	98.2	78.2	100.0	86.8	81.4	64.7
South Dakota	86.3	26.7	85.7	30.4	86.9	31.4	82.7	34.6
Tennessee	NA	NA	92.5	28.7	94.0	35.9	77.4	28.2
Texas	NA	18.0	67.7	16.0	NA	17.9	NA	18.6
Utah	83.0	6.7	87.2	10.7	86.2	10.2	81.9	9.2
Vermont	^R 100.0	^R 100.0	100.0	100.0	100.0	100.0	100.0	100.0
Virginia	77.1	13.2	81.9	6.8	87.5	15.5	73.0	13.1
Washington	86.0	27.3	—	^R 27.4	87.8	26.7	85.9	23.8
West Virginia	59.5	19.8	68.7	13.9	67.0	14.4	45.2	13.4
Wisconsin	^R 95.1	28.4	93.4	31.0	^R 94.1	^R 31.9	75.1	30.9
Wyoming	54.7	NA	74.0	NA	76.1	NA	52.4	0.6
Total	68.6	16.4	71.2	^R16.2	72.0	^R17.8	^R70.4	17.4

See footnotes at end of table.

Table 24. Percentage of Total Deliveries Represented by Onsystem Sales, by State, 1995-1997 — Continued

State	1996							
	December		November		October		September	
	Commercial	Industrial	Commercial	Industrial	Commercial	Industrial	Commercial	Industrial
Alabama	76.7	14.6	68.7	14.4	66.4	12.6	68.5	12.8
Alaska	70.6	97.3	67.3	97.7	63.7	97.8	60.8	100.0
Arizona	84.0	22.6	84.1	20.7	83.2	19.1	83.5	19.1
Arkansas	95.7	16.8	94.0	15.2	90.2	14.5	88.9	21.3
California	55.7	9.4	57.5	10.4	43.7	9.1	44.9	9.6
Colorado	95.2	20.5	93.9	23.3	91.0	27.9	92.0	25.7
Connecticut	88.1	81.8	84.2	76.9	81.5	74.1	69.2	73.5
Delaware	100.0	34.5	100.0	34.6	100.0	30.7	100.0	27.5
District of Columbia	66.1	—	56.0	—	48.8	—	47.8	—
Florida	96.3	9.2	97.1	8.0	97.5	8.8	97.7	7.2
Georgia	92.4	23.5	91.4	19.4	89.6	21.3	85.4	26.7
Hawaii	100.0	—	100.0	—	100.0	—	100.0	—
Idaho	87.6	2.5	84.9	0.5	77.3	1.6	80.0	1.3
Illinois	55.8	19.0	52.7	11.5	48.5	7.3	42.8	5.5
Indiana	93.8	22.0	89.5	15.4	87.9	12.9	70.7	8.1
Iowa	86.8	11.7	86.1	18.3	81.0	9.8	76.3	5.6
Kansas	67.8	9.8	79.8	8.2	69.3	11.4	69.3	10.2
Kentucky	90.7	19.7	87.3	17.9	87.5	17.4	81.8	15.4
Louisiana	97.9	10.9	98.1	9.4	98.6	9.5	98.8	9.0
Maine	100.0	90.2	100.0	91.5	100.0	91.3	100.0	89.1
Maryland	84.1	19.1	88.7	2.0	^R 72.7	3.5	^R 72.2	1.6
Massachusetts	68.7	29.5	62.1	40.2	69.5	34.8	55.0	30.2
Michigan	68.6	12.2	65.5	9.1	54.0	5.2	42.7	3.1
Minnesota	97.3	42.5	97.2	41.2	98.1	35.7	93.8	34.4
Mississippi	96.5	38.1	91.3	38.9	95.3	27.9	96.7	34.4
Missouri	84.4	32.5	78.4	27.4	69.0	16.8	67.0	17.8
Montana	89.5	4.6	87.7	4.7	87.1	2.9	85.6	2.2
Nebraska	76.3	27.9	68.3	28.0	39.4	19.2	64.4	22.0
Nevada	75.3	8.0	71.5	7.6	64.9	5.4	68.4	5.5
New Hampshire	98.5	50.3	98.9	63.8	98.6	55.9	98.2	55.9
New Jersey	70.5	20.3	69.7	34.1	67.5	30.1	60.3	34.4
New Mexico	69.8	15.1	66.4	5.5	61.3	2.7	59.4	1.6
New York	NA	13.6	NA	10.6	NA	10.7	NA	11.1
North Carolina	99.0	90.4	91.9	43.0	85.4	24.3	85.9	21.4
North Dakota	88.6	40.6	88.7	46.9	77.2	33.3	72.4	21.7
Ohio	74.0	4.2	72.4	10.5	68.4	2.8	65.0	3.1
Oklahoma	89.8	7.4	85.2	7.9	78.2	5.2	78.3	5.2
Oregon	98.6	16.0	98.3	14.4	97.0	14.2	97.5	14.0
Pennsylvania	63.4	20.3	66.3	16.7	63.5	13.1	66.3	13.7
Rhode Island	89.4	45.8	87.6	55.7	67.0	57.2	50.5	51.4
South Carolina	100.0	86.5	96.8	82.2	95.6	79.3	96.6	80.6
South Dakota	82.8	33.3	80.7	34.1	72.9	15.8	68.6	12.3
Tennessee	92.4	32.2	91.6	30.9	83.5	33.8	75.9	23.6
Texas	72.7	17.6	61.7	17.2	NA	20.6	50.3	16.7
Utah	84.4	10.0	81.2	9.6	79.5	9.7	78.4	8.6
Vermont	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Virginia	85.9	14.9	83.0	14.4	72.5	7.0	62.4	7.7
Washington	87.4	26.5	84.6	21.6	82.7	19.3	81.5	19.9
West Virginia	69.2	13.9	52.0	14.4	41.0	13.0	32.5	11.6
Wisconsin	93.7	30.5	93.0	30.6	96.3	28.4	96.8	24.9
Wyoming	42.4	0.7	58.8	0.2	44.2	0.2	96.1	0.9
Total	71.0	17.9	68.8	16.6	^R62.0	15.8	^R58.9	14.6

See footnotes at end of table.

Table 24. Percentage of Total Deliveries Represented by Onsystem Sales, by State, 1995-1997 — Continued

State	1996							
	August		July		June		May	
	Commercial	Industrial	Commercial	Industrial	Commercial	Industrial	Commercial	Industrial
Alabama	67.8	12.4	69.2	13.3	71.0	13.6	76.4	15.0
Alaska	64.1	91.0	61.8	88.7	65.2	93.7	68.9	98.5
Arizona	78.4	20.5	82.1	19.6	83.6	21.1	84.8	29.2
Arkansas	91.5	16.3	88.5	18.3	94.2	19.1	92.4	18.8
California	44.3	8.8	48.0	11.5	53.0	10.4	52.2	11.6
Colorado	89.0	21.9	89.8	25.3	93.6	20.4	93.6	18.5
Connecticut	77.8	73.0	81.3	82.0	79.2	90.3	78.6	92.4
Delaware	100.0	26.1	100.0	26.2	100.0	38.2	100.0	31.7
District of Columbia	53.0	—	62.6	—	71.2	—	71.1	—
Florida	97.3	8.0	97.6	8.2	97.7	9.1	97.8	10.8
Georgia	87.0	21.2	87.6	13.5	87.8	17.4	91.4	23.5
Hawaii	100.0	—	100.0	—	100.0	—	100.0	—
Idaho	82.0	1.7	82.4	1.1	86.0	1.7	85.7	1.3
Illinois	42.7	5.0	39.3	4.9	43.8	4.4	49.3	7.9
Indiana	74.3	9.1	79.1	8.6	78.0	4.9	86.8	40.5
Iowa	91.9	8.2	76.5	4.8	87.6	5.4	90.4	^R 5.6
Kansas	34.1	10.3	43.3	10.0	53.5	12.1	50.6	17.9
Kentucky	82.9	15.2	83.2	21.4	88.6	13.8	81.6	19.4
Louisiana	97.4	10.5	99.1	10.2	96.7	10.5	94.4	9.6
Maine	100.0	88.0	100.0	88.7	100.0	89.8	100.0	90.1
Maryland	^R 68.7	3.5	^R 62.9	6.0	^R 72.0	8.1	^R 70.8	10.7
Massachusetts	61.1	34.8	68.0	36.8	70.6	39.4	78.7	38.2
Michigan	39.5	3.4	42.3	3.3	44.2	4.6	62.6	7.1
Minnesota	93.3	37.6	94.4	38.3	95.6	33.8	97.2	32.4
Mississippi	97.5	35.9	96.9	33.0	96.3	34.9	97.0	35.1
Missouri	57.7	13.0	61.7	19.4	72.0	23.4	78.5	24.6
Montana	86.9	1.5	87.4	1.8	90.5	1.8	90.5	2.8
Nebraska	52.9	21.7	50.8	21.7	64.5	18.0	71.5	23.4
Nevada	67.6	5.8	71.1	6.0	73.7	6.8	75.1	6.7
New Hampshire	98.2	53.6	98.0	54.9	98.5	58.3	98.9	66.9
New Jersey	60.3	38.8	61.3	38.4	64.4	30.7	67.6	39.9
New Mexico	61.1	^R 4.4	64.2	^R 2.2	64.1	^R 4.4	45.8	^R 4.0
New York	NA	11.0	NA	11.1	NA	12.4	NA	13.2
North Carolina	88.3	30.6	95.9	61.4	90.5	44.7	91.2	35.9
North Dakota	73.1	9.2	72.2	8.5	62.2	12.5	88.4	20.1
Ohio	53.8	2.7	56.3	2.1	42.0	2.8	63.1	4.3
Oklahoma	74.5	5.9	76.4	5.3	78.7	5.2	82.8	3.7
Oregon	98.0	13.6	98.1	13.6	98.3	16.3	98.1	18.1
Pennsylvania	49.0	14.4	63.8	15.8	63.6	14.4	68.2	15.9
Rhode Island	87.1	50.4	84.4	42.2	92.1	57.0	97.9	62.0
South Carolina	96.6	80.7	100.0	87.2	97.1	77.3	97.5	78.0
South Dakota	66.9	13.5	67.1	15.1	74.5	11.9	78.7	18.3
Tennessee	83.6	30.4	91.1	39.5	86.9	35.0	89.1	32.8
Texas	NA	17.2	65.0	24.7	60.4	20.8	61.7	20.5
Utah	71.9	7.7	73.3	7.4	72.9	9.5	77.7	9.0
Vermont	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Virginia	72.2	6.6	65.8	7.2	63.9	9.6	78.0	15.4
Washington	80.1	11.7	80.0	21.1	82.0	21.8	84.5	23.2
West Virginia	41.9	12.5	41.5	12.8	25.2	12.2	42.9	12.6
Wisconsin	97.5	25.0	85.7	25.9	92.9	26.2	93.3	31.0
Wyoming	95.1	0.9	98.8	0.7	89.4	0.8	58.5	0.8
Total	^R 58.7	14.8	^R 60.6	17.2	^R 62.4	15.6	^R 66.8	^R 17.3

See footnotes at end of table.

Table 24. Percentage of Total Deliveries Represented by Onsystem Sales, by State, 1995-1997 — Continued

State	1996							
	April		March		February		January	
	Commercial	Industrial	Commercial	Industrial	Commercial	Industrial	Commercial	Industrial
Alabama	80.5	16.6	80.8	17.3	85.6	18.5	81.5	17.7
Alaska	71.9	98.5	76.3	97.7	79.1	98.4	73.7	96.3
Arizona	83.7	22.5	86.9	24.2	90.2	27.0	89.5	24.4
Arkansas	96.3	17.9	95.6	15.0	96.9	16.5	96.4	15.6
California	63.7	12.4	63.3	12.5	58.7	15.3	59.5	13.9
Colorado	94.2	17.9	94.8	16.8	96.2	17.6	95.3	24.9
Connecticut	89.9	94.5	93.1	96.6	93.2	98.2	93.4	95.1
Delaware	100.0	28.5	100.0	56.9	100.0	57.6	100.0	58.3
District of Columbia	87.8	—	84.6	—	83.8	—	80.5	—
Florida	97.7	11.6	96.9	11.5	97.1	11.7	98.8	15.4
Georgia	94.3	26.8	96.5	30.4	97.9	33.0	97.4	34.0
Hawaii	100.0	—	100.0	—	100.0	—	100.0	—
Idaho	87.2	1.3	88.2	1.4	90.1	1.3	88.8	1.1
Illinois	53.4	12.4	59.3	16.5	59.3	16.3	58.0	15.2
Indiana	94.4	19.6	95.4	24.0	96.8	25.6	95.7	24.5
Iowa	89.4	7.3	88.2	8.2	91.6	8.1	90.2	10.9
Kansas	64.7	15.8	73.9	14.4	83.7	14.7	79.6	25.7
Kentucky	88.8	27.9	91.2	32.3	90.8	32.9	92.7	32.6
Louisiana	98.9	10.0	97.6	9.4	98.4	10.1	99.7	12.2
Maine	100.0	86.5	100.0	87.1	100.0	100.0	100.0	100.0
Maryland	^R 82.5	17.5	91.1	21.8	96.9	19.0	94.7	20.7
Massachusetts	80.0	43.3	82.2	37.3	83.2	41.0	83.9	44.0
Michigan	66.8	11.1	71.6	11.7	70.6	13.7	72.2	13.7
Minnesota	97.0	50.0	96.9	41.6	97.6	37.6	95.9	38.0
Mississippi	96.9	36.9	96.6	38.2	97.8	38.8	97.9	47.8
Missouri	84.4	25.8	85.4	23.9	89.7	32.9	87.4	26.1
Montana	92.4	4.0	91.6	5.0	93.5	5.6	92.0	4.5
Nebraska	74.7	24.3	82.0	25.9	82.3	29.5	83.7	31.2
Nevada	77.3	8.5	78.9	8.7	81.1	10.0	79.7	10.0
New Hampshire	99.1	60.6	99.2	57.4	99.3	61.1	99.3	64.0
New Jersey	72.2	34.8	77.3	41.8	79.1	35.1	79.9	36.8
New Mexico	56.4	^R 2.4	57.9	^R 0.7	60.2	0.5	70.2	2.8
New York	NA	14.5	NA	23.8	NA	18.4	NA	18.3
North Carolina	99.7	77.1	99.9	88.4	99.8	66.9	99.9	93.4
North Dakota	84.6	27.0	90.5	21.9	92.9	25.0	90.4	31.7
Ohio	72.2	5.9	76.0	7.2	76.0	9.8	77.3	8.3
Oklahoma	93.0	8.2	91.4	9.0	93.2	11.1	91.5	8.7
Oregon	98.1	23.7	98.6	25.5	98.8	26.6	98.4	26.5
Pennsylvania	72.2	18.5	76.5	25.5	77.8	23.6	76.4	15.5
Rhode Island	97.8	59.4	98.5	90.7	99.3	84.1	100.0	39.4
South Carolina	100.0	86.4	100.0	83.6	100.0	81.4	100.0	81.9
South Dakota	85.0	25.0	84.7	71.4	87.9	42.8	89.9	31.0
Tennessee	94.9	43.8	91.6	44.5	96.8	38.2	96.7	39.8
Texas	66.6	19.5	63.1	17.7	75.9	23.7	71.4	21.5
Utah	82.3	10.2	82.8	9.4	85.6	10.0	84.0	9.4
Vermont	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Virginia	83.7	14.6	90.8	13.0	96.5	13.8	96.9	14.8
Washington	84.4	26.0	87.6	31.3	89.8	31.2	89.1	33.0
West Virginia	51.4	12.8	60.7	14.7	62.3	16.6	60.3	19.2
Wisconsin	93.7	35.6	95.6	46.1	96.1	42.8	95.4	40.8
Wyoming	60.2	0.7	94.2	0.7	94.1	0.6	93.3	0.7
Total	^R 72.2	18.7	74.6	19.3	76.9	20.6	76.3	20.1

See footnotes at end of table.

Table 24. Percentage of Total Deliveries Represented by Onsystem Sales, by State, 1995-1997 — Continued

State	1995							
	Total		December		November		October	
	Commercial	Industrial	Commercial	Industrial	Commercial	Industrial	Commercial	Industrial
Alabama	80.1	23.4	81.1	25.8	72.8	21.6	72.0	22.2
Alaska	79.9	52.1	77.9	60.6	72.9	64.3	69.2	57.8
Arizona	88.4	24.7	87.2	25.1	87.9	21.3	88.4	19.2
Arkansas	96.0	14.2	100.0	9.7	92.6	15.5	91.8	15.3
California	52.1	13.2	50.9	11.2	48.7	11.1	43.4	9.4
Colorado	94.2	8.5	93.8	9.0	93.5	11.3	89.8	11.2
Connecticut	82.0	90.1	91.7	96.1	87.7	99.5	81.6	94.7
Delaware	100.0	67.6	100.0	57.4	100.0	66.6	100.0	69.2
District of Columbia	76.8	—	77.4	—	74.6	—	64.8	—
Florida	97.6	16.2	96.7	17.7	97.4	18.0	97.8	15.2
Georgia	93.5	35.7	97.2	46.2	94.8	37.8	91.1	38.4
Hawaii	100.0	—	100.0	—	100.0	—	100.0	—
Idaho	86.0	2.2	85.5	1.1	85.9	1.3	77.1	0.6
Illinois	50.4	11.0	53.3	14.5	51.8	13.3	46.6	8.4
Indiana	87.8	14.2	93.4	18.2	90.7	16.8	80.9	11.3
Iowa	89.3	8.2	91.2	9.9	89.6	12.0	86.9	10.0
Kansas	73.6	12.9	70.7	15.6	88.7	14.9	76.3	16.1
Kentucky	89.2	27.7	92.7	34.6	91.0	30.6	85.7	28.3
Louisiana	98.1	31.0	97.6	30.7	97.3	32.6	98.6	29.8
Maine	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Maryland	96.9	13.3	97.0	12.0	95.6	6.5	94.7	8.7
Massachusetts	84.9	53.4	79.5	48.1	81.6	53.7	81.0	54.4
Michigan	66.4	12.2	72.5	16.2	68.0	12.1	57.1	7.3
Minnesota	93.7	34.6	94.6	36.3	90.4	40.2	93.8	36.7
Mississippi	97.0	42.4	95.5	40.3	95.6	41.9	98.0	42.8
Missouri	83.3	22.4	85.7	24.3	78.7	20.1	71.8	17.2
Montana	91.6	3.1	91.9	4.6	91.8	3.4	88.8	2.5
Nebraska	77.1	16.5	NA	25.7	NA	17.2	NA	19.5
Nevada	76.5	7.7	75.2	8.1	70.8	7.5	67.8	6.2
New Hampshire	99.2	64.4	99.1	64.6	98.9	69.8	98.5	67.8
New Jersey	86.3	52.9	82.9	55.0	81.9	49.7	72.6	51.2
New Mexico	60.3	6.6	64.4	14.2	62.3	16.2	54.6	12.9
New York	76.2	17.4	79.9	22.2	77.2	20.4	72.3	15.8
North Carolina	92.4	46.9	99.9	94.2	93.6	51.4	88.2	41.4
North Dakota	80.9	18.2	86.5	26.4	80.3	21.8	64.2	12.8
Ohio	76.3	7.4	79.2	8.8	77.9	7.1	69.9	5.2
Oklahoma	85.2	15.2	86.0	9.5	79.8	7.6	74.6	7.0
Oregon	98.1	25.5	98.4	25.2	97.9	24.3	96.7	23.5
Pennsylvania	68.4	16.3	70.6	23.0	48.3	14.0	66.9	12.2
Rhode Island	100.0	11.1	100.0	4.9	100.0	13.7	100.0	17.9
South Carolina	96.4	81.4	100.0	90.0	95.9	78.5	95.3	79.8
South Dakota	86.9	27.6	88.5	31.4	85.8	35.0	82.3	21.4
Tennessee	93.8	47.6	97.2	56.2	96.5	61.0	89.1	47.6
Texas	68.6	25.5	67.9	22.7	70.7	24.9	55.8	23.1
Utah	81.8	11.0	82.8	8.9	80.2	10.4	79.4	11.1
Vermont	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Virginia	84.1	14.8	91.4	17.0	84.4	19.1	71.5	11.0
Washington	91.8	32.9	89.7	29.2	88.7	28.1	87.9	26.4
West Virginia	51.6	14.4	60.8	16.3	51.6	16.0	42.0	14.2
Wisconsin	92.0	46.6	93.6	42.9	93.4	43.7	88.9	44.2
Wyoming	93.6	2.8	NA	NA	NA	NA	NA	NA
Total	76.7	24.5	79.2	25.0	75.6	24.7	69.7	22.5

^R = Revised Data.

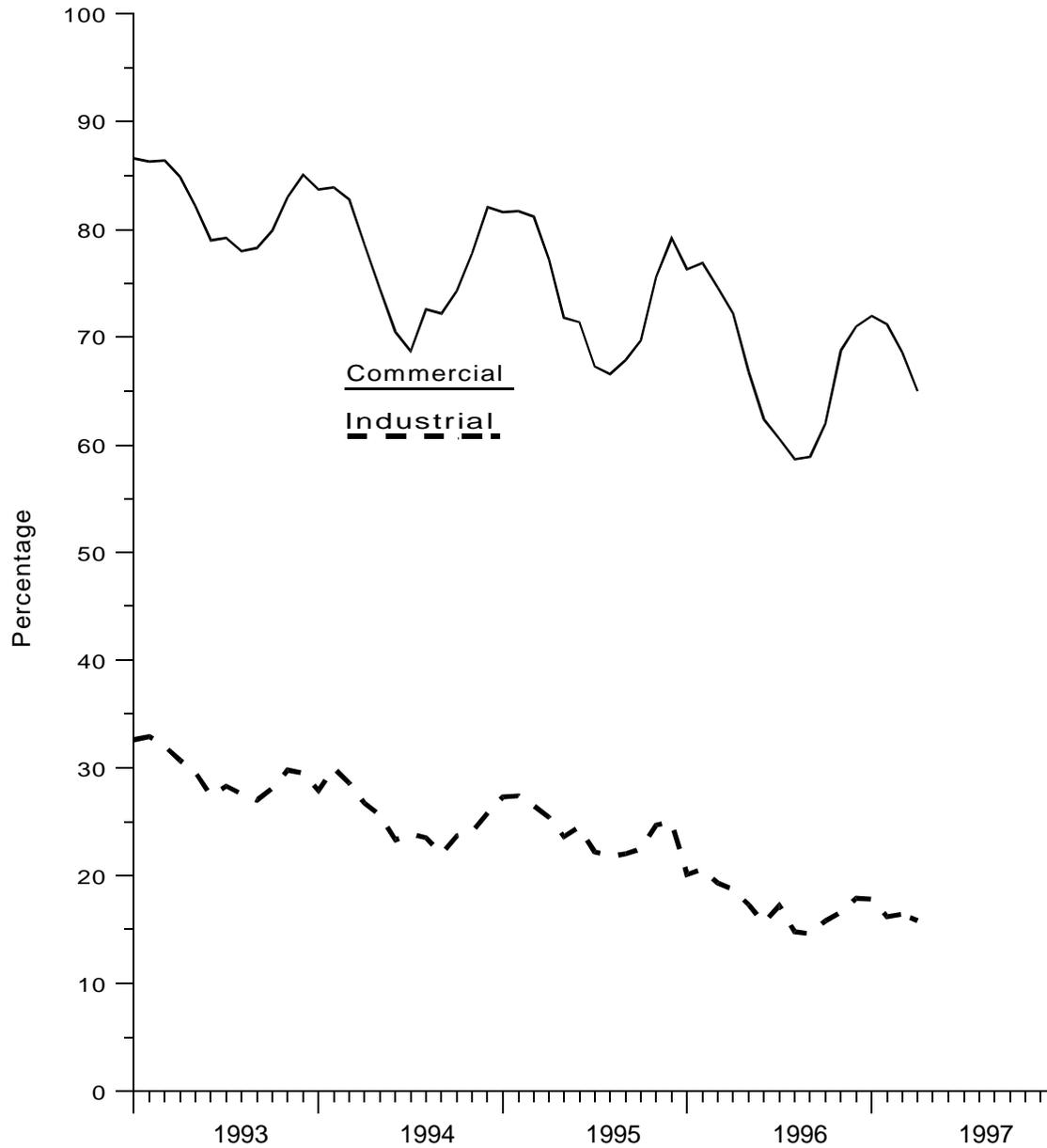
NA = Not Available.

— = Not Applicable.

Notes: Volumes of natural gas reported for the commercial and industrial sectors in this publication include data for both sales and deliveries for the account of others. This table shows the percent of the total State volume that represents natural gas sales to the commercial and industrial sectors. This information may be helpful in evaluating commercial and industrial price data which are based on sales data only. See Appendix C, Statistical Considerations, for a discussion of the computation of natural gas prices.

Source: Form EIA-857, "Monthly Report of Natural Gas Purchases and Deliveries to Consumers."

Figure 6. Percentage of Total Deliveries Represented by Onsystem Sales, 1993-1997



Sources: Energy Information Administration, Form EIA-857, "Monthly Report of Natural Gas Purchases and Deliveries to Consumers" and Form EIA-176, "Annual Report of Natural and Supplemental Gas Supply and Disposition."

Appendix A

Explanatory Notes

The Energy Information Administration (EIA) publishes monthly data for the supply and disposition of natural gas in the United States in the *Natural Gas Monthly* (NGM). The information in this Appendix is provided to assist users in evaluating the monthly data. There is a brief description of what data are estimated and what data are taken from submitted reports, followed by ten technical notes that provide important information for individual data series.

The monthly data are preliminary when initially published. Data shown in this report for the most current

months are taken from the EIA Short-Term Integrated Forecasting System (STIFS) model computations. Each month, EIA staff review the STIFS model estimates and adjust them, if necessary, based on their knowledge of new developments in the natural gas industry. Data for prior months are estimated or taken from submitted reports.

For data that are not taken from STIFS computations, Table A1 below lists the methodologies for deriving the monthly data to be published.

Table A1. Methodology for Reporting Initial Monthly Natural Gas Supply and Disposition Data

Components	Reporting Methodology
Supply and Disposition	
Marketed Production	Reported on Form EIA-895 and Estimated from Historical Data
Extraction Loss	Derived from Marketed Production
Dry Production	Marketed Production minus Extraction Loss
Withdrawals from Storage	Reported on Form EIA-191
Supplemental Gaseous Fuels	Derived from Supply Estimates and Coal Gasification Information
Imports	Estimated from National Energy Board of Canada Information and Liquefied Natural Gas Information
Additions to Storage	Reported on Form EIA-191
Exports	Estimated from Industry Trends and Liquefied Natural Gas Information
Current-Month Consumption	Estimated from Historical Month-to-Month Percent Changes
Consumption by Sector	
Lease and Plant Fuel	Derived from Marketed Production
Pipeline Fuel	Derived from Estimates for Lease and Plant Fuel and Deliveries to Consumers
Residential	Estimated from Reports to the Sample Survey Form EIA-857
Commercial	Estimated from Reports to the Sample Survey Form EIA-857
Industrial	Estimated from Reports to the Sample Survey Form EIA-857
Electric Utilities	Reported on Form EIA-759

The STIFS model contains a series of calculations that produce forecasts for all of the energy industry. It is driven primarily by three sets of inputs or assumptions: estimates of key macroeconomic variables, world oil price assumptions, and assumptions about the severity of weather. The natural gas estimates also reflect other key inputs or assumptions including gas wellhead prices, electric power generation by other energy sources, and U.S. gas import capacity. The macroeconomic variable estimates are produced by DRI/McGraw-Hill but are adjusted by EIA to reflect EIA assumptions about the world price of oil, energy product prices, and other assumptions which may affect the macroeconomic outlook. The EIA publishes forecasts for the energy industry each quarter in the *Short-Term Energy Outlook*.

For production, total supply and disposition, and storage data (Tables 1, 2, and 9), the most current two months shown are estimates produced from STIFS computations, and data that are two months or more prior to the date of publication are estimated or taken from submitted reports. For example, in the March issue of the NGM, February and March data are taken from the STIFS model computations while January and prior months data are estimated from available data sources or reported directly on EIA forms. For consumption data by sector (Table 3), the most current three months shown are estimates produced from STIFS computations while data that are three months prior to date of publication are taken from EIA forms.

Note 1. Nonhydrocarbon Gases Removed

Annual Data

Data on nonhydrocarbon gases removed from marketed production—carbon dioxide, helium, hydrogen sulfide, and nitrogen—are reported by State agencies on the voluntary Form EIA-627. For 1995, of the 33 producing States, 22 reported data on nonhydrocarbon gases removed. The 22 States accounted for 60 percent

of total 1995 gross withdrawals. Of the 22 States reporting nonhydrocarbon gases removed, 11 reported zero values: Alaska, Arizona, Arkansas, Colorado, Illinois, Maryland, Missouri, Nevada, New York, South Dakota, and Virginia. The ten States reporting volumes greater than zero are Alabama, California, Florida, Kentucky, Mississippi, Nebraska, New Mexico, North Dakota, Texas, and Wyoming. In addition, Kansas, Louisiana, Montana, and Oklahoma, which together accounted for 40 percent of gross withdrawals, did not report nonhydrocarbon gases removed separately. However, their gross withdrawal data excluded all or most of the nonhydrocarbon gases removed on leases. No estimates are made for States not reporting nonhydrocarbon gases removed.

Preliminary Monthly Data

All monthly data are considered preliminary until after publication of the *Natural Gas Annual* for the year in which the report month falls. Three States report monthly data on nonhydrocarbon gases removed: Alabama, Texas, and Mississippi. Monthly data for California, Colorado, Florida, New Mexico, North Dakota, and Wyoming are estimated based on annual data reported on Form EIA-627. Nonhydrocarbon gases as an annual percentage of gross withdrawals reported by each of the six States is applied to each State's monthly gross withdrawal data to produce an estimate of nonhydrocarbon gases removed.

Final Monthly Data

Beginning with report year 1990, States filing the Form EIA-627, "Annual Quantity and Value of Natural Gas Report," were asked to supply monthly breakdowns of all data previously reported on an annual basis. The sums of the reported figures were used to calculate monthly volumes.

For States not supplying monthly data on the EIA-627, final monthly data are calculated by proportionally allocating the differences between total annual data reported on the Form EIA-627 and the sum of monthly data (January-December).

Note 2. Supplemental Gaseous Fuels

Annual Data

Annual data are published from Form EIA-176.

Preliminary Monthly Data

All monthly data are considered preliminary until after the publication of the *Natural Gas Annual* for the year in which the report month falls. Monthly estimates are based on the annual ratio of supplemental gaseous fuels to the sum of dry gas production, net imports, and net withdrawals from storage. This ratio is applied to the monthly sum of these three elements to compute a monthly supplemental gaseous fuels figure.

Final Monthly Data

Monthly data are revised after publication of the *Natural Gas Annual*. Final monthly data are estimated based on the revised annual ratio of supplemental gaseous fuels to the sum of dry gas production, net imports, and net withdrawals from storage. This ratio is applied to the revised monthly sum of these three elements to compute final monthly data.

Note 3. Production

Annual Data

Natural gas production data are collected from 33 gas-producing States on Form EIA-627 which includes gross withdrawals, vented and flared, repressuring, nonhydrocarbon gases removed, fuel used on leases, marketed production (wet), and extraction loss. The U.S. Minerals Management Service (MMS) also supplies data on the quantity and value of natural gas production on the Gulf of Mexico and Outer Continental Shelf. No adjustments are made to the data.

Estimated Monthly Data

State marketed production data for a particular month are estimated if data are unavailable at the time of publication. The data are estimated based on final monthly data reported on the Form EIA-627 for the previous year.

Estimates for total U.S. marketed production are based on final monthly data reported on the Form EIA-627 for the previous year. State estimates for non-hydrocarbon gas removed, gas used for repressuring, and gas vented and flared are based on the ratio of the item to gross withdrawals as reported on the EIA-627. These ratios are applied to the month's estimates for gross withdrawals to calculate figures for non-hydrocarbon gases removed, gas used for repressuring, and gas vented and flared. Estimates for gross withdrawal data are calculated from final monthly data filed on Form EIA-627 for the previous year.

Preliminary Monthly Data

All monthly data are considered preliminary until after publication of the *Natural Gas Annual* for the year in which the report month falls. Preliminary monthly data are published from reports from the Form EIA-895 and the MMS. Volumetric data are converted, as necessary, to a standard 14.73 psia pressure base. Data are revised as Table 7 monthly data are updated.

Final Monthly Data

Final monthly data for 1993, 1994, and 1995 are the sums of monthly data reported on the annual Form EIA-627, "Annual Quantity and Value of Natural Gas Report." For prior years, the differences between each State's annual production data reported on the EIA-627 and the sum of its monthly IOGCC reports for the year were allocated proportionally to the monthly IOGCC data.

Note 4. Imports and Exports

Annual Data and Final Monthly Data

Annual and final monthly data are published from the Office of Fossil Energy, U.S. Department of Energy, *Natural Gas Imports and Exports*, which requires data to be reported each quarter by month for the calendar year.

Preliminary Monthly Data - Imports

Preliminary monthly import data are based on data from the National Energy Board of Canada and responses to informal industry contacts and EIA estimates. Preliminary data are revised after the publication of the article "U.S. Imports and Exports of Natural Gas" for the calendar year.

Preliminary Monthly Data - Exports

Preliminary monthly export data are based on historical data from the Office of Fossil Energy, U.S. Department of Energy, *Natural Gas Imports and Exports*, informal industry contacts, and information gathered from natural gas industry trade publications. Preliminary monthly data are revised after publication of "U.S. Imports and Exports of Natural Gas" for the calendar year in which the report month falls.

Note 5. Consumption

All Annual Data

All consumption data except electric utility data are from the Form EIA-857 and Form EIA-176. No adjustments are made to the data. Electric utility data are reported on Form EIA-759.

Monthly Data

All monthly data are considered preliminary until after publication of the *Natural Gas Annual*.

Total Consumption

Preliminary Monthly Data

The most current month estimate is calculated based on the arithmetic average change from the previous month for the previous 3 years. The following month this estimate is revised by summing the components (pipeline fuel, lease and plant fuel, and deliveries to consumers).

Final Monthly Data

Monthly data are revised after publication of the *Natural Gas Annual*. Final monthly total consumption is obtained by summing its components.

Residential, Commercial, and Industrial Sector Consumption

Preliminary Monthly Data

Preliminary monthly residential, commercial, and industrial data are from Form EIA-857. See Appendix C, "Statistical Considerations," for a detailed explanation of sample selection and estimation procedures.

Average Price of Deliveries to Consumers

Price data are representative of prices for gas sold and delivered to residential, commercial, and industrial consumers. These prices do not reflect average prices of natural gas transported to consumers for the account of third parties or "spot-market" prices.

Final Monthly Data

Monthly data are revised after the publication of the *Natural Gas Annual*. Final monthly data are estimated by allocating annual consumption data from the Form EIA-176 to each month in proportion to monthly volumes reported in Form EIA-857.

Electric Utility Sector Consumption

All Monthly Data

Monthly data published are from Form EIA-759.

Pipeline Fuel Consumption

Preliminary Monthly Data

Preliminary data are estimated based on the pipeline fuel consumption as an annual percentage of total consumption from the previous year's Form EIA-176. This percentage is applied to each month's total consumption figure to compute the monthly estimate.

Final Monthly Data

Monthly data are revised after the publication of the *Natural Gas Annual*. Final monthly data are based on the revised annual ratio of pipeline fuel consumption to total consumption from the Form EIA-176. This ratio is applied to each month's revised total consumption figure to compute final monthly pipeline fuel consumption estimates.

Lease and Plant Fuel Consumption

Preliminary Monthly Data

Preliminary monthly data are estimated based on lease and plant fuel consumption as an annual percentage of marketed production. This percentage is applied to each month's marketed production figure to compute estimated lease and plant fuel consumption.

Final Monthly Data

Monthly data are revised after publication of the *Natural Gas Annual*. Final monthly plant fuel data are based on a revised annual ratio of lease and plant fuel consumption to marketed production from Form EIA-176. This ratio is applied to each month's revised marketed production figure to compute final monthly plant fuel consumption estimates. Final monthly lease data are collected on the Form EIA-627 and estimates from the Form EIA-176. See the *Natural Gas Annual* for a complete discussion of this process.

Note 6. Extraction Loss

Annual Data

Extraction loss data are calculated from filings of Form EIA-64A, "Annual Report of the Origin of Natural Gas Liquids Production." For a fuller discussion, see the *Natural Gas Annual*.

Preliminary Monthly Data

Preliminary data are estimated based on extraction loss as an annual percentage of marketed production. This percentage is applied to each month's marketed production to estimate monthly extraction loss.

Final Monthly Data

Monthly data are revised after the publication of the *Natural Gas Annual*. Final monthly data are estimated by allocating annual extraction loss data to each month based on its total natural gas marketed production.

Note 7. Natural Gas Storage

Underground Natural Gas Storage

All monthly data concerning underground storage are published from the EIA-191. A new EIA-191 became effective in January 1994. Injection and withdrawal data from the EIA-191 survey are adjusted to correspond to data from Form EIA-176 following publication of the *Natural Gas Annual*.

Underground and Liquefied Natural Gas Storage

The final monthly and annual storage and withdrawal data for 1991 through 1995 shown in Table 2 include both underground and liquefied natural gas (LNG) storage. Underground storage data are obtained from the EIA-191 and EIA-176 surveys in the manner described earlier. Annual data on LNG additions and withdrawals are taken from Form EIA-176. Monthly data are estimated by computing the ratio of each month's underground storage additions and withdrawals to annual underground storage additions and withdrawals and applying it to annual LNG data.

Note 8. Average Wellhead Value

Annual Data

Form EIA-627 requests State agencies to report the quantity and value of marketed production. When complete data are unavailable, the form instructs the State agency to report the available value and the quantity of marketed production associated with this value. A number of States reported volumes of production and associated values for other than marketed production. In addition, information for several States which were unable to provide data was obtained from Form EIA-176. It should be noted that Form EIA-176 reports a fraction of State production. The imputed value of marketed production in each State is calculated by dividing the State's reported value by its associated production. This unit price is then applied to the quantity of the State's marketed production to derive the imputed value of marketed production.

Initial Monthly Data

An initial estimate is calculated based on the statistical relationship between U.S. monthly wellhead gas prices and the monthly composite spot wellhead prices published in the *Natural Gas Week*. The estimate is prepared using the same methodology that generates monthly gas price estimates for EIA's *Short-Term Energy Outlook*. The initial estimate is the latest monthly estimate presented.

Preliminary Monthly Data

A preliminary estimate of the U.S. gas price is made each month based on the change in the production-

weighted gas price from five States: Kansas, Mississippi, New Mexico, Oklahoma, and Texas. Gas prices for these five States are used because both their gas production and value represent a substantial sample of the U.S. gas production and value (roughly 50 percent), and their prices are readily available and provide a consistent series. The latest preliminary U.S. gas price estimate is calculated by multiplying the preliminary U.S. gas price estimate for the prior month by the ratio of the five States' gas price for the latest month to that of the prior month. This estimate replaces the initial gas price estimate.

Final Monthly Data

Preliminary monthly gas price data for Kansas, Mississippi, New Mexico, Oklahoma, and Texas are replaced by final monthly data that are adjusted to match the annual prices published in the *Natural Gas Annual* for each State. A revised set of the monthly U.S. gas price estimates are derived based on the monthly change in the production-weighted prices for these five States and adjusted to match the U.S. gas price published in the *Natural Gas Annual*.

Note 9. Balancing Item

The "balancing item" category represents the difference between the sum of the components of natural gas supply and the sum of the components of natural gas disposition. These differences may be due to quantities lost or to the effects of data reporting problems. Reporting problems include differences due to the net result of conversions of flow data metered at varying temperatures and pressure bases and converted to a standard temperature and pressure base; the effect of variations in company accounting and billing practices; differences between billing cycles and calendar periods; and imbalances resulting from the merger of data reporting systems, which vary in scope, format, definitions, and type of respondents.

Annual Data

Annual data are from the *Natural Gas Annual*. For an explanation of the methodology involved in calculating annual "balancing item" data, see the *Natural Gas Annual*.

Preliminary Monthly Data

Preliminary monthly data in the "balancing item" category are calculated by subtracting dry gas production, withdrawals from storage, supplemental gaseous fuels, and imports from total supply/disposition.

Note 10. Heating Degree-Days

Degree-days are relative measurements of outdoor air temperature. Heating degree-days are deviations of the mean daily temperature below 65 degrees Fahrenheit. A weather station recording a mean daily temperature of 40 degrees Fahrenheit would report 25 heating degree-days. There are several degree-day data bases maintained by the National Oceanic and Atmospheric Administration. The information published in the *Natural Gas Monthly* is developed by the National Weather Service Climate Analysis Center, Camp Springs, Maryland.

The data are available weekly with monthly summaries and are based on mean daily temperatures recorded at about 200 major weather stations around the country. The temperature information recorded at these weather stations is used to calculate Statewide degree-day averages weighted by gas home customers. The State figures are then aggregated into Census Divisions and into the national average.

Appendix B

Data Sources

The data in this publication are taken from survey reports authorized by the U.S. Department of Energy (DOE), Energy Information Administration (EIA) and by the Federal Energy Regulatory Commission (FERC). The EIA is the independent statistical and analytical agency within the DOE. The FERC is an independent regulatory commission within the DOE which has jurisdiction primarily in the regulation of electric utilities and the interstate natural gas industry. The EIA conducts and processes some of the surveys authorized by the FERC. Data are collected from two annual surveys and four monthly surveys.

The annual reports are the Form EIA-176, a mandatory survey of all companies that deliver natural gas to consumers or that transport gas across State lines, and the Form EIA-627, a voluntary survey completed by energy or conservation agencies in the gas-producing States.

The monthly reports include two surveys of the natural gas industry and two surveys of the electric utility industry. The natural gas industry survey is the Form EIA-191 filed by companies that operate underground storage facilities, and the Form EIA-857 filed by a sample of companies that deliver natural gas to consumers. The electric utility industry surveys are the Form EIA-759 filed by all generating electric utilities and the Form FERC-423 filed by fossil fueled plants. Responses to these four monthly surveys are mandatory.

A description of the survey respondents, reporting requirements, and processing and editing of the data is given on the following pages for each of the surveys.

Form EIA-176, "Annual Report of Natural and Supplemental Gas Supply and Disposition"

Survey Design

The original version of Form EIA-176 was approved in 1980 with a mandatory response requirement. Prior to 1980, published data were based on voluntary responses to Bureau of Mines, U.S. Department of the Interior predecessor Forms BOM-6-1340-A and BOM-6-1341-A of the same title.

In 1982, the scope of the revised EIA-176 survey was expanded to collect the number of electric utility consumers in each State, volumes of gas transported to industrial and electric utility consumers, detailed information on volumes transported across State borders by the respondent for others and for the responding company, and detailed information on other disposition. These changes were incorporated to provide more complete survey information with a minimal change in respondent burden. The 1982 version of the Form EIA-176 continues to be the basis for the current version of this form.

In 1988, the Form EIA-176 was revised to include data collection for deliveries of natural gas to commercial and industrial consumers for the account of others. A short version of Form EIA-176 was also approved in 1988. Companies engaged in purchase and delivery activities but not in transportation and storage activities may file the short form. Usually, these companies are municipals handling small volumes of gas.

In 1990, the Form EIA-176 was revised to include more detailed information for gas withdrawn from storage facilities, gas added to storage facilities, deliveries of company-owned natural gas and natural gas transported for the account of others. The revised form was approved for use beginning with report year 1990.

Upon the Office of Management and Budget's approval in 1993, the Form EIA-176 was again revised. All deliveries to consumers are now categorized as firm or interruptible. Commercial and industrial consumers are further categorized as nonutility power producers or as those excluding nonutility power producers.

Data reported on this form are no longer considered proprietary. Response to the form continues to be mandatory.

Survey Universe and Response Statistics

The Form EIA-176 is mailed to all identified interstate and intrastate natural gas pipeline companies, investor and municipally owned natural gas distributors, underground natural gas storage operators, synthetic natural gas plant operators, and field, well, or processing plant operators that deliver natural gas directly to consumers (including their own industrial facilities) and/or that transport gas to, across, or from a State border through field or gathering facilities.

Each company and its parent company or subsidiaries were required to file if they met the survey specifications. The original mailing in 1996 for report year 1995 totaled 1,991 questionnaire packages. To this original mailing, 11 names were added and 61 were deleted as a result of the survey processing. Additions were the result of comparisons of the mailing list to other survey mailing lists. Deletions resulted from post office returns and determinations that companies were out of business, sold, or not within the scope of the survey. After all updates, the survey universe was 1,941 responses from approximately 1,800 companies.

Following the original mailing, second request mailing, and nonrespondents followup, 1,911 responses were entered into the data base, and there were 30 nonrespondents.

Summary of Form EIA-176 Data Reporting Requirements

The EIA-176 is a multiline schedule for reporting all supplies of natural gas and supplemental gaseous fuels

and their disposition within the State indicated. Respondents file completed forms with EIA in Washington, DC. Data for the report year are due by April 1 of the following year. Extensions of the filing deadline for up to 45 days are granted to any respondent on request.

All natural gas and supplemental gaseous fuels volumes are reported on a physical custody basis in thousand cubic feet (Mcf), and dollar values are reported to the nearest whole dollar. All volumes are reported at 14.73 pounds per square inch absolute pressure (psia) and 60 degrees Fahrenheit.

Routine Form EIA-176 Edit Checks

A series of manual and computerized edit checks are used to screen the Form EIA-176. The edits performed include validity, arithmetic, and analytical checks.

The incoming forms are reviewed prior to keying. This prescan determines if the respondent identification (ID) number and the company name and address are correct, if the data on the form appear complete and reasonable, and if the certifying information is complete.

Manual checks on the data are also made. Each form is prescanned to determine that data were reported on the correct lines. The flow of gas through interstate pipelines is checked at the company level to ensure that each delivery from a State is matched with a corresponding receipt in an adjoining State.

After the data are keyed, computer edit procedures are performed. Edit programs verify the report year, State code, and arithmetic totals. Further tests are made to ensure that all necessary data elements are present and that the data are reasonable and internally consistent. The computerized edit system produces error listings with messages for each failed edit test. When problems occur, respondents are contacted by telephone and required to file amended forms with corrected data.

Other EIA Publications Referencing Form EIA-176

Data from Form EIA-176 are also published in the *Natural Gas Annual*.

Form EIA-627, "Annual Quantity and Value of Natural Gas Report"

Survey Design

Beginning with 1980, natural gas production data previously obtained on an informal basis from State conservation agencies were collected on Form EIA-627. This form was designed by EIA to collect annual natural gas production data from the appropriate State agencies under a standard data reporting system within the limits imposed by the diversity of data collection systems of the various producing States. The form was redesigned in 1990 to collect monthly breakdowns of all annual data elements. Data are not considered proprietary. It was also designed to avoid duplication of effort in collecting production and value data by producing States and to avoid an unnecessary respondent burden on gas and oil well operators. In 1993, value and associated volume of marketed production by month was added to the EIA-627.

Survey Universe and Response Statistics

Form EIA-627 is mailed to energy or conservation agencies in all 33 natural gas producing States. All producing States participate voluntarily in the EIA-627 survey by filing the completed form or by responding to telephone contacts. For 1995, data on the quantities of nonhydrocarbon gases removed were reported by the appropriate agencies of 22 of the 33 States. These 22 States accounted for 63 percent of total 1995 gross withdrawals. In addition, gross withdrawal data from Kansas, Louisiana, Montana, and Oklahoma, which together accounted for 40 percent of total production, excluded all or most of the nonhydrocarbon gases removed on leases.

Summary of Form EIA-627 Data Reporting Requirements

Form EIA-627 is a multipart annual form that collects data on the monthly and annual production volume of natural gas (including gross withdrawals from both gas and oil wells); volumes returned to formation for repressuring, pressure maintenance, and cycling; quantities vented and flared; quantities of nonhydrocarbon gases removed; quantities of fuel used on leases; marketed production; the value of marketed production; and the number of producing gas wells.

Respondents are asked to report all volumes in million cubic feet at the State's standard pressure base and at

60 degrees Fahrenheit. All dollar values are reported in thousands.

Routine Form EIA-627 Edit Checks

Each filing of Form EIA-627 is manually checked for reasonableness and mathematical accuracy. Information on the forms is compared to totals of monthly data reported to the Interstate Oil and Gas Compact Commission (see Appendix B, "Data Sources"). Volumes are converted, as necessary, to a standard 14.73 psia pressure base. Reasonableness of data is assessed by comparing reported data to the previous year's data. State agencies are contacted by telephone to correct errors. Amended filings or resubmissions are not a requirement, since participation in the survey is voluntary.

Other EIA Publications Referencing Form EIA-627

Data from Form EIA-627 are also published in the EIA publication, *Natural Gas Annual*.

Form EIA-895, "Monthly Quantity of Natural Gas Report"

Survey Design

Data collection on the Form EIA-895 began in January 1995. This form was designed to replace the Interstate Oil and Gas Compact Commission (IOGCC) form, "Monthly Report of Natural Gas Production." In 1994, the IOGCC decided to discontinue collection of their form. All gas producing States are requested to report on the Form EIA-895; a voluntary report. Data are reported by State agencies. The form was designed to provide a standard reporting system, to the extent possible, for the natural gas data reported by the States. Data are not considered proprietary.

Survey Universe and Response Statistics

Reports on State production are due 20 days after the end of the report month. (In most cases, the data are not available to the States until after this time period. Therefore, States are requested to send the report within 80 days after the end of the report month.)

Summary of Data Requirements

The Form EIA-895 consists of seven questions on one page, and requires volumetric information on gross production (gas and oil wells individually), gas used for repressuring, gas vented and flared, non-hydrocarbon gases removed, natural gas used as fuel on leases, and marketed production.

Routine Edit Checks

State data are checked for reasonableness and, in the event of problems, the appropriate State agency is called.

EIA-191 Survey, "Underground Natural Gas Storage Report"

Survey Design

The Form EIA-191, "Underground Natural Gas Storage Report," was revised effective January 1994. Among the changes from the form used from 1991 through 1993 are a distinction between a monthly and annual survey. Prior to 1991, data on the storage of natural gas were collected on a survey jointly implemented in 1975 by the Federal Power Commission (FPC), the Federal Energy Administration (FEA), and the Bureau of Mines (BOM) as the FPC-8/ FEA-G-318 system. The data received on both the FPC-8 and FEA-G-318 were computerized and aggregated by FPC. The form was previously revised in 1991 to include storage data by State, field, and reservoir.

At the beginning of 1979, the EIA assumed responsibility for the collection, processing, and publication of the data gathered in the survey. Form FEA-G-318 was renewed on July 1, 1979, as Form EIA-191 and the survey was retitled the FPC-8/EIA-191 Survey (Figure D4 shows the EIA-191). Form FPC-8 was renewed in December 1985 and the survey retitled FERC-8/EIA-191 Survey. The forms were not merged because of FERC's stated desire to maintain the separate identity of the FERC-8 for administrative reasons. In September 1995, the FERC discontinued the reporting requirements of Form FERC-8. FERC jurisdictional firms will continue to file Form EIA-191.

Survey Universe and Response Statistics

The 103 companies that operate underground facilities will file the Form EIA-191. Of these companies, 42 are subject to the jurisdiction of FERC and are required to report data on Form EIA-191.

The response rate as of the filing deadline is approximately 20 percent. Data from the remaining 80 percent of respondents are received in writing and/or by telephone within 3 to 4 days after the filing deadline. All data supplied by telephone are subsequently filed in writing, generally within 15 days of the filing deadline. The final response rate is 100 percent.

Summary of EIA-191 Data Reporting Requirements

The EIA-191 monthly schedule contains current month and prior month's data on the total quantities of gas in storage, injections and withdrawals, the location (including State and county, field, reservoir) and peak day withdrawals during the reporting period. Prior month's data are required only when data are revised. Information on co-owners of storage fields has been eliminated. The annual schedule contains type of facility, storage field capacity, maximum deliverability and pipelines to which each field is connected. The annual schedule is filed with the January submission.

Collection of the survey is on a custody basis. Information requested must be provided within 20 days after the first day of each month. Twelve reports are required per calendar year. Respondents are required to indicate whether the data reported are actual or estimated. For most of the estimated filings, the actual data or necessary revisions are reflected in the prior month section of the monthly form. Actual data on natural gas injections and withdrawals from underground storage are based on metered quantities. Data on quantities of gas in storage and on storage capacity represent, in part, reservoir engineering evaluations. All volumes are reported at 14.73 psia and 60 degrees Fahrenheit.

Routine Form EIA-191 Edit Checks

Data received on Form EIA-191 are entered into the survey processing system. The survey's five principal data elements (total, base, working gas in storage, injections, and withdrawals) receive a preliminary visual edit to eliminate and correct obvious errors or omissions. Respondents are required to refile reports containing any inconsistencies or errors.

Other EIA Publications Referencing Form EIA-191

The EIA publication *Monthly Energy Review* and *Winter Fuels Report* contain data from the EIA-191 survey.

“Quarterly Natural Gas Import and Export Sales and Price Report”

Survey Design

The collection of data covering natural gas imports and exports was begun in 1973 by the Federal Power Commission (FPC). On October 1977, FPC ceased to exist and its data collection functions were transferred to the Federal Energy Regulatory Commission (FERC) within the Department of Energy (DOE). From 1979 to 1994, the Energy Information Administration (EIA) has had the responsibility for collecting Form FPC-14, "Annual Report for Importers and Exporters of Natural Gas." Data are not considered proprietary. The Form FPC-14 was discontinued in 1995.

Beginning in 1995, import and export data are taken from the "Quarterly Natural Gas Import and Export Sales and Price Report." This report is prepared by the Office of Fossil Energy, U.S. Department of Energy, based on information submitted by all firms having authorization to import or export natural gas.

Survey Universe and Response Statistics

All companies are required, as a condition of their authorizations to import or export natural gas, to file quarterly reports with the Office of Fossil Energy. These data are collected as part of its regulatory responsibilities. The data are reported at a monthly level of detail. Data reported on the Form FPC-14 represented physical movements of natural gas. Data collected by the Office of Fossil Energy are reported on an equity (sales) basis. For 1994 and earlier years, comparisons of the data from the two sources may show differences because reporting requirements were different.

Prior to 1995, the Form FPC-14 was filed annually by each organization or individual having authority to import and export natural gas regardless of whether any activity took place during the reporting year. Authorizations to import and export was originally granted by the FPC. In 1977, the authority to grant authorizations transferred to the Economic Regulatory Administration (ERA). It now resides with the Office of Fossil Energy, U.S. Department of Energy.

Routine Edit Checks

Respondents are required to certify the accuracy of all data reported. The data are checked for reasonableness and accuracy. If errors are found, the companies are required to file corrected data. The data are compared with data reported by the National Energy Board of Canada and are published quarterly. All natural gas volumes in this report are expressed at a pressure base of 14.73 pounds per square inch absolute and temperature of 60 degrees Fahrenheit, except as noted. All import and export prices are in U.S. dollars and, except for LNG exports, are those paid at the U.S. border. LNG export prices are those paid at the point of sale and delivery in Yokohama, Japan.

Form EIA-857, “Monthly Report of Natural Gas Purchases and Deliveries to Consumers”

Survey Design

The original Form EIA-857 was approved for use in December 1984. Response to the Form EIA-857 is mandatory on a monthly basis. Data collected on the Form EIA-857 cover the 50 States and the District of Columbia and include both price and volume data. Data are considered proprietary.

Survey Universe and Response Statistics

A sample of 382 natural gas companies, including interstate pipelines, intrastate pipelines, and local distribution companies, report to the survey. The sample was selected independently for each of the 50 States and the District of Columbia from a frame consisting of all respondents to Form EIA-176 who reported deliveries of natural gas to consumers in the residential, commercial, or industrial sectors. Each selected company is required to complete and file the Form EIA-857 on a monthly basis. Initial response statistics on a monthly basis are as follows: responses received by due date, approximately 50 percent, and responses received after follow-up, 100 percent. Virtually all are received in time for incorporation in the current

month's processing cycle. When a response is extremely late, and the company represents less than 25 percent of the natural gas volumes delivered by all sampled companies in the State, values are imputed as described in Appendix C. When the company's submission is eventually received, the submitted data are used for future processing and revisions.

The Form EIA-857 is a monthly sample survey of firms delivering natural gas to consumers. It provides data that are used to estimate monthly sales of natural gas (volume and price) by State and monthly deliveries of natural gas on behalf of others (volume) by State to three consumer sectors - residential, commercial, and industrial. (Monthly deliveries and prices of natural gas to electric utilities are reported on the Form FERC-423, "Monthly Report of Cost and Quality of Fuels for Electric Plants," and the Form EIA-759, "Monthly Power Plant Report.") See Appendix C for a discussion of the sample design and estimation procedures.

Summary of Form EIA-857 Data Reporting Requirements

Data collected monthly on the Form EIA-857 on a State level include the volume and cost of purchased gas, the volume and cost of natural gas consumed by sector (residential, commercial, and industrial), and the average heat content of all gas consumed. Respondents file completed forms with EIA in Washington, DC on or before the 30th day after the end of the report month.

All natural gas volumes are reported in thousand cubic feet at 14.73 psia at 60 degrees Fahrenheit and dollar values are reported to the nearest whole dollar.

Routine Form EIA-857 Edit Checks

A series of manual and computerized edit checks are used to screen the Form EIA-857. The edits performed include validity and analytical checks.

Appendix C

Statistical Considerations

The monthly sales (volume and price) and monthly deliveries (volume) of natural gas to residential, commercial and industrial consumers presented in this report by State are estimated from data reported on the Form EIA-857, "Monthly Report of Natural Gas Purchases and Deliveries to Consumers." (See Appendix B for a description of this Form.) These estimations must be made from the reported data since the Form EIA-857 is a sample survey. A description of the sample design and the estimation procedures is given below.

Sample Design

The Form EIA-857 is a monthly sample survey of companies delivering natural gas to consumers. It includes inter- and intrastate companies, and producers, as well as local distribution companies. The survey provides data that are used each month to estimate the volume of natural gas delivered and the price for onsystem sales of natural gas by State to three consumer sectors--residential, commercial, and industrial. Monthly deliveries and prices of natural gas to electric utilities are reported on the Form EIA-759, "Monthly Power Plant Report," and the Form FERC-423, "Monthly Report of Costs and Quality of Fuels for Electric Plants."

Sample Universe. The sample currently in use was selected from a universe of 1,538 companies. These companies were respondents to the Form EIA-176, "Annual Report of Natural and Supplemental Gas Supply and Disposition," for reporting year 1995 who reported sales or deliveries to consumers in the residential, commercial or industrial sectors. (See Appendix B for a description of the Form EIA-176.)

Sampling Plan. The goal was a sample that would provide estimates of monthly natural gas consumption by the three consuming sectors within each State and the District of Columbia. A stratified sample using a single stage and systematic selection with probability proportional to size was designed. The measure of size was the volume of natural gas physically delivered in the State to the three consuming sectors by the company in 1995. There were two strata--companies selected with certainty and companies selected under the systematic probability proportional to size design.

Initial calculations showed that a 25 percent sample of companies would yield reasonably accurate estimates. The sample was selected independently in each State, resulting in a national total of 387 respondent companies. Unlike previous years, no mergers or acquisitions were uncovered as a result of the initial mail-out. Therefore there was no need for either substitution of respondent companies or a reduction in the total number of respondents.

Certainty Stratum. Since estimates were needed for each of the 50 States and the District of Columbia, the strata were established independently within each State. In 16 States and the District of Columbia where sampling was not feasible due to small numbers of companies and/or small volumes of gas deliveries, all companies were selected. The 16 States were: Alaska, Connecticut, Delaware, Hawaii, Idaho, Maine, North Dakota, New Hampshire, New Jersey, Nevada, Oregon, Rhode Island, South Dakota, Utah, Vermont, and Washington.

For each of the remaining States, the total volumes of industrial sales and deliveries and of the combined residential/commercial sales and deliveries were determined. Companies with natural gas deliveries to the industrial sector or to the combined residential/commercial sector above a certain level were selected with certainty. Since a few large companies often account for most of the natural gas delivered within a State, this ensures those companies' inclusion in the sample. The formula for determining certainty was applied independently in the two consumer sectors--the industrial and the combined residential/commercial. These selected companies, together with the companies in the jurisdictions discussed where sampling was not feasible, formed the certainty stratum.

All companies with natural gas deliveries in sector j greater than the cut-off value (C_j) were included in the certainty stratum. The formula for C_j was:

$$C_j = \frac{X_j}{2n} \quad (1)$$

where:

C_j = cutoff value for consumer sector j,

n = target sample size to be selected for the State, 25 percent of the companies in the State,

X_{ij} = the annual volume of natural gas deliveries by company i to customers in consumer sector j,

X_i = the sum within State of annual gas volumes for company i,

X_j = the sum within State of annual gas volumes in consumer sector j,

$X_{..}$ = the sum within State of annual gas volumes in all consumer sectors.

Noncertainty Stratum. All other companies formed the noncertainty stratum. They were systematically sampled with probability proportional to size. The measure of size for each company was the total volume of gas sales to all consumer sectors (X_i). The number of companies to be selected from the noncertainty stratum was calculated for each State, with a minimum of 2.

The formula for selecting the number of noncertainty stratum companies was:

$$m = n \frac{X_2}{X_{..}} \quad (2)$$

where:

m = the sample size for the noncertainty stratum within a State,

X_2 = the sum within State of the X_i for all companies in the noncertainty stratum.

Companies were listed in ascending order according to their measure of size and then a cumulative measure of size in the stratum was calculated for each company. The cumulative measure of size was the sum of the measures of size for that company and all preceding companies on the list. An interval of width I for selecting the companies systematically was calculated using ($I = \frac{X_2}{m}$). A uniform random number R was selected

between zero and I. The first sampled company was the first company on the list to have a cumulative measure of size greater than R. The second company selected was the first company on the list to have a cumulative measure of size greater than $R + I$. $R + I$ was increased again by I to determine the third company to be selected. This procedure was repeated until the entire sample was drawn.

Subgroups. In eight States, the noncertainty stratum was divided into subgroups to ensure that gas in each consumer sector could be estimated. The systematic sample with probability proportional to size design described above was applied independently in each subgroup. The methods for determining the subgroup sample size and calculating the subgroup interval for sample selection were the same as the methods described above for the noncertainty stratum, except that X_2 was the sum within State of the X_i for only those companies in the subgroup.

These subgroups were defined only for the purpose of sample selection. They are:

California: companies handling only industrial gas and all other companies.

Iowa: companies handling industrial gas and companies delivering only to residential or commercial customers.

Louisiana: companies handling only industrial gas and all other companies, with the latter being further subdivided according to size. The larger group is comprised of all companies with total deliveries of at least 200 million cubic feet while the smaller group consists of companies with less than that volume of delivered gas (three subgroups).

Oklahoma: Companies delivering less than 500 million cubic feet of gas and those delivering more than that volume.

Texas: companies handling only residential/commercial gas, companies handling only industrial gas, and all other companies (three subgroups).

Estimation Procedures

Estimates of Volumes. A ratio estimator is applied to the volumes reported in each State by the sampled companies to estimate the total gas sales and deliveries for the State. Ratio estimators are calculated for each consumer sector—residential, commercial, and industrial—in each State where companies are sampled.

The following annual data are taken from the most recent 1995 submissions of Form EIA-176:

The formula for calculating the ratio estimator (E_{vj}) for the volume of gas in consumer sector j is:

$$E_{vj} = \frac{Y_j}{Y'_j} \quad (3)$$

where:

Y_j = the sum within State of annual gas volumes in consumer sector j for all companies,

Y'_j = the sum within State of annual gas volumes in consumer sector j for those companies in the sample.

The ratio estimator is applied as follows:

$$V_j = y_j \times E_{vj} \quad (4)$$

where:

V_j = the State estimate of monthly gas volumes in consumer sector j ,

y_j = the sum within State of reported monthly gas volumes in consumer sector j .

Computation of Natural Gas Prices. The natural gas volumes that are included in the computation of prices represent only those volumes associated with natural gas sales.

The price of natural gas for a State within a sector is calculated as follows:

$$P_j = \frac{R_j}{V'_j}$$

where:

P_j = the average price for gas sales within the State in consumer sector j ,

R_j = the reported revenue from natural gas sales within the State in consumer sector j ,

V_j = the reported volume of natural gas sales within the State in consumer sector j .

All average prices are weighted by their corresponding sales volume estimates when national average prices are computed.

The monthly average prices of natural gas are based on sales data only. Volumes of gas delivered for the account of others to these consumer sectors are not included in the State or national average prices.

Table 28 shows the percent of the total State volume that represents volumes from natural gas sales to the commercial and industrial sectors. This table may be helpful in evaluating commercial and industrial price data. Virtually all natural gas deliveries to the residential sector represent onsystem sales volumes only.

See the section on consumer price calculations in this Appendix for further price information.

Estimation for Nonrespondents. A volume for each consumer category is imputed for companies that fail to respond. The imputation is based on the previous month's value reported by the non-responding company and the change from the previous month to the current month in volumes reported by other companies in the State. The imputed volumes are included in the State totals. To estimate prices for non-respondents, the unit price (dollars per thousand cubic feet) reported by the company in the previous month is used.

The formula for imputing volumes of gas sales for nonrespondents was:

$$F_t = F_{t-1} \times \frac{y_{jt}}{y_{jt-1}} \quad (5)$$

where:

F_t = imputed gas volume for current month t ,

F_{t-1} = gas volume for the company for the previous month,

y_{jt} = gas volume reported by companies in the State stratum for report month t ,

y_{jt-1} = gas volume in the previous month for companies in the State stratum that reported in month t .

Final Revisions

Adjusting Monthly Data to Annual Data. After the annual data reported on the Form EIA-176 have been submitted, edited, and prepared for publication in the *Natural Gas Annual*, revisions are made to monthly data. The revisions are made to the volumes and prices of natural gas delivered to consumers that have appeared in the *Natural Gas Monthly* to match them to the annual values appearing in the *Natural Gas Annual*. The revised monthly estimates allocate the difference between the sum of monthly estimates and the annual reports according to the distribution of the estimated values across the months.

Before the final revisions are made, changes or additions to submitted data received after publication of the monthly estimate and not sufficiently large to require a revision to be published in the *Natural Gas Monthly*, are used to derive an updated estimate of monthly consumption and revenues for each State's residential, commercial, or industrial natural gas consumption.

For each State, two numbers are revised, the estimated consumption and the estimated price per thousand cubic feet.

The formula for revising the estimated consumption is:

$$V_{jm}^* = V_{jm} + \left[(V_{ja} - V'_{jm}) \left(\frac{V_{jm}}{V'_{jm}} \right) \right] \quad (6)$$

where:

V_{jm}^* = the final volume estimate for month m in consumer sector j,

V_{jm} = the estimated volume for month m in consumer sector j,

V_{ja} = the volume for the year reported on Form EIA-176,

V'_{jm} = The annual sum of estimated monthly volumes.

The price is calculated as described above in the Estimation Procedures section, using the final revised consumption estimate and a revised revenue estimate.

The formula for revising the estimated revenue is:

$$R_{jm}^* = R_{jm} + \left[(R_{ja} - R'_{jm}) \left(\frac{R_{jm}}{R'_{jm}} \right) \right] \quad (7)$$

where:

R_{jm}^* = the final revenue estimate for month m in consumer sector j,

R_{jm} = the estimated revenue for month m in consumer sector j,

R_{ja} = the revenue for the year reported on Form EIA-176,

R'_{jm} = The annual sum of estimated monthly revenues.

Revision of Volumes and Prices for Deliveries to Electric Utilities. Revisions to monthly electric utilities data are published throughout the year as they become available.

Reliability of Monthly Data

The monthly data published in this report are subject to two sources of error - nonsampling error and sampling error. Nonsampling errors occur in the collection and processing of the data. See the discussion of the Form EIA-857 in Appendix B for a description of nonsampling errors for monthly data.

Sampling error may be defined as the difference between the results obtained from a sample and the results that a complete enumeration would provide. The standard error statistic is a measurement of sampling error.

Standard Errors. A standard error of an estimate is a statistical measure that indicates how the estimate from the sample compares to the result from a complete enumeration. Standard errors are calculated based on statistical theory that refers to all possible samples of the same size and design.

The standard errors for monthly natural gas volume estimates by State are given in Table C1. Ninety-five percent of the time, the volume that would have been obtained from a complete enumeration will lie in the range between the estimated volume minus two standard errors and the estimated volume plus two standard errors.

The standard error of the natural gas volume estimate is the square root of the variance of the estimate. The formula for calculating the variance of the volume estimate is:

$$V(\hat{Y}) = \sum_{h=1}^H \left[N_h^2 \frac{(1 - \frac{n_h}{N_h})}{n_h(n_h - 1)} \left(\sum_{i=1}^{n_h} (y_i - Tx_i)^2 \right) \right] \quad (8)$$

where:

H = the total number of strata

N_h = the total number of companies in stratum h

n_h = the sample size in stratum h

y_i = the reported monthly volume for company i

x_i = the reported annual volume for company i

T = the ratio of the sum of the reported monthly volumes for sample companies to the sum of the reported annual volumes for the sample companies.

Table C-1. Standard Error for Natural Gas Deliveries and Price to Consumers by State, April 1997

State	Volume Million Cubic Feet				Price Dollars per Thousand Cubic Feet		
	Residential	Commercial	Industrial	Total	Residential	Commercial	Industrial
Alabama	72	70	1,950	1,953	1.17	3.66	0.65
Alaska	0	0	0	0	—	—	—
Arizona	65	15	0	67	0.11	0.09	—
Arkansas	0	0	0	0	—	—	—
California	274	388	697	844	0.02	0.03	0.09
Colorado	NA	NA	NA	NA	NA	NA	NA
Connecticut	0	0	0	0	—	—	—
Delaware	0	0	0	0	—	—	—
District of Columbia	0	0	0	0	—	—	—
Florida	237	396	165	490	0.57	0.77	0.53
Georgia	40	48	831	833	0.04	0.06	1.98
Hawaii	0	0	0	0	—	—	—
Idaho	0	0	0	0	—	—	—
Illinois	2,097	1,607	156	2,646	0.51	0.78	1.03
Indiana	932	60	3,087	3,225	0.20	0.88	0.95
Iowa	38	59	59	91	0.12	0.03	0.03
Kansas	337	216	31,596	31,598	0.57	0.41	8.95
Kentucky	190	144	168	292	0.27	0.36	2.54
Louisiana	1,962	33	6,843	7,119	0.34	0.66	—
Maine	0	0	0	0	—	—	—
Maryland	NA	NA	NA	NA	NA	NA	NA
Massachusetts	1,659	461	6,473	6,699	0.10	0.28	1.44
Michigan	739	137	3,707	3,782	0.27	0.20	0.36
Minnesota	381	112	920	1,002	0.13	0.12	0.29
Mississippi	217	111	566	616	0.69	0.27	1.19
Missouri	1,008	220	923	1,384	0.49	0.23	1.03
Montana	NA	NA	NA	NA	NA	NA	NA
Nebraska	30	NA	121	NA	0.03	NA	0.11
Nevada	0	0	0	0	—	—	—
New Hampshire	0	0	0	0	—	—	—
New Jersey	0	0	0	0	—	—	—
New Mexico	453	79	584	743	2.45	0.60	NA
New York	NA	NA	NA	NA	NA	NA	NA
North Carolina	21	15	653	653	0.08	0.05	0.10
North Dakota	0	0	0	0	—	—	—
Ohio	0	0	0	0	—	—	—
Oklahoma	158	2,392	1,207	2,684	0.11	2.23	0.17
Oregon	0	0	0	0	—	—	—
Pennsylvania	815	214	781	1,149	0.08	0.36	4.98
Rhode Island	0	0	0	0	—	—	—
South Carolina	189	11	183	263	0.07	0.05	0.06
South Dakota	0	0	0	0	—	—	—
Tennessee	105	140	1,934	1,942	0.27	0.16	0.42
Texas	554	3,668	6,354	7,358	0.35	0.36	0.01
Utah	0	0	0	0	—	—	—
Vermont	0	0	0	0	—	—	—
Virginia	3,190	1,641	927	3,705	1.21	0.55	2.94
Washington	NA	NA	NA	NA	NA	NA	NA
West Virginia	1,099	3,301	91	3,480	0.96	0.80	0.26
Wisconsin	331	300	438	626	0.13	0.17	1.32
Wyoming	NA	NA	NA	NA	NA	NA	NA
Total	5,615	6,185	34,139	35,146	0.11	0.17	0.54

NA = Not Available.

— = Not Applicable.

Source: Energy Information Administration, Form EIA-857, "Monthly Report of Natural Gas Purchases and Deliveries to Consumers."

Appendix D

Natural Gas Reports and Feature Articles

Reports Dealing Principally with Natural Gas and/or Natural Gas Liquids

- *Natural Gas Annual 1995*, DOE/EIA-0131(95), November 1996.
- *Natural Gas Annual 1993 Supplement: Company Profiles*, DOE/EIA-0131(93/S), February 1995.

Other Reports Covering Natural Gas, Natural Gas Liquids, and Other Energy Sources

- *Monthly Energy Review*, DOE/EIA-0035. Published monthly. Provides national aggregate data for natural gas, natural gas liquids, and other energy sources.
- *Short-Term Energy Outlook*, DOE/EIA-0202. Published quarterly. Provides forecasts for next six quarters for natural gas and other energy sources.
- *Natural Gas 1995: Issues and Trends*, DOE/EIA-0560(95), November 1995.
- *U.S. Crude Oil, Natural Gas, and Natural Gas Liquids Reserves - 1995 Annual Report*, DOE/EIA-0216(95)/Advance Summary, October 1996.
- *Annual Energy Review 1995*, DOE/ EIA-0384(95), July 1996. Published annually.
- *Annual Report to Congress 1995 DOE/ EIA-01733(95)*, July 1996. Published annually.

- *Annual Energy Outlook 1996*, DOE/ EIA-0383(96), January 1996. Published annually.

Selected One-Time Natural Gas and Related Reports

- *The Value of Underground Storage in Today's Natural Gas Industry*, DOE/EIA-0591, March 1995.
- *Natural Gas Productive Capacity for the Lower 48 States, 1980 through 1995*, DOE/EIA-0542(95), July 1994.
- *Largest U.S. Oil and Gas Fields*, DOE/EIA-TR-0567, August 1993.
- *Energy Policy Act Transportation Rate Study*, DOE/EIA-0571, October 1993.
- *Energy Policy Act Transportation Study: Interim Report of Natural Gas Flows and Rates*, DOE/EIA-0602, October 1995.

Selected and Recurring Natural Gas and Related Data Reference Reports

- *Directory of Energy Data Collection Forms*, DOE/EIA-0249(95), January 1996.
- *Oil and Gas Field Code Master List, 1995*, EIA-0370(95), December 1996.

Feature Articles

January 1994

U.S. Coalbed Methane Production

(Updates the Energy Information Administration's coalbed methane production information through 1992 and presents it by geologic basin and by State.)

February 1994

Contracting for Natural Gas Supplies

(Addresses the contractual relationships of producers with end users and distributors for the natural gas that is shipped along the interstate pipeline systems.)

May 1994

Opportunities with Fuel Cells

(Discusses the uses of fuel cells in today's market.)

Revisions to Monthly Natural Gas Data

(Discusses the revision errors for natural gas data.)

June 1994

Natural Gas 1994: Issues and Trends - Executive Summary

(Provides an overview of the natural gas industry in 1993 focusing on trends in production, consumption, and pricing of natural gas.)

August 1994

U.S. Natural Gas Imports and Exports - 1993

(Contains final 1993 data on all U.S. imports and exports of natural gas.)

March 1995

The Comparability of Resource and Reserve Data for Crude Oil, Natural Gas, Coal, and Uranium

(Clarifies which terms are equivalent among the four major energy minerals in the United States.)

July 1995

Revisions to Monthly Natural Gas Data

(Discusses the revision errors for natural gas data.)

June 1996

Natural Gas Industry Restructuring and Data Collection

(Discusses how restructuring of the natural gas industry has impacted the natural gas data collection efforts.)

July 1996

Revisions to Monthly Natural Gas Data

(Discusses the revision errors for natural gas data.)

November 1996

U.S. Natural Gas Imports and Exports - 1995

(Contains final 1995 data on all U.S. imports and exports of natural gas.)

December 1996

Crosswell Seismology -- A View from Aside

(Discusses crosswell seismology and its geologic and economic implications for the domestic oil and gas industry.)

May 1997

Restructuring Energy Industries: Lessons from Natural Gas

(Compares and contrasts the natural gas and electric power industries.)

Special Focuses

January 1997

Natural Gas Productivity Capacity

(Analyzes monthly natural gas wellhead productivity capacity in the lower 48 States from 1985 and 1996 and projects this capacity for 1996 and 1997.)

Outlook for Natural Gas Through 2015

(Presents an outlook for natural gas through 2015.)

Special Reports

March 1997

Natural Gas Analysis and Geographic Information Systems

(Explores how geographic information system tech-

niques and methodologies are being used by the Energy Information Administration.)

April 1997

Natural Gas Pipeline and System Expansions

(Examines recent expansions to the North American natural gas pipeline network.)

Natural Gas 1996: Highlights

(Reviews data for 1996 based on Energy Information Administration surveys.)

Appendix E

Technical Contacts

Section	Tables		Principal Data Sources	Technical Contact
Summary Statistics: Natural Gas Production	1, 2, 3	Monthly:	EIA-895, "Monthly Quantity of Natural Gas Report"	Eva M. Fleming (202) 586-6113
		Annual:	EIA-627, "Annual Quantity and Value of Natural Gas Report"	
		Monthly:	Form EIA-857, "Monthly Report of Natural Gas Purchases and Deliveries to Consumers"	Roy Kass (202) 426-1318
Extraction Loss	1	Monthly: Annual:	EIA computations Form EIA-816, "Monthly Natural Gas Liquids Report" and Form EIA-64A, "Annual Report of the Origin of Natural Gas Liquids Production"	Margo Natof (202) 586-6303
Supplemental Gaseous Fuels	2	Monthly: Annual:	EIA computations Form EIA-176, "Annual Report of Natural and Supplemental Gas Supply and Disposition"	Eva M. Fleming (202) 586-6113 Margo Natof (202) 586-6303
Imports and Exports	2	Monthly: Annual:	EIA computations Office of Fossil Energy, U.S. Department of Energy, "Natural Gas Import and Exports"	Norman Crabtree (202) 586-6180
Price: City Gate, Residential, Commercial, and Industrial	4	Monthly:	Form EIA-857, "Monthly Report of Natural Gas Purchases and Deliveries to Consumers"	Roy Kass (202) 426-1318
Wellhead	4	Monthly: Annual:	EIA computations Form EIA-627, "Annual Quantity and Value of Natural Gas Report"	Eva M. Fleming (202) 586-6113
Electric Utility	4	Monthly:	Form FPC-423, "Cost and Quality of Fuels for Electric Power Plants"	Roy Kass (202) 426-1318
Summary of Natural Gas Imports and Exports	5,6	Monthly:	Quarterly Natural Gas Import and Export Sales and Price Report	Norman Crabtree (202) 586-6180
Producer Related Activities: Natural Gas Production	7,8	Monthly:	EIA-895, "Monthly Quantity of Natural Gas Report"	Audrey Corley (202) 426-1159

Underground Storage:	9, 10, 11 12, 13	Monthly:	Forms FERC-8 and EIA-191, "Underground Gas Storage Report"	Roy Kass (202) 426-1318
Distribution and Consumption:				
Deliveries to:				
Residential,	14	Monthly:	Form EIA-857, "Monthly Report of Natural Gas Purchases and Deliveries to Consumers"	Roy Kass (202) 426-1318
Commercial,	15			
Industrial,	16			
Electric Utility,	17		Form FERC-423, "Cost and Quality of Fuels for Electric Power Plants"	
All Consumers	18			
Average Price to:				
City Gate,	19	Monthly:	Form EIA-857, "Monthly Report of Natural Gas Purchases and Deliveries to Consumers"	Roy Kass (202) 426-1318
Residential,	20			
Commercial,	21			
Industrial,	22		Form FERC-423, "Cost and Quality of Fuels for Electric Power Plants"	
Electric Utility	23			
Onsystem Sales	24	Monthly:	Form EIA-857, "Monthly Report of Natural Gas Purchases and Deliveries to Consumers"	Roy Kass (202) 426-1318
Heating Degree Days	25	Seasonal:	National Oceanic and Atmospheric Administration	James Keeling (202) 586-6107
Highlights				Mary Carlson (202) 586-4749

Appendix F

Natural Gas Electronic Products

In addition to printed publications, the Energy Information Administration distributes information concerning the natural gas industry in a variety of electronic formats through several media. Two main types of products are available electronically: *viewable documents* that may be read or printed; and *post-processable files* that may be directly used as input to a computer application without additional keying and checking of data.

Viewable documents represent complete or selected sections of publications including text, tables and graphs. They may be as specific as single tables or as general as an entire publication. Post-processable documents on the other hand are either macro-level representations of

information in published tables or micro-level respondent information representing responses on a specific nonconfidential survey.

The media used to distribute these electronic publications include: (1) The Energy Information Administration's Internet site (<http://www.eia.doe.gov> or <ftp://ftp.eia.doe.gov>); (2) Dial-in access through the Energy Information Administration's EPUB electronic bulletin board or through the Economic Bulletin Board of the Department of Commerce and the COGIS system; (3) The Energy Information Administration's quarterly CD-ROM(Info-Disk); (4) The Energy Information Administration's Fax on Demand System; and (5) diskettes.

	Internet	Dial-In	InfoDisk	Fax	Diskette
ANNUAL PUBLICATIONS					
Natural Gas Annual, Volume 1, 1994 Provides information on supply, and disposition of natural gas in the United States. Information is provided nationally, regionally, and by State for 1994.	V P		V P		P
Natural Gas Annual, Volume 2, 1994 Contains historical information about supply and disposition of natural gas at the national, regional, and State level as well as prices at selected points in the flow of gas from wellhead to burnertip.	P		P		P
Natural Gas 1995: Issues and Trends Addresses current issues affecting the natural gas industry and markets, and analyzes trends in the most recent natural gas data.	V		V		
Natural Gas 1994: Issues and Trends Provides an overview of the natural gas industry in 1993 and early 1994, focusing on the overall ability to deliver gas under the new regulatory mandates of the Federal Energy Regulatory Commission's Order 636.	V		V		
Oil and Gas Products List 1994-1995 Brief descriptions of the various information products prepared by the Office of Oil and Gas.	V		V		
U.S. Crude Oil, Natural Gas, and Natural Gas Liquids Reserves Annual Report 1994 1994 national and State estimates of reserves, reserve changes, and production, plus industry highlights.	V		V		
MONTHLY PUBLICATIONS					
Natural Gas Monthly, from September 1995 forward. Entire Publication in viewable format	V		V		

V=Viewable

P=Post-Processable

	Internet	Dial-In	InfoDisk	Fax	Diskette
OTHER PUBLICATIONS					
Natural Gas 1995: Preliminary Highlights This Special Focus, which was featured in the April 1996 issue of the <i>Natural Gas Monthly</i> , presents events that affected the natural gas industry during 1995.	V	P		V	
Energy Policy Act Transportation Study: Interim Report on Natural Gas Flow and Rates (EPACT) Analysis of natural gas transportation rates and distribution patterns for the period from 1988 through 1994.	V		V		
Oil Production Capacity Expansion Cost for the Persian Gulf Quantifies the cost of expanding oil production capacity for the Persian Gulf based on geologic plays and fields rather than country-level economics. Development costs and volumes are estimated for the next 15 years.	V		V		
Costs and Indices for Domestic Oil and Gas Field Equipment and Production Operations 1990-1993 Cost of equipment and operation of oil and gas wells in the lower 48 States.	V		V		
Drilling Sideways- A Review of Horizontal Well Technology and the Domestic Application April 1993 report presenting salient aspects of current and near-future horizontal drilling and completion technology.	V		V		
International Oil and Gas Exploration and Development Compilation of country-level data and assessment of regional trends relating to upstream aspects of global oil and gas supply.	V		V		
Natural Gas Productive Capacity for the Lower 48 States 1984-1996 Analysis of monthly natural gas wellhead productive capacity.	V		V		
Natural Gas Productive Capacity for the Lower 48 States 1980-1995 Analysis of monthly natural gas wellhead productive capacity.	V		V		
Oil and Gas Field Code Master List Comprehensive listing of U.S. oil and gas field names as of November 1995.	V		V		
Oil and Gas Resources of the Fergana Basin (Uzbekistan, Tadzhikistan, and Kyrgyzstan) Reservoir level assessments of oil and gas ultimate recovery in the former Soviet Union area.	V		V		
The Value of Underground Storage in Today's Natural Gas Industry Explores the significant and changing role of storage in the industry.	V		V		
U.S. Oil and Gas Development in the Early 1990's Analyses of the growing prominence of smaller energy companies in U.S. oil and gas production	V		V		
ANNUAL DATA					
Natural Gas Supply and Disposition, by State 1994	V P	V P		V	

V=Viewable

P=Post-Processable

	Internet	Dial-In	InfoDisk	Fax	Diskette
Natural Gas Summary, United States by Year 1990-1994	V P	V P		V	
1994 Natural Gas Annual Volume 1 data Self-extracting file containing data (in comma-delimited format) that appear in the tables in Volume I of the 1994 <i>Natural Gas Annual</i> .	P		P		P
1994 Natural Gas Annual Volume 2 data Self-extracting file containing historical information (in comma-delimited format) found in the tables in Volume II of the 1994 <i>Natural Gas Annual</i> . Annual historical data at the national level are presented for 1930-1994. Annual information by State and region is presented for 1967-1994.	P		P		P
1993 Data reported on Form EIA-176 A self-extracting compressed file containing data reported on Form EIA-176, "Annual Report of Natural and Supplemental Gas Supply and Disposition" for 1993.	P				P
1994 Data reported on Form EIA-176 A self-extracting compressed file containing data reported on Form EIA-176, "Annual Report of Natural and Supplemental Gas Supply and Disposition" for 1994.	P				P
Data archive of historical reserves estimates for U.S. Crude Oil, Natural Gas, and Natural Gas Liquids. National, State, and State subregion data published in the reserves balance tables of <i>U.S. Crude Oil, Natural Gas, and Natural Gas Liquids Reserves</i> from 1977 forward.	P				P
MONTHLY DATA					
Natural Gas Production, United States by Month 1989-forward	P	P		V	
Natural Gas Supply and Disposition, 1989-forward	P	P		V	
Natural Gas Imports and Exports 1989-forward	P	P		V	
Natural Gas Underground Storage: United States Total by Month 1989-forward	P	P		V	
Natural Gas Prices: United States Total by Month 1989-forward	P	P		V	
Natural Gas Consumption by Sector: United States Total by Month, 1989-forward	P	P		V	
SELF-EXTRACTING COMPRESSED DATA FILE ARCHIVES					
Natural Gas Consumption and Prices, for most recent 2-3 years	P	P			
Natural Gas Consumption and Prices, for 1984-1992	P	P			
OTHER REPORTS					
Natural Gas Weekly Market Update Analysis of current price, supply and storage data along with a two week snapshot of the weather in four distinct metropolitan areas.	V			V	

V=Viewable

P=Post-Processable

Glossary

Balancing Item: Represents the difference between the sum of the components of natural gas supply and the sum of the components of natural gas disposition. These differences may be due to quantities lost or to the effects of data reporting problems. Reporting problems include differences due to the net result of conversions of flow data metered at varying temperature and pressure bases and converted to a standard temperature and pressure base; the effect of variations in company accounting and billing practices; differences between billing cycle and calendar period time frames; and imbalances resulting from the merger of data reporting systems which vary in scope, format, definitions, and type of respondents.

Base (Cushion) Gas: The volume of gas needed as a permanent inventory to maintain adequate underground storage reservoir pressures and deliverability rates throughout the withdrawal season. All native gas is included in the base gas volume.

British Thermal Unit (Btu): The heat required to raise the temperature of one pound of water by one degree Fahrenheit at or near 39.2 degrees Fahrenheit.

City-gate: A point or measuring station at which a gas distribution company receives gas from a pipeline company or transmission system.

Commercial Consumption: Gas used by nonmanufacturing organizations such as hotels, restaurants, retail stores, laundries, and other service enterprises, and gas used by local, State, and Federal agencies engaged in nonmanufacturing activities.

Depletion: The loss in service value incurred in connection with the exhaustion of the natural gas reserves in the course of service.

Depreciation: The loss in service value not restored by current maintenance, incurred in connection with the consumption or respective retirement of a gas plant in the course of service from causes that are known to be in current operation and against which the utility is not protected by insurance; for example, wear and tear, decay, obsolescence, changes in demand and requirements of public authorities, and the exhaustion of natural resources.

Dry Natural Gas Production: Marketed production less extraction loss.

Electric Utility Consumption: Gas used as fuel in electric utility plants.

Exports: Natural gas deliveries out of the continental United States and Alaska to foreign countries.

Extraction Loss: The reduction in volume of natural gas resulting from the removal of natural gas liquid constituents at natural gas processing plants.

Flared: The volume of gas burned in flares on the base site or at gas processing plants.

Gross Withdrawals: Full well stream volume, including all natural gas plant liquid and nonhydrocarbon gases, but excluding lease condensate. Also includes amounts delivered as royalty payments or consumed in field operations.

Imports: Natural gas received in the Continental United States (including Alaska) from a foreign country.

Independent Producers: Any person who is engaged in the production or gathering of natural gas and who sells natural gas in interstate commerce for resale but who is not engaged in the transportation of natural gas (other than gathering) by pipeline in interstate commerce.

Industrial Consumption: Natural gas used by manufacturing and mining establishments for heat, power, and chemical feedstock.

Interstate Companies: Natural gas pipeline companies subject to FERC jurisdiction.

Intransit Deliveries: Redeliveries to a foreign country of foreign gas received for transportation across U.S. territory and deliveries of U.S. gas to a foreign country for transportation across its territory and redelivery to the United States.

Intransit Receipts: Receipts of foreign gas for transportation across U.S. territory and redelivery to a foreign country and redeliveries to the United States of U.S. gas transported across foreign territory.

Intrastate Companies: Companies not subject to FERC jurisdiction.

Lease and Plant Fuel: Natural gas used in well, field, lease operations and as fuel in natural gas processing plants.

Liquefied Natural Gas (LNG): Natural gas that has been liquefied by reducing its temperature to minus 260 degrees Fahrenheit at atmospheric pressure.

Marketed Production: Gross withdrawals less gas used for repressuring, quantities vented and flared, and nonhydrocarbon gases removed in treating or processing operations. Includes all quantities of gas used in field and processing operations. See Explanatory Note 1 for discussion of coverage of data concerning nonhydrocarbon gases removed.

Native Gas: Gas in place at the time that a reservoir was converted to use as an underground storage reservoir as in contrast to injected gas volumes.

Natural Gas: A mixture of hydrocarbon compounds and small quantities of various nonhydrocarbons existing in the gaseous phase or solution with oil in natural underground reservoirs at reservoir conditions.

Nonhydrocarbon Gases: Typical nonhydrocarbon gases that may be present in reservoir natural gas are carbon dioxide, helium, hydrogen sulfide, and nitrogen.

Onsystem Sales: Sales to customers where the delivery point is a point on, or directly interconnected with, a transportation, storage, and/or distribution system operated by the reporting company.

Pipeline Fuel: Gas consumed in the operation of pipelines, primarily in compressors.

Repressuring: The injection of gas into oil or gas formations to effect greater ultimate recovery.

Residential Consumption: Gas used in private dwellings, including apartments, for heating, cooking, water heating, and other household uses.

Storage Additions: The volume of gas injected or otherwise added to underground natural gas or liquefied natural gas storage during the applicable reporting period.

Storage Withdrawals: Total volume of gas withdrawn from underground storage or liquefied natural gas storage during the applicable reporting period.

Supplemental Gaseous Fuels Supplies: Synthetic natural gas, propane-air, refinery gas, biomass gas, air injected for stabilization of heating content, and manufactured gas commingled and distributed with natural gas.

Synthetic Natural Gas (SNG): A manufactured product chemically similar in most respects to natural gas, that results from the conversion or reforming of petroleum hydrocarbons and may easily be substituted for or interchanged with pipeline quality natural gas.

Therm: One-hundred thousand British thermal units.

Underground Gas Storage Reservoir Capacity: Interstate company reservoir capacities are those certificated by FERC. Independent producer and intrastate company reservoir capacities are reported as developed capacity.

Vented Gas: Gas released into the air on the base site or at processing plants.

Wellhead Price: Represents the wellhead sales price, including charges for natural gas plant liquids subsequently removed from the gas, gathering and compression charges, and State production, severance, and/or similar charges.

Working (Top Storage) Gas: The volume of gas in an underground storage reservoir above the designed level of the base. It may or may not be completely withdrawn during any particular withdrawal season. Conditions permitting, the total working capacity could be used more than once during any season.