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Short-Term Energy Outlook Model Documentation: Electricity Generation and Fuel Consumption Models

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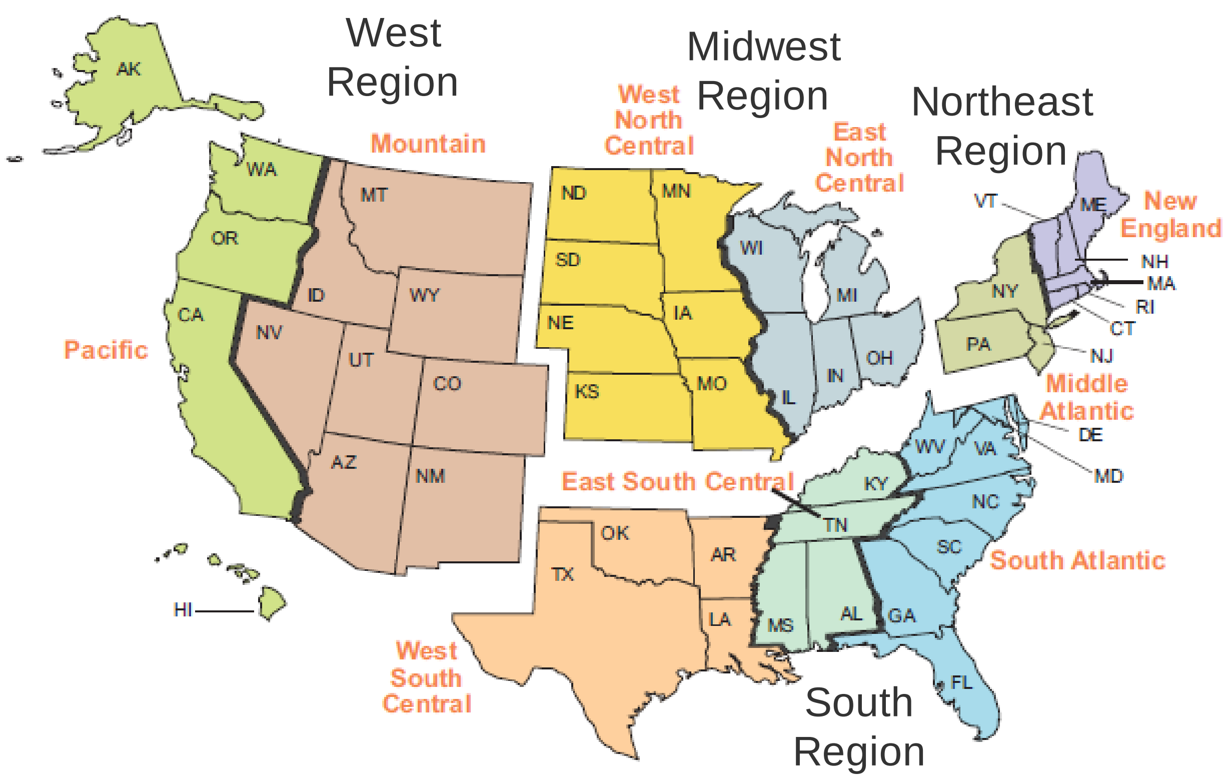
1. Overview

The U.S. Energy Information Administration's *Short-Term Energy Outlook* (*STEO*) produces monthly projections of energy supply, demand, trade, and prices over a 13-24 month period. Every January, the forecast horizon is extended through December of the following year. The *STEO* model is an integrated system of econometric regression equations and identities that link the various components of the U.S. energy industry together in order to develop consistent forecasts. The regression equations are estimated and the *STEO* model is solved using the Eviews 8 econometric software package from IHS Global Inc. The model consists of various sub-modules specific to each form of energy resource. All modules provide projections for the United States, and some modules provide more detailed forecasts for different regions of the country.

The electricity supply and fuel consumption modules of the *STEO* model provide, respectively, forecasts of electricity generation from various types of energy sources and forecasts of the quantities of fossil fuels consumed for power generation. The supply module is closely linked with the electricity demand module, from which the total level of required generation is derived. The fuel consumption module is closely associated with the electricity supply module, and it provides inputs into other components of the *STEO* model. The structure of the electricity industry and the behavior of power generators varies between different areas of the United States. In order to capture these differences, the *STEO* electricity supply and fuel consumption models are designed to provide forecasts for the four primary Census regions shown in Figure 1.

Figure 1. U.S. Census regions and divisions



2. Data Sources

All of the data input for the *STEO* electricity generation and fuel consumption models are in a monthly frequency. In most cases, generation and fuel consumption data are expressed in average per-day units for each month, so that the data can be integrated into other *STEO* model components. The primary data sources for the electricity generation and fuel consumption models of the *STEO* are:

- EIA Electric Power Monthly
- EIA Electric Monthly Update
- EIA Electric Power Annual

Electricity generation and fossil fuel consumption data in each of these three publications are derived from information collected via Form EIA-923 from all electric power and combined heat and power (CHP) plants with total generator nameplate capacity of 1 megawatt (MW) or greater. All respondents are required to file Form EIA-923 once a year. A sample of respondents files their forms monthly.[1] EIA estimates monthly generation and fuel consumption data for non-sampled respondents for the most recent year.

The *STEO* model supplements data published in the three EIA sources listed above with data from outside sources. Information from the U.S. Nuclear Regulatory Commission provides the foundation for the model's projections of nuclear generation, and water flow data from the Bonneville Power Administration is a primary determinant of the forecasts for hydroelectric generation.

The latest historical data provided in the EIA source publications are generally two to three months behind the *STEO* publication date. The model incorporates information from Edison Electric Institute's *Weekly Electric Output* report to estimate total electricity consumption (and electricity generation) during the most recent months for which EIA data are not yet available. Similarly, Bentek Energy's *Power Burn Report* supplies information to the model for estimating the amount of natural gas consumed in recent months by the electric power sector.

[1] This sample represents about one-third of total respondents but accounts for more than 90% of total generation.

3. Variable Naming Convention

Over 2,000 variables are used by the *STEO* for model estimation, analysis, and reporting. In general, most national-level variables in the electric generation and fuel consumption models adhere to the following naming convention:

Table 1. Example Naming Convention for for U.S. Variables

Variable name: EPEOPUS

Characters	EP	EO	P	US
Positions	1 and 2	3 and 4	5	6 and 7
Identity	Energy Sector or Source	Type of Activity	Unit Measure	Geographic Area

In this example, EPEOPUS is the variable name for electric power sector (EP) generation / electric output (EO) measured in physical units (P), as opposed to British thermal units (Btu), for the entire United States (US).

Two energy sectors are modeled:

- EP – Electric power sector
- CH – Combined heat and power (CHP) in the commercial and industrial sectors

Energy sources modeled:

- CL – Coal
- NG – Natural gas
- PA – Petroleum
  - RF – Residual fuel oil
  - DK – Distillate fuel oil
  - OP – Other petroleum liquids
  - PC – Petroleum coke
- OG – Other gases
- NU – Nuclear
- HP – Pumped storage hydropower
- HV – Conventional hydropower
- RN – Renewable (non-hydro) energy
  - WN – Wind power
  - OR – Biomass
  - GE – Geothermal
  - SO – Solar

The electricity generation model provides estimates for the four Census regions shown in Figure 1: West, Midwest, Northeast, and South. The variable naming convention for these regional generation variables generally adheres to the following example for the level of coal generation by the electric power sector in the South Census region:

Table 2. Example Naming Convention for Regional Generation Variables

Variable name: CLEP_SO

Characters	CL	EP	SO
Positions	1 and 2	3 and 4	6 and 7
Identity	Type of energy source – Coal	Sector – Electric Power	Geographic area – South Region

Regional fuel consumption variables adhere to the following naming example for the level of total coal consumed by the electric power sector in the South Census region:

Table 3. Example Naming Convention for Regional Fuel Consumption Variables

Variable name: CLEPCON_SO

Characters	CL	EP	CON	SO
Positions	1 and 2	3 and 4	5, 6 and 7	9 and 10
Identity	Type of energy source: Coal	Sector: Electric Power	Physical fuel consumption	Geographic area: South Region

Many equations include monthly dummy variables to capture the normal seasonality in the data series. For example, JAN equals 1 for every January in the time series and is equal to 0 in every other month.

Regression equations may also include dummy variables for specific historical months in order to reflect the presence of outlier data points caused by infrequent and unpredictable events such as hurricanes, fuel disruptions, or other factors. Generally, dummy variables are introduced when the absolute value of the estimated regression error is more than 2 times the standard error of the regression (the standard error of the regression is a summary measure based on the estimated variance of the residuals). No attempt was made to identify the market or survey factors that may have contributed to the identified outliers.

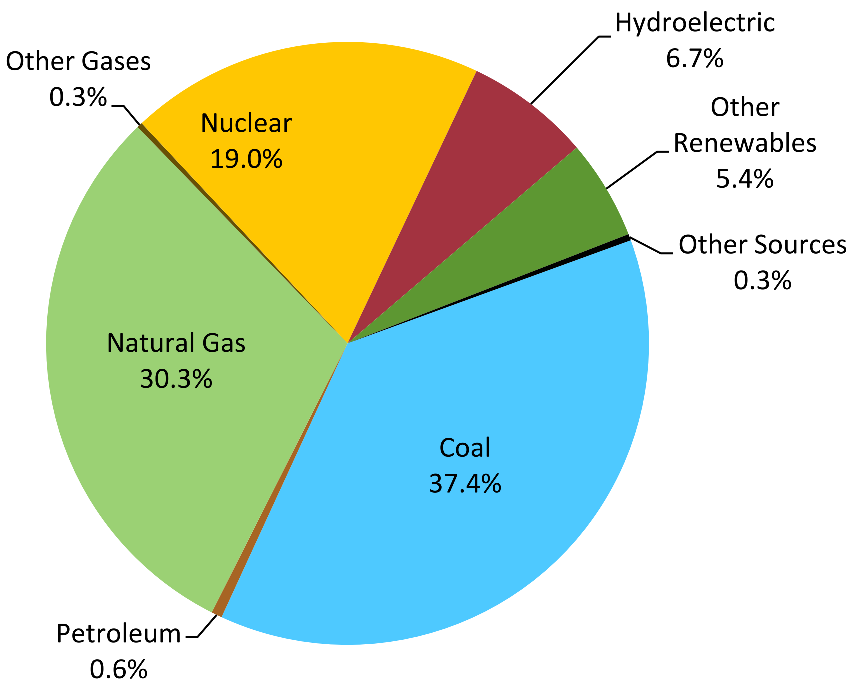
Dummy variables for specific months are generally designated Dyymm, where yy = the last two digits of the year and mm = the number of the month (from "01" for January to "12" for December). Thus, a monthly dummy variable for March 2002 would be D0203 (i.e., D0203 = 1 if March 2002, = 0 otherwise). Dummy variables covering all months of a specific year are designated Dyy, where yy = the last two digits of the year. Thus, a dummy variable for all months of 2002 would be D02 (i.e., D02= 1 if January 2002 through December 2002, 0 otherwise).

A dummy variable might also be included in an equation to reflect a structural shift in the relationship between two time periods. Generally, these type of shifts are modeled using dummy variables designated DxxON, where xx = the last two digits of the year at the beginning of the shift period. For example, D03ON = 1 for January 2003 and all months after that date, and D03ON = 0 for all months prior to 2003.

4. U.S. Electricity Generation Model

Electricity is produced in order to supply the needs for power used by residential, business, and governmental consumers. Some electricity is lost along the way as it's delivered to end-use customers. Different energy sources are used for electricity generation, based on the economics and availability of the fuel. The share of U.S. net generation provided by each type of energy source is shown in Figure 2. Fossil fuels have historically supplied the majority of the electricity generated in the United States, while nuclear and hydropower provide about a quarter of the generation. Although other renewable fuels provided only about 5 percent of net generation in 2012, recent capacity additions, especially new wind turbines, will likely increase that share in the future. Most generating units are designed to work with only one type of fuel, although some units use supplementary fuels or can switch between two different fuels.

Figure 2 - U.S. Electric Power Industry Net Generation Fuel Shares, 2012



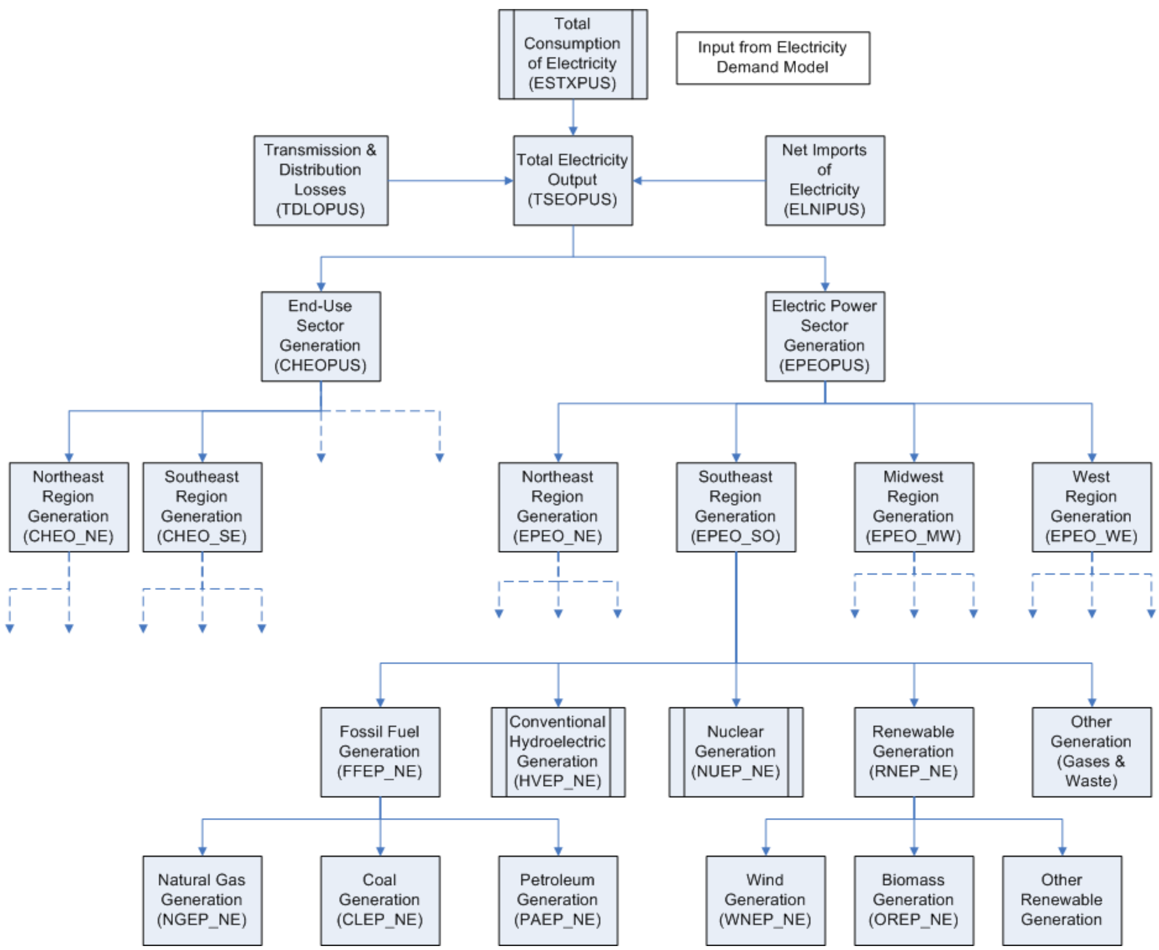
Source: EIA Electric Power Monthly October 2013, Table 1.1.

EIA's *STEO* electricity generation model is structured to produce projections of electricity supply. Figure 3 provides a visual overview of the structure of the *STEO* electricity generation module. Nearly all of the electricity produced in the United States is created by power generating units operated by the electric power sector (including electric utilities and independent power producers) and by combined heat and power (CHP) units operated by businesses and organizations in the commercial and industrial sectors.[2]

[2] The electric power sector consists of plants whose primary business is to supply electricity to the public. Some of these power plants may also produce heat for use by the facility or for sale to outside parties.

The electric power sector supplies more than 95 percent of the total electricity generated in the United States.

Figure 3 - Short-Term Energy Outlook Electricity Generation Model



The quantity of electricity supplied by electric power generators is directly related to the quantity of power demanded. In addition to meeting the end-use demand, U.S. generators must be able to cover any losses associated with the transmission and distribution (T&D) of electricity. Net imports into the country from Canada and Mexico mitigate some of the need for U.S. generators to produce electricity. The national electricity demand-supply balance can be summarized by equation 1:

$$TSEOPUS = EXTCPUS + ELDUPUS + TDLOPUS - ELNIPUS \quad (1)$$

where (all measured in billion kilowatthours per day)

- TSEOPUS = Total U.S. electricity generation
- EXTCPUS = Total U.S. retail sales of electricity
- ELDUPUS = U.S. direct use of electricity by generating plants
- TDLOPUS = Transmission and distribution losses
- ELNIPUS = Net U.S. imports of electricity

Total electricity consumption in the United States consists of two components: retail sales of electricity to final consumers and direct use of electricity that is generated by commercial and industrial establishments. Retail sales of electricity are modeled separately by the *STEO* electricity consumption module. Direct use consumption, defined as electricity that is generated onsite (or possibly in an adjacent facility) and consumed by the same entity that produces the power, is modeled within the electricity generation module. The ratio of direct use electricity consumption to total commercial and industrial sector generation is assumed to be the same as in the most recent year for which historical data is available (equation 2)[3]:

ELDUPUS = CHEOPUS * (ELDUPUS(-12)/ CHEOPUS(-12)) (2)

where:

ELDUPUS = U.S. direct use of electricity by generating plants
CHEOPUS = U.S. generation by the commercial and industrial sectors

Transmission and distribution losses follow a seasonal pattern and are modeled relative to total retail consumption of electricity as a function of cooling degree days (ZWCDPUS), heating degree days (ZWHDPUS), and net imports:

TDLOPUS/EXTCPUS = a0 + a1*(ELNIPUS/EXTCPUS) + a2*(ZWCDPUS-ZWCDPUS(-1))
+ a3*(ZWHDPUS-ZWHDPUS(-1)) + monthly dummy variables (3)

Imports and exports with Canada and Mexico also follow a seasonal pattern and are assumed to be a function of U.S. natural gas and coal fuel costs and the level of U.S. hydropower generation. Gross imports (ELIMPUS) and gross exports (ELEXPUS) are modeled using separate equations but follow the same function form:

ELIMPUS/EXTCPUS = a0 + a1*CLEUDUS + a2*NGEUDUS + a3*(HYEPTOT/EXTCPUS)
+ monthly dummy variables (4)

ELEXPUS/EXTCPUS = a0 + a1*CLEUDUS + a2*NGEUDUS + a3*(HYEPTOT/EXTCPUS)
+ monthly dummy variables (5)

where

ELIMPUS = Gross imports of electricity into United States, billion kilowatthours per day
ELEXPUS = Gross exports of electricity from United States, billion kilowatthours per day
EXTCPUS = Total U.S. retail sales / consumption of electricity, billion kilowatthours per day
HYEPTOT = U.S. hydroelectric generation by electric power sector, billion kilowatthours per day
CLEUDUS = Average cost of coal delivered to electric generators, dollars per million Btu
NGEUDUS = Average cost of natural gas delivered to electric generators, dollars per million Btu

Total electricity generated in the United States is produced by two sectors: the electric power sector and the commercial and industrial sector.

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[3] The lag operator (-12) indicates the equation is estimating based on the value of the series from 12 months prior to each observation.

A. Electric Power Sector Generation

In order to ensure that the national supply-demand balance holds, generation supplied by the U.S. electric power sector is calculated as the difference between total U.S. generation, as derived above, and generation by the commercial and industrial sectors (described in the next section).

EPEOPUS = TSEOPUS – CHEOPUS (6)

where (all measured in billion kilowatthours per day)

EPEOPUS = U.S. generation by the electric power sector
TSEOPUS = Total U.S. generation by all sectors
CHEOPUS = U.S. generation by the commercial and industrial sectors

Electric power sector generation levels are estimated for each Census region as a share of the total U.S. generation value (equation 7):[4]

DLOG(EPEO_xx/EPEOPUS) = a0 + a1*DLOG(EXTCP_xx) + a2*DLOG(EXTCP_xx(-1)) + a4*DLOG(CLEUDUS)
+ a3*DLOG(NGEUDUS) + a5*DLOG(RFEUDUS)
+ a6*DLOG(ELIMPUS) + a7*DLOG(ELEXPUS) (7)

where

EPEO_xx = Electric power sector generation in Census region [xx], thousand megawatthours per day
EXTCP_xx = Total retail sales / consumption of electricity in Census region [xx], thousand megawatthours per day
CLEUDUS = Average U.S. cost of coal delivered to electric generating plants, dollars per million Btu
NGEUDUS = Average U.S. cost of natural gas delivered to electric generating plants, dollars per million Btu
RFEUDUS = Cost of residual fuel oil delivered to electric generating plants, dollars per million Btu
ELIMPUS = Gross imports of electricity into United States, billion kilowatthours per day
ELEXPUS = Gross exports of electricity from United States, billion kilowatthours per day

These regional electric power sector generation equations are modeled using the year-over-year growth in each variable, measured as the twelve-month lagged difference in the logarithm of the variable (notated in the equation as "DLOG"). The primary drivers of the proportion of total generation produced within each region are the growth in regional electricity sales; fuel costs for coal, natural gas, and residual fuel oil; and electricity imports and exports. The lagged value of regional electricity consumption is included to account for differences in the reporting periods of generation data and consumption data.[5]

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[4] Most of the econometric equations in the electricity generation and fuel consumption models also include autoregressive (AR) terms to account for the strong correlation between recent and past observations of the dependent variable.

[5] EIA collects generation data using Form EIA-923, with survey respondents reporting for each calendar month during the year. Electricity sales data are collected on Forms EIA-861/EIA-826. Survey respondents may report sales data on a billing-cycle basis, which does not necessarily correspond to the calendar month.

Regional electric power sector generation is modeled differently for the various types of energy sources. Generation from renewable sources is modeled individually for each energy source as a function of existing and planned capacity within each region. Nuclear generation for individual plants is projected using information provided by the U.S. Nuclear Regulatory Commission. Hydropower generation is modeled as a function of projected precipitation levels. The quantity of electric power sector generation not produced by these other sources is assumed to be produced using fossil fuels.

i. Fossil Fuel Generation

Coal, natural gas, and petroleum (including diesel and residual fuel oil) together accounted for about two-thirds of the electricity generated in the United States during 2011. The relative costs between fuels are important determinants of the mix of fossil fuels used by power generators. About 42 percent of the electricity supplied in the United States is generated using coal. Coal-fired power plants are expensive to build but historically have experienced low fuel costs. Natural-gas-fired units have lower construction costs and are more efficient in terms of energy conversion. In recent years, the cost of natural gas has fallen far enough so that combined cycle generating units fueled by natural gas have become economically competitive with coal-fired power plants. Petroleum-fired units are often subject to strict environmental limitations and the cost of the fuel has risen quite rapidly over the last few years, leading to a rapid decline in its use for power generation.

Total fossil fuel generation for each Census region includes generation from coal, natural gas, petroleum, and other gases (equation 8):

$$FFEP\_xx = CLEP\_xx + NGEP\_xx + PAEP\_xx + OGEP\_xx \quad (8)$$

where (all measured in thousand megawatthours per day)

FFEP_xx = Total fossil fuel generation by electric power section in region xx
CLEP_xx = Coal generation by electric power sector in region xx
NGEP_xx = Natural gas generation by electric power sector in region xx
PAEP_xx = Petroleum generation by electric power sector in region xx
OGEP_xx = Other fossil gases generation by electric power sector in region xx

The levels of regional generation supplied by natural gas, other fossil gases, and petroleum are modeled by projecting the year-over-year change in each fuel's share of total regional fossil fuel generation. Generation from each petroleum fuel (residual fuel oil, distillate fuel oil, petroleum coke, and other petroleum liquids) is modeled separately, and an aggregate petroleum generation value is calculated for use elsewhere in the model (equation 9):

$$PAEP\_xx = RFEP\_xx + DKEP\_xx + PCEP\_xx + OPEP\_xx \quad (9)$$

where (all measured in thousand megawatthours per day)

RFEP_xx = Residual fuel oil generation by electric power sector in region xx
DKEP_xx = Distillate fuel oil generation by electric power sector in region xx
PCEP_xx = Petroleum coke generation by electric power sector in region xx
OPEP_xx = Other petroleum liquids generation by electric power secton in region xx

The equation for natural gas generation in the South Census region (equation 10) provides an example of how regional generation for each of the fossil fuels is modeled. The change in the natural gas share of total fossil fuel generation from the previous year is estimated as a function of the year-over-year changes (notated as D(xx,12)) in weather, fuel costs, hydroelectric generation and nuclear generation. The year-over-year changes in cooling and heating degree days in the prior month are also included.

$$\begin{aligned} D((NGEP\_SO/FFEP\_SO),12) = {} & a0 + a1*D(ZWCD\_SO,12) + a2*D(ZWHD\_SO,12) \\ & + a3*D(ZWCD\_SO_{-1},12) + a4*(ZWHD\_SO_{-1},12) \\ & + a5*D((CLEUDUS/NGEUDUS),12) \\ & + a6*D(RFEUDUS/NGEUDUS),12) \\ & + a7*D(HYEP\_SO,12) + a8*D(NUEP\_SO,12) \end{aligned} \quad (10)$$

where

NGEP_SO = Natural gas generation by the electric power sector in the South Census region, thousand megawatthours per day
FFEP_SO = Fossil fuel generation by the electric power sector in the South Census region, thousand megawatthours per day
HYEP_SO = Conventional hydroelectric generation by the electric power sector in the South Census region, thousand megawatthours per day
NUEP_SO = Nuclear generation by the electric power sector in the South Census region, thousand megawatthours per day
ZWCD_SO = Cooling degree days in the South Census region
ZWHD_SO = Heating degree days in the South Census region
CLEUDUS = Average U.S. cost of coal delivered to electric generating plants, dollars per million Btu
NGEUDUS = Average U.S. cost of natural gas delivered to electric generating plants, dollars per million Btu
RFEUDUS = Average U.S. cost of residual fuel oil delivered to electric generating plants, dollars per million Btu

The relative fuel price variables are the primary drivers for switching among the fossils fuels. Hydropower and nuclear variables are included in the model equations only for the South and the West Census regions. Most of the equations are structured using a year-over-year change functional form (D(xxx,12)), but some equations are estimated using the level form of the fossil fuel share in order to avoid the possibility of negative generation estimates.

Coal has historically provided the largest share of fossil fuel generation for each region. In order to ensure that all of the projected fuel shares sum to one, generation from coal is modeled as the difference between total regional electric power sector generation (EPEO_xx) and the sum of regional generation from all other energy sources (equation 11). For example, in the South Census region, the projected amount of electric power sector generation fueled by coal is defined as:

$$\begin{aligned} CLEP\_SO = EPEO\_SO - (& NGEP\_SO + PAEP\_SO + OGEP\_SO + HYEP\_SO + NUEP\_SO \\ & + RNEP\_SO + OTEP\_SO) \end{aligned} \quad (11)$$

where (all measured in thousand megawatthours per day)

EPEO_SO = Total generation by electric power sector in South Census region
CLEP_SO = Coal generation by electric power sector in South Census region
NGEP_SO = Natural gas generation by electric power sector in South Census region
PAEP_SO = Petroleum generation by electric power sector in South Census region
OGEP_SO = Other fossil gases generation by electric power sector in South Census region
HYEP_SO = Hydroelectric generation by electric power sector in South Census region
NUEP_SO = Nuclear generation by electric power sector in South Census region
RNEP_SO = Renewable energy generation (other than hydro) by electric power sector in South Census region
OTEP_SO = Other energy sources generation by electric power sector in South Census region

ii. Nuclear Generation

As of the end of 2012, there were 64 operable commercial nuclear plants in the United States, most of which were built between 1970 and 1990. No new nuclear generating unit has come online since 1996 because of increased construction costs, uncertainty regarding the licensing process, and tighter safety requirements following the Three Mile Island accident in 1979. Plans for a handful of additional units are currently under review by the U.S. Nuclear Regulatory Commission, but this new capacity will not be online prior to 2015. In contrast to the high capital costs of constructing nuclear plants, the operating costs of existing nuclear units are relatively low. For this reason, the capacity factor of most nuclear plants averages 90 percent or more. Nuclear plant operators generally schedule planned outages in the spring or fall shoulder months, when demand is lower, to accommodate refueling and maintenance requirements.

Projections for nuclear generation for the *STEO* are developed using a reactor-level model called the Short-Term Nuclear Annual Power Production Simulation (SNAPPS). The model compiles reactor activity schedules, determining if the reactor is generating power or is in a shutdown. Individual reactor monthly generation is computed by multiplying the designated capacity (net or gross) times the appropriate capacity factor times the hours the reactor operates in that month. For the near-term projections, about 6 months out, the values are calculated in a preprocessor that estimates system-wide monthly capacity factors by applying time-series techniques to historical generation data. The relationship between the monthly capacity factor and the percent of capacity on line is modeled using time-series econometric methods. For the remainder of the projection period, SNAPPS uses average, full-cycle capacity factors, which are functions of reactor type and fuel cycle. The resulting reactor generation values are then aggregated into monthly totals for each Census region.

iii. Hydroelectric Generation

Hydroelectric power plants include some of the oldest generating facilities in the United States. The vast majority were built more than 60 years ago. There are two types of hydroelectric generating plants: conventional and pumped storage. Conventional hydropower utilizes the mechanical energy of either water stored within a reservoir or water flowing within a waterway (a run-of-the-river system). Pumped storage hydroelectricity produces power by releasing water from one reservoir to another at a lower elevation; the water is then pumped back to the upper reservoir to repeat the process. Pumped storage generation generally uses more electricity from outside sources than it produces. Conventional hydropower facilities are clustered in the western United States, especially in the states of Washington, Oregon, and California. The amount of hydroelectric generation is dependent on the level of regional precipitation and is usually highest during the spring snowmelt season.

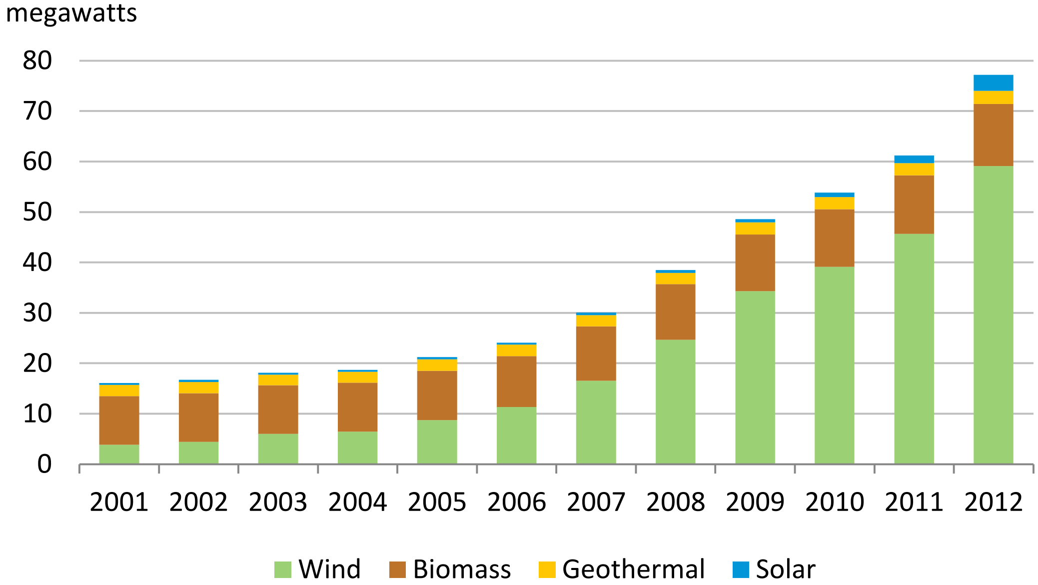
About two-thirds of conventional hydroelectric generation occurs in the West Census region. Although many factors affect the level of hydropower output, the level of generation in the West region has historically been well correlated with water output provided by the Dalles Dam, which spans the Columbia River in the Pacific Northwest. The National Oceanic and Atmospheric Administration provides a water supply forecast for the upcoming water year covering the months of April through September. The *STEO* model applies the projected water supply information to the correlations between past Dalles Dam supply and hydroelectric generation to calculate the projected levels of monthly generation in the West region during the months of April through September of the upcoming year. Projections for months outside the water year reflect the 30-year average level of generation. The amount of conventional hydroelectric generation in other regions of the United States is relatively minor compared with the Pacific Northwest. For simplicity, hydropower generation in other regions is assumed to follow identical year-over-year growth as the hydroelectric generation in the West region.

Pumped storage hydroelectric power plants operate by pumping water uphill using turbine generators and then releasing that water at a later time. In this way, pumped storage generating units improve reliability of the electrical system by shifting generation from periods of the day when electricity demand is low to higher demand periods. The net amount of generation provided by pumped storage generating units is usually negative, indicating that more energy is used by the plant for pumping water than is produced by the release of that water. The *STEO* models the regional level of pumped storage hydropower generation as a function of monthly dummy variables to reflect seasonal patterns. In addition, the change in generation from the previous month acts as a significant explanatory variable (reflecting the impact of the change in reservoir levels).

iv. Renewable and Other Generation

Renewable energy sources (excluding conventional hydropower) accounted for 5.4 percent of total electricity generated during 2012, but renewable energy generating capacity has grown rapidly over the last decade. The four primary sources of renewable energy used for electric power generation are wind, solar, geothermal, and biomass. Wind power accounted for 64 percent of the electricity generated in 2012 from non-hydro renewable sources. This share has been expanding rapidly as a large amount of new capacity has come online during the past decade (Figure 4). Wind power capacity additions have been especially abundant in the Midwest and in Texas.

Figure 4 - Existing Net Summer Capacity of Renewable Energy Sources, All Sectors



Source: EIA Electric Power Annual 2012, Table 4.2.B.

The *STEO* provides regional forecasts for electric power sector generation from five renewable energy sources besides conventional hydropower: wind power, solar power, geothermal, wood and wood waste biomass, and other waste biomass. Generation produced from renewable energy sources generally follows a predictable seasonal pattern. Year-to-year changes in renewable generation are driven primarily by additions to capacity. The renewable energy equations in the electricity generation model generally have a structure similar to the equation for wind generation in the Midwest Census region (equation 12):

$$(WNEP\_MW/(24*WNEPCAP\_MW)) = a0 + a1*ZWCD\_MW + a2*ZWHD\_MW + \text{monthly dummy variables} \quad (12)$$

where

WNEP_MW = Wind generation by the electric power sector in the Midwest Census region, thousand megawatthours per day
WNEPCAP_MW = Wind summer capacity operated by the electric power sector in the Midwest Census region, megawatts
ZWCD_MW = Cooling degree days in the Midwest Census region
ZWHD_MW = Heating degree days in the Midwest Census region

Average daily capacity utilization rates are the dependent variables in the model equations. Monthly capacity variables (e.g., WNEPCAP_MW) are constructed using the Form EIA-860 database, supplemented with information from the Form EIA-860M regarding planned capacity additions and retirements. All capacity from the Form EIA-860 database that is in the planning stages, under regulatory review, or under construction is assumed to come online in the month reported by the survey respondent. In addition to the new or planned power plants reported on Forms EIA-860 and EIA-860M, the model may include some assumptions about unreported wind power capacity additions.

Monthly dummy variables are included as explanatory variables in order to model seasonal patterns in generation. The regional generation equations for wind, solar, and wood biomass include variables for cooling degree days and heating degree days to reflect the impact of weather on the level of generation.

B. Commercial and Industrial Sector Generation

The *STEO* models generation supplied by CHP plants operated by commercial and industrial organizations, which is used primarily to support those entities' own activities.[6] In contrast to the model for generation in the electric power sector, which estimates each fuel's share from total sectoral generation, the level of generation supplied by each fuel in the commercial and industrial sector is estimated individually, and then aggregated to determine the total level of sector generation for each region and for the United States.

Total CHP generation in the commercial and industrial sectors is modeled individually for each Census region. Since businesses determined the level of generation based on their own needs, the *STEO* model assumes that projected generation will be unaffected by overall levels of electricity demand. Instead the year-over-year change in CHP generation in each region is modeled as a function of the change in industrial production activity, the change in commercial employment, and the change in cooling and heating degree days (equation 13):

D(CHEO_xx,12) = a0 + a1*D(IPMFG_xx,12) + a2*D(EESPP_xx,12) + a3*D(ZWCD_xx,12)
+ a4*D(ZWHD_xx,12) + monthly dummy variables (13)

where

CHEO_xx = CHP generation by the commercial and industrial sectors in region xx, thousand megawatthours per day
IPMFG_xx = Industrial production index, manufacturing sector, in region xx, 1997=100
EESPP_xx = Commercial sector private employment in region xx, millions
ZWCD_xx = Cooling degree days in region xx
ZWHD_xx = Heating degree days in region xx

Regional generation for each type of energy source (both fossil fuels and renewable sources) is modeled as the ratio of that fuel's generation level to total regional generation. In some cases, there are opportunities for generators to substitute one type of fossil fuel for another. To reflect this potential for fuel switching, CHP generation fueled by coal, distillate fuel oil, or residual fuel oil is modeled as a function of the average U.S. price of the fuel delivered to electric generators and the U.S. price of natural gas. For example, equation 14 illustrates how coal CHP generation is modeled:

LOG(CLCH_xx) = a0 + a1*LOG(CLEUDUS/NGEUDUS) + monthly dummy variables (14)

[6] The electric power sector also includes a small amount of generation by combined heat and power plants that are operated by companies whose primary business is to provide electricity, or electricity and heat, to the public.

where

CLCH_xx = Coal generation by the commercial and industrial sector in region xx, thousand megawatthours per day

CLEUDUS = Average U.S. cost of coal delivered to electric generating plants, dollars per million Btu

NGEUDUS = Average U.S. cost of natural gas delivered to electric generating plants, dollars per million Btu

The logarithmic functional form is used to avoid the possibility of forecasted negative values. Generation from most other energy sources is assumed to take on the same share of total regional CHP generation is it did in the same month the previous year. Natural gas is the predominant fuel for CHP generation in most regions. In order to ensure that fuel shares sum to one, equation 15 calculates generation fueled by natural gas as the difference between total projected CHP generation and the sum of generation from all other sources:

NGCH_xx = CHEO_xx – (CLCH_xx + PACH_xx + OGCH_xx + RNCH_xx + OTCH_xx) (15)

where (all measured in thousand megawatthours per day)

CHEO_xx = Total generation by commercial and industrial sectors in Census region xx

NGCH_xx = Natural gas generation by commercial and industrial sectors in Census region xx

CLCH_xx = Coal generation by commercial and industrial sectors in Census region xx

PACH_xx = Petroleum generation by commercial and industrial sectors in Census region xx

OGCH_xx = Other fossil gases generation by commercial and industrial sectors in Census region xx

RNCH_xx = Renewable energy generation by commercial and industrial sectors in Census region xx

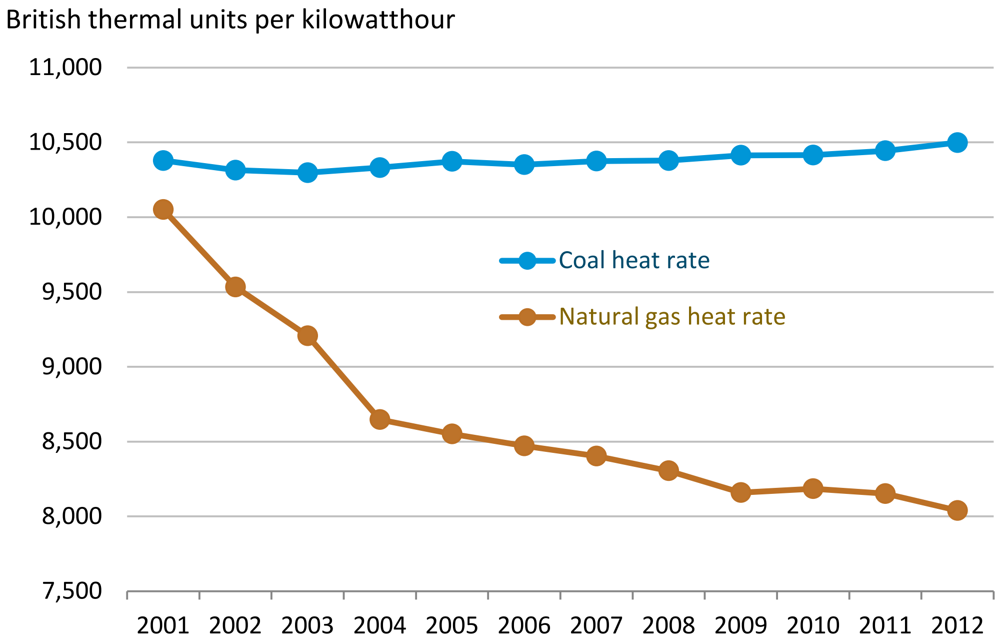
OTCH_xx = Other non-renewable fuels generation by commercial and industrial sectors in Census region xx

5. U.S. Fuel Consumption Model

Data for the amount of fuel consumed by electric power plants and combined heat and power plants is collected on Schedule 3 of the Form EIA-923. This schedule surveys the respondent's quantity of fuel consumed for the reporting period as measured in physical units. Respondents are also asked to report the average heat content for each type of fuel. Some of the fuel consumed by CHP plants may have been used for power generation and some for useful thermal output. Respondents do not report how the fuels were used; EIA estimates how much fuel was used for each purpose.

The *STEO* models power industry fuel consumption by estimating the efficiency of generation using a measure referred to as the "heat rate," which is defined as the ratio of fuel consumption to net generation. Heat rates are generally measured in Btu per kilowatthour in order to make comparisons across different types of fuels. The heat rates of individual generating units depend on various factors, including: the type and quality of fuel used, the design of the unit, the unit's age, and the level of maintenance. In addition, a generation unit's capacity factor can impact its heat rate.

Figure 5 - U.S. Average Heat Rate, Electric Power Sector



Source: Table 8.1, Electric Power Annual

As Figure 5 shows, the efficiency of the natural-gas-fired generation fleet has been steadily improving over the last decade (i.e., the average heat rate has been falling). The primary reason for this decline in natural gas heat rates has been the rapid increase in generating capacity using combined-cycle technology. This type of technology captures waste heat exiting from one or more natural gas (combustion) turbines and uses this heat to produce steam for a secondary generation process, which improves the overall efficiency of the unit. Combined-cycle units are often run at higher capacity factors than traditional combustion turbine units, which are generally run only to meet peak demand.

In contrast to the falling heat rate for natural-gas-fired power plants, the average heat rate for coal-fired generators in the U.S. electric power sector has been rising since about 2003. One of the primary reasons for this increase has been a shift in the types of coal used by generators. Specifically, the electric power industry has been moving away from using bituminous coal for power generation to subbituminous coal, which has a lower sulfur content. However, subbituminous coal has a lower heat content than bituminous coal, and generators have to burn relatively more of it to generate the same level of electricity. In 2001, about 57 percent of generation by coal in the electric power sector was fueled by bituminous coal and 38 percent came from subbituminous coal. By 2012, the share of coal generation supplied by bituminous coal had fallen to 48 percent and the share supplied subbituminous coal had risen to 47 percent.

A true heat rate compares the heat quantity of the fuel consumed only for electric generation (measured in Btu) with the level of generation (measured in watthours). The *STEO* model estimates the amount of fuel used by the electricity industry for power generation and the amount consumed for useful thermal output separately for the electric power sector. Only *total* fuel consumption is modeled for the commercial and industrial CHP sector. In addition, the fuel consumption variables are modeled in physical units. Consumption is converted to Btu by multiplying by the most recent historical conversion factor published in EIA's *Monthly Energy Review* Table A6.

Consumption of fuel for electricity generation in each region is determined by estimating econometric equations based on the following example for coal consumption by the electric power sector (equation 16):

(CLEPCON_EL_xx/CLEP_xx) = a0 + a1*(CLEP_xx/FFEP_xx) + monthly dummy variables (16)

where

CLEPCON_EL_xx = Consumption of coal by electric power sector for electricity generation only (excluding useful thermal output) in region xx, thousand tons per day
CLEP_xx = Coal generation by electric power sector in region xx, thousand megawatthours / day
FFEP_xx = Fossil fuel generation by electric power sector in region xx, thousand megawatthours / day

The modeled heat rate ratios between fuel consumption (as measured in physical units) and generation are a function of the fuel's share of regional fossil fuel generation, in order to account for that fuel's capacity factor relative to other fuels. There is an observable seasonal pattern to heat rates, which is modeled by the monthly dummy variables. The electric power sector's consumption of fuel for useful thermal output is modeled using only seasonal monthly dummy variables.

Consumption of residual fuel oil and some other petroleum-based fuels in some regions is more sporadic and difficult to model econometrically. In these cases, the model assumes that the same growth rate over the previous 12 to 24 months will continue during the forecast period.

6. Forecast Evaluations

In order to evaluate the reliability of the forecasts, EIA generated out-of-sample forecasts and calculated forecast errors. Each equation was estimated through December 2010. Dynamic forecasts were then generated for the period January 2011 through December 2012 using each regression equation. The forecasts were then compared with the actual outcomes.

Dynamic forecasts of each equation use the actual values of the exogenous variables on the right-hand side of the regression equations (e.g., fuel price) but simulated values of the lagged dependent variable. Consequently, the calculated forecast error is not the same as a calculated regression error, which uses the actual value for the lagged dependent variable.

Summary forecast error statistics are can be calculated for each regression equation. However, this documentation focuses on the reliability of the aggregate U.S. projections. The mean error and root mean squared error statistics depend on the scale of the dependent variable. These are generally used as relative measures to compare forecasts for the same series using different models; the smaller the error, the better the forecasting ability of that model. The mean absolute percentage error normalizes the error to values between zero and one. This statistic can be used to compare the reliability of forecasts across different series.

A. Electricity Generation

Forecast reliability in the electricity generation model depends on the accuracy of two groups of projections: (1) the total U.S. supply of electricity, which is derived from estimates of total demand, losses, and net imports; and (2) the share of supply provided by each fuel. When evaluating the reliability of the generation model, the forecast for electricity retail sales is taken as exogenous.

Table 4 compares the annual dynamic forecasts of the components of the electricity supply balance during 2011 and 2012 with their actual historical values. The model overestimated total generation of electricity across all sectors in both years by an average of 0.3 percent. Of the components of total generation (other than demand), transmission and distribution losses were the largest contributor to error in the series during 2011, and net imports contributed the largest share of error to generation during 2012.

Total generation is supplied by the CHP sector (whose generation is estimated within the model) and by the electric power sector (whose generation is modeled as the difference between the sum of all the electricity supply components and CHP generation). During 2011 and 2012, the model overestimated CHP generation by slightly more than 2 percent. The modeled forecasts for generation in the electric power sector were less than 1 percent higher than the actual data. However, most of the modeled generation in this sector is accounted for by total U.S. retail electricity, which here is treated as exogenous.

Table 4 - Actual Historical Data and Out-of-Sample Forecasts, Electricity Supply Series

		2011		2012	
		Actual	Forecast	Actual	Forecast
Electricity industry supply balance (billion kilowatthours per day)					
TSEOPUS	Total generation, all sectors	11.2347	11.2904	11.0778	11.0980
EXTCPUS	Total retail electricity sales *	10.2736	N/A	10.0732	N/A
ELDUPUS	Direct use of electricity	0.3597	0.3686	0.3678	0.3753
TDLOPUS	Transmission and distribution losses	0.7035	0.7293	0.7660	0.7334
ELIMPUS	U.S. electricity imports	0.1433	0.1390	0.1619	0.1335
ELEXPUS	U.S. electricity exports	0.0412	0.0580	0.0328	0.0495
CHEOPUS	CHP sector generation	0.4163	0.4266	0.4256	0.4344
EPEOPUS	Electric power sector generation	10.8184	10.8638	10.6522	10.6635
Electric power sector generation by fuel (thousand megawatthours per day)					
CLEP_US	Coal generation	4,706.55	4,623.81	4,105.82	4,118.98
NGEP_US	Natural gas generation	2,537.78	2,645.21	3,109.49	3,147.69
PAEP_US	Petroleum generation	77.27	68.08	54.98	61.77
OGEP_US	Other gases generation	8.05	7.65	7.43	7.96
HPEP_US	Pumped storage generation	-16.18	-15.48	-12.73	-15.91
HVEP_US	Conventional hydro generation †	869.95	695.07	750.39	693.17
NUEP_US	Nuclear generation †	2,164.94	2,230.49	2,102.00	2,229.96
RNEP_US	Renewable (non-hydro) generation	449.00	434.06	514.04	497.14
OTEP_US	Other fossil fuels generation	20.99	20.14	20.77	19.84

* Total retail sales are taken as exogenous when solving the electricity generation model

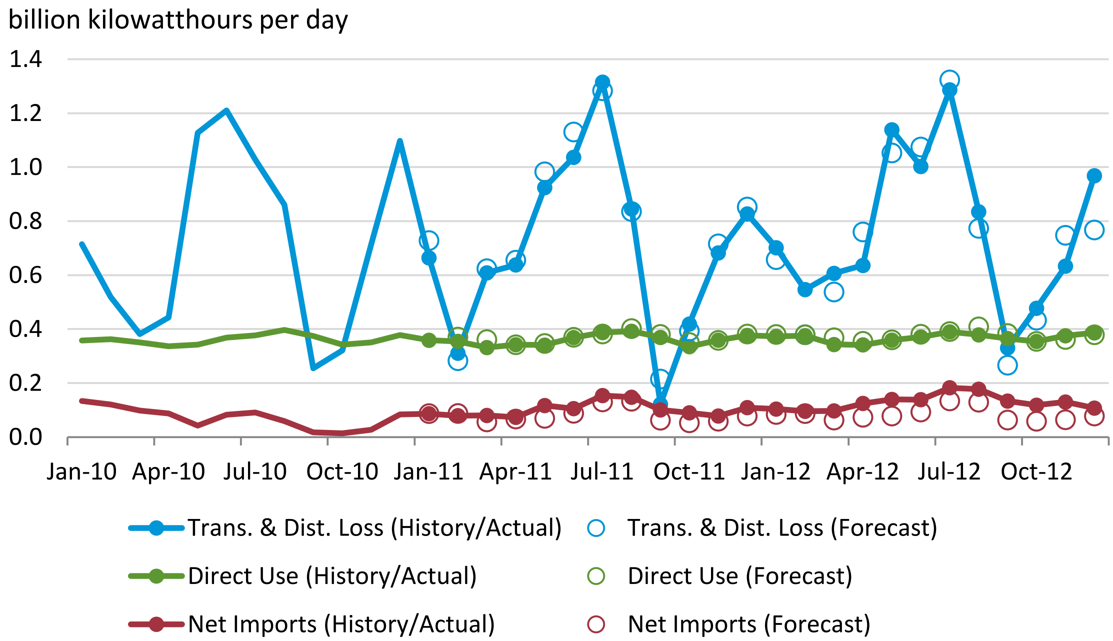
† Conventional hydroelectric and nuclear forecasts from the January 2011 Short-Term Energy Outlook

Table 4 also shows the out-of-sample forecasts for generation by fuel in the electric power sector, where that sector's total generation is fixed at its actual value and the generation model only projects the share of generation supplied by each fuel. Generation during the years 2011 and 2012 experienced a significant shift in the shares provided by coal and natural gas, as the price of the latter fuel reached record low levels. The model was able to capture the shift from coal to natural gas relatively well, with an overestimation of natural gas generation of 4.2 percent in 2011 and 1.2 percent in 2012. Coal generation was underestimated by 1.8 percent in 2011 and was overestimated by 1.2 percent in 2012. Renewable energy sources grew strongly in 2011 and 2012, particularly wind and solar power. The out-of-sample forecast for renewable energy (excluding hydropower) was 3.3 percent lower than the actual value during those years.

The forecast values for conventional hydropower and nuclear power shown in Table 4 are the annual forecasts for 2011 and 2012 from the January 2011 *STEO*. This particular forecast underestimated hydropower generation during 2011 by 20 percent and by 7 percent in 2012. Spring 2011 water runoff in the Pacific Northwest was significantly higher than normal, and EIA's forecast for hydropower rose in the following months to account for this peak water flow. The January 2011 short-term forecast for nuclear generation overestimated the actual annual values for 2011 and 2012 by 3 percent and 6 percent, respectively, as a result of some unplanned outages that occurred during those years.

Comparing the out-of-sample forecast for the annual average with the actual annual data may mask some seasonal patterns in the forecast errors. Figure 6 shows how the historical data for the electricity supply components compares with the 2011-2012 out-of-sample forecasts. (The chart does not show retail electricity sales, which represents about 90 percent of total generation, because its forecasts are determined outside the generation model.) During the out-of-sample forecast period, forecasts of transmission and distribution losses for about half of the months overestimate the actual value and underestimate for the remaining months. The forecasts of net imports consistently underestimate the actual values during the out-of-sample period.

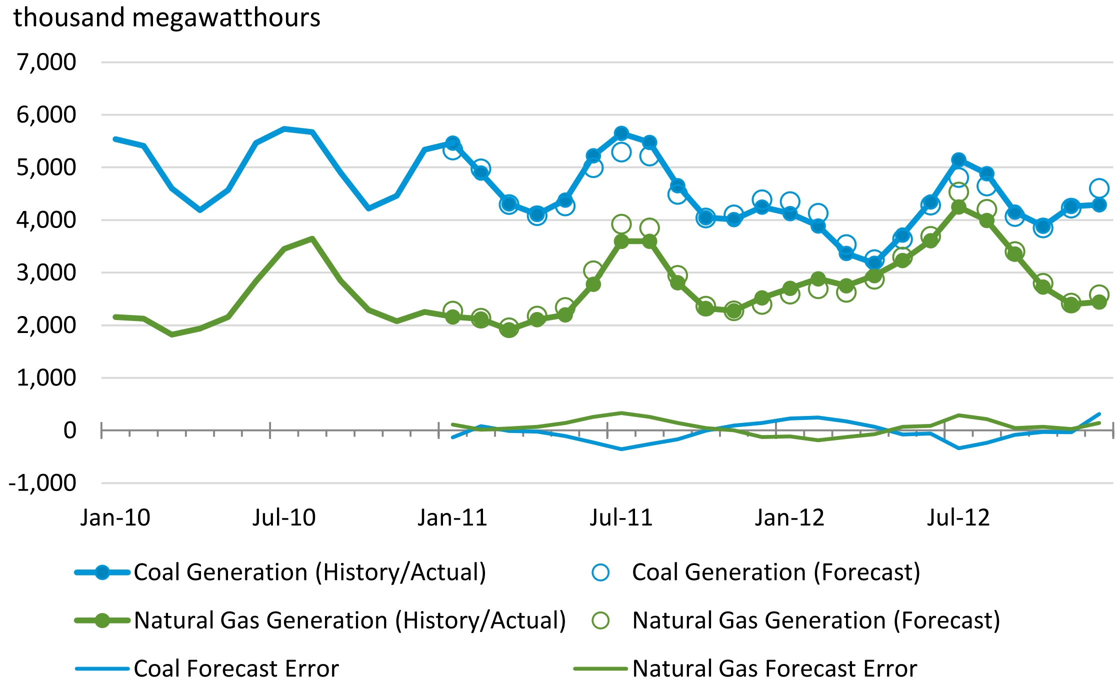
Figure 6 - U.S. Electricity Supply Historical Data and Out-of-Sample Forecasts (2011-2012)



Source: EIA *Monthly Energy Review* and simulation of *Short-Term Energy Outlook* electricity generation model
Note: Data for electricity retail sales not shown (forecasts are exogenous to model)

The forecast errors for generation by fuel follow a more seasonal pattern. Figure 7 shows historical data and 2011-2012 out-of-sample forecasts for electric power sector generation fueled by natural gas and coal. During these years the model tended to overestimate natural gas generation and underestimate coal generation during the summer months, and vice versa during the winter months for the first half of 2012. However, the model was able to pick up much of the switching from coal-fired to natural-gas-fired generation that occurred during 2012.

Figure 7 - U.S. Electric Power Sector Generation by Fuel Historical Data and Out-of-Sample Forecasts (2011-2012)



Source: EIA *Monthly Energy Review* and simulation of *Short-Term Energy Outlook* electricity generation model

The graphs of the forecasted series and its actual value only provides a visual comparison of the forecast reliability. Various statistics have been developed to measure forecast performance. Simply calculating the mean of the errors (the difference between each observation's forecast value and its actual value) can provide a simple measure of the forecast's bias. If a forecast underestimates the actual value just as often as it overestimates, then the mean error should have a value close to zero.

However, negative errors offset positive errors in the mean error statistic, and it does not provide much information about how "far away" forecasts are from the actual values. A more common measure of forecast reliability is the root mean squared error statistic (RMSE), defined as the square root of the average of the squared errors. This statistic measures the overall accuracy of a forecast without respect to over- or under-estimation. As with the mean error statistic, the RMSE is measured in the same units as the underlying series. However, by squaring the errors the RMSE gives greater weight to outlier forecast points. The mean absolute percent error (MAPE) statistic provides a similar measure of accuracy that is invariant to the scale of the series.

The mean error, RMSE, and MAPE reliability statistics for the electricity industry supply variables are shown in Table 5. These reflect out-of-sample forecast errors for a model solution over the period 2011-2012. The forecast for transmission and distribution losses appears approximately unbiased (with mean errors near 0) over the solution period, but the large values for the RMSE and the MAPE indicate that the forecast often deviated quite a bit from the actual value. For electric power sector generation by fuel, the RMSE statistic for coal generation indicates that it had the largest error of all the energy sources. However, coal accounts for the largest share of total generation so it's relative error as measured by the MAPE statistic was only 3.2% during the solution period. Conversely, the MAPE statistic for pumped storage hydropower had the largest value, 26.8%, but accounts for a relatively small share of total generation.

Table 5 - Electricity Supply Out-of-Sample Forecast Error Statistics

		Mean Error	Root Mean Squared Error	Mean Absolute Percent Error
Electricity industry supply balance (billion kilowatthours per day)				
TSEOPUS	Total generation, all sectors	0.0379	0.0938	0.7%
EXTCPUS	Total retail electricity sales *	N/A	N/A	N/A
ELDUPUS	Direct use of electricity	0.0082	0.0136	2.9%
TDLOPUS	Trans. and dist. losses	(0.0033)	0.0810	12.3%
ELIMPUS	U.S. electricity imports	(0.0163)	0.0239	11.4%
ELEXPUS	U.S. electricity exports	0.0167	0.0185	50.1%
CHEOPUS	CHP sector generation	0.0095	0.0158	2.9%
EPEOPUS	Electric power sector generation	0.0284	0.0902	0.7%
Electric power sector generation by fuel (thousand megawatthours per day)				
CLEP_US	Coal generation	(34)	179	3.2%
NGEP_US	Natural gas generation	72	151	4.2%
PAEP_US	Petroleum generation	(1)	10	13.9%
OGEP_US	Other gases generation	0	1	13.0%
HPEP_US	Pumped storage generation	(1)	4	26.8%
HVEP_US	Conventional hydro generation †	(116)	143	15.0%
NUEP_US	Nuclear generation †	97	137	5.2%
RNEP_US	Renewable (non-hydro) generation	(16)	42	6.9%
OTEP_US	Other fossil fuels generation	(1)	1	5.6%

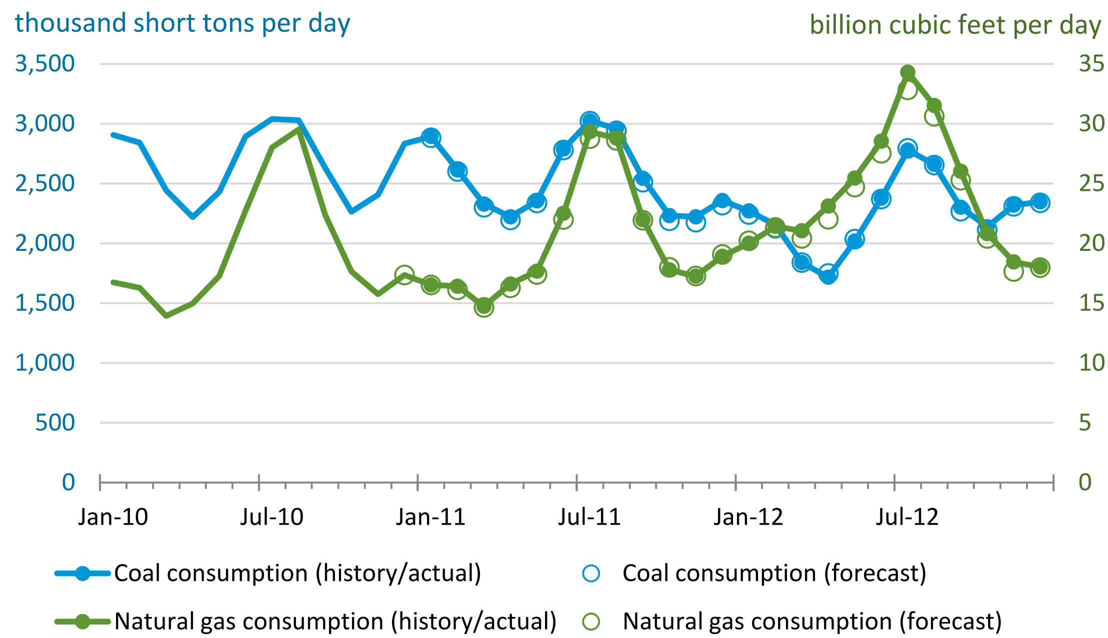
* Total retail sales are taken as exogenous when solving the electricity generation model

† Based on conventional hydroelectric and nuclear forecasts from the January 2011 *Short-Term Energy Outlook*

B. Fuel Consumption

The fuel consumption model was solved for the period 2011-2012 (with the electricity supply and generation values fixed at their actual values) in order to assess the model's forecast reliability. Figure 8 shows the monthly forecast values compared the actual values for natural gas and coal consumed for generation in the electric power sector. The forecast of coal consumption is relatively robust. But after the first quarter of 2012, the forecast of natural gas consumption overestimates actual consumption. This was the period when fuel switching accelerated, and many generators were running natural-gas-fired plants at record-high capacity factors, which likely impacted the operational heat rates.

Figure 8 - U.S. Electric Power Sector Fuel Consumption for Generation, Historical Data and Out-of-Sample Forecasts (2011-2012)



Source: EIA Monthly Energy Review and simulation of Short-Term Energy Outlook electricity generation model

Table 6 - Electric Power Generation Fuel Consumption Out-of-Sample Forecasts and Error Statistics

	Coal (thousand short tons per day)	Natural Gas (billion cubic feet per day)	Petroleum (thousand barrels per day)
2011 fuel consumption			
Forecast	2,521	19.741	499
Actual	2,545	19.905	555
2012 fuel consumption			
Forecast	2,237	23.419	390
Actual	2,244	24.070	396
Mean error	(16)	(0.408)	(30)
Root mean squared error	24	0.601	120
Mean absolute percentage error	0.9%	1.9%	27.3%

Appendix A. Variable Definitions

Units Key

BkWh/d	Billion kilowatthours per day
GWh/d	Gigawatthours per day
MW	Megawatts
Mbbl/d	Thousand barrels per day
MMbbl/d	Million barrels per day
Bcf/d	Billion cubic feet per day
MMcf/d	Million cubic feet per day
Mtons/d	Thousand tons per day
MMtons/d	Million tons per day
MMBtu	Million British thermal units
DD	Degree days

VARIABLE	DESCRIPTION	UNITS
APR	= 1 if April, 0 otherwise	--
AUG	= 1 if August, 0 otherwise	--
CHEO_MW	Total Net Generation, Comm. and Ind. Sectors, Midwest Region	GWh/d
CHEO_NE	Total Net Generation, Comm. and Ind. Sectors, Northeast Region	GWh/d
CHEO_SO	Total Net Generation, Comm. and Ind. Sectors, Southeast Region	GWh/d
CHEO_WE	Total Net Generation, Comm. and Ind. Sectors, West Region	GWh/d
CHEO_US	Total Net Generation, Comm. and Ind. Sectors, United States	GWh/d
CHEOPUS	U.S. Total Net Generation, Comm. and Ind. Sectors	BkWh/d
CLCH_MW	Coal Net Generation, Comm. and Ind. Sectors, Midwest Region	GWh/d
CLCH_NE	Coal Net Generation, Comm. and Ind. Sectors, Northeast Region	GWh/d
CLCH_SO	Coal Net Generation, Comm. and Ind. Sectors, Southeast Region	GWh/d
CLCH_WE	Coal Net Generation, Comm. and Ind. Sectors, West Region	GWh/d
CLCH_US	Coal Net Generation, Comm. and Ind. Sectors, United States	GWh/d
CLCHCON_EL_MW	Coal Consumption for Generation, Comm. and Ind. Sectors, Midwest Region	Mtons/d
CLCHCON_EL_NE	Coal Consumption for Generation, Comm. and Ind. Sectors, Northeast Region	Mtons/d
CLCHCON_EL_SO	Coal Consumption for Generation, Comm. and Ind. Sectors, Southeast Region	Mtons/d
CLCHCON_EL_WE	Coal Consumption for Generation, Comm. and Ind. Sectors, West Region	Mtons/d
CLCHCON_EL_US	Coal Consumption for Generation, Comm. and Ind. Sectors, United States	Mtons/d
CLCHCON_EL	U.S. Coal Consumption for Generation, Comm. and Ind. Sectors	MMtons/d
CLCHCON_MW	Coal Consumption (Total), Comm. and Ind. Sectors, Midwest Region	Mtons/d
CLCHCON_NE	Coal Consumption (Total), Comm. and Ind. Sectors, Northeast Region	Mtons/d
CLCHCON_SO	Coal Consumption (Total), Comm. and Ind. Sectors, Southeast Region	Mtons/d
CLCHCON_WE	Coal Consumption (Total), Comm. and Ind. Sectors, West Region	Mtons/d
CLCHCON_US	Coal Consumption (Total), Comm. and Ind. Sectors, United States	Mtons/d
CLCHCON	U.S. Coal Consumption (Total), Comm. and Ind. Sectors	MMtons/d
CLEP_MW	Coal Net Generation, Electric Power Sector, Midwest Region	GWh/d
CLEP_NE	Coal Net Generation, Electric Power Sector, Northeast Region	GWh/d

CLEP_SO	Coal Net Generation, Electric Power Sector, Southeast Region	GWh/d
CLEP_WE	Coal Net Generation, Electric Power Sector, West Region	GWh/d
CLEP_US	Coal Net Generation, Electric Power Sector, United States	GWh/d
CLEPTOT	U.S. Coal Net Generation, Electric Power Sector	BkWh/d
CLEPCAP_MW	Coal Capacity, Electric Power Sector, Midwest Region	MW
CLEPCAP_NE	Coal Capacity, Electric Power Sector, Northeast Region	MW
CLEPCAP_SO	Coal Capacity, Electric Power Sector, Southeast Region	MW
CLEPCON_EL_MW	Coal Consumption for Generation, Electric Power Sector, Midwest Region	Mtons/d
CLEPCON_EL_NE	Coal Consumption for Generation, Electric Power Sector, Northeast Region	Mtons/d
CLEPCON_EL_SO	Coal Consumption for Generation, Electric Power Sector, Southeast Region	Mtons/d
CLEPCON_EL_WE	Coal Consumption for Generation, Electric Power Sector, West Region	Mtons/d
CLEPCON_EL_US	Coal Consumption for Generation, Electric Power Sector, United States	Mtons/d
CLEPCON_EL	U.S. Coal Consumption for Generation, Electric Power Sector	MMtons/d
CLEPCON_UTO_MW	Coal Consumption for Useful Thermal Output, Electric Power Sector, Midwest Region	Mtons/d
CLEPCON_UTO_NE	Coal Consumption for Useful Thermal Output, Electric Power Sector, Northeast Region	Mtons/d
CLEPCON_UTO_SO	Coal Consumption for Useful Thermal Output, Electric Power Sector, Southeast Region	Mtons/d
CLEPCON_UTO_US	Coal Consumption for Useful Thermal Output, Electric Power Sector, West Region	Mtons/d
CLEPCON_UTO_WE	Coal Consumption for Useful Thermal Output, Electric Power Sector, United States	Mtons/d
CLEPCON_MW	Coal Consumption (Total), Electric Power Sector, Midwest Region	Mtons/d
CLEPCON_NE	Coal Consumption (Total), Electric Power Sector, Northeast Region	Mtons/d
CLEPCON_SO	Coal Consumption (Total), Electric Power Sector, Southeast Region	Mtons/d
CLEPCON_WE	Coal Consumption (Total), Electric Power Sector, West Region	Mtons/d
CLEPCON_US	Coal Consumption (Total), Electric Power Sector, United States	Mtons/d
CLEPCON	U.S. Coal Consumption (Total), Electric Power Sector	MMtons/d
CLEUDUS	U.S. Average Cost of Coal Delivered to Electricity Industry	$/MMBtu
CLTO_MW	Coal Net Generation, All Sectors, Midwest Region	GWh/d
CLTO_NE	Coal Net Generation, All Sectors, Northeast Region	GWh/d
CLTO_SO	Coal Net Generation, All Sectors, Southeast Region	GWh/d
CLTO_WE	Coal Net Generation, All Sectors, West Region	GWh/d
CLTO_US	Coal Net Generation, All Sectors, United States	GWh/d
CLTOPUS	U.S. Coal Net Generation, All Sectors	BkWh/d
CLTOCON_EL_MW	Coal Consumption for Generation, All Sectors, Midwest Region	Mtons/d
CLTOCON_EL_NE	Coal Consumption for Generation, All Sectors, Northeast Region	Mtons/d
CLTOCON_EL_SO	Coal Consumption for Generation, All Sectors, Southeast Region	Mtons/d
CLTOCON_EL_WE	Coal Consumption for Generation, All Sectors, West Region	Mtons/d
CLTOCON_EL_US	Coal Consumption for Generation, All Sectors, United States	Mtons/d
CLTOCON_EL	U.S. Coal Consumption for Generation, All Sectors	MMtons/d
CLTOCON_MW	Coal Consumption (Total), All Sectors, Midwest Region	Mtons/d
CLTOCON_NE	Coal Consumption (Total), All Sectors, Northeast Region	Mtons/d
CLTOCON_SO	Coal Consumption (Total), All Sectors, Southeast Region	Mtons/d
CLTOCON_WE	Coal Consumption (Total), All Sectors, West Region	Mtons/d

CLTOCON_US	Coal Consumption (Total), All Sectors, United States	Mtons/d
CLTOCON	U.S. Coal Consumption (Total), All Sectors	MMtons/d
DEC	= 1 if December, 0 otherwise	--
DKCH_MW	Distillate Fuel Oil Net Generation, Comm. and Ind. Sectors, Midwest Region	GWh/d
DKCH_NE	Distillate Fuel Oil Net Generation, Comm. and Ind. Sectors, Northeast Region	GWh/d
DKCH_SO	Distillate Fuel Oil Net Generation, Comm. and Ind. Sectors, Southeast Region	GWh/d
DKCH_WE	Distillate Fuel Oil Net Generation, Comm. and Ind. Sectors, West Region	GWh/d
DKCH_US	Distillate Fuel Oil Net Generation, Comm. and Ind. Sectors, United States	GWh/d
DKCHCON_EL_MW	Distillate Fuel Oil Consumption for Generation, Comm. and Ind. Sectors, Midwest Region	Mbbl/d
DKCHCON_EL_NE	Distillate Fuel Oil Consumption for Generation, Comm. and Ind. Sectors, Northeast Region	Mbbl/d
DKCHCON_EL_SO	Distillate Fuel Oil Consumption for Generation, Comm. and Ind. Sectors, Southeast Region	Mbbl/d
DKCHCON_EL_WE	Distillate Fuel Oil Consumption for Generation, Comm. and Ind. Sectors, West Region	Mbbl/d
DKCHCON_EL_US	Distillate Fuel Oil Consumption for Generation, Comm. and Ind. Sectors, United States	Mbbl/d
DKCHCON_EL	U.S. Distillate Fuel Oil Consumption for Generation, Comm. and Ind. Sectors	MMbbl/d
DKCHCON_MW	Distillate Fuel Oil Consumption (Total), Comm. and Ind. Sectors, Midwest Region	Mbbl/d
DKCHCON_NE	Distillate Fuel Oil Consumption (Total), Comm. and Ind. Sectors, Northeast Region	Mbbl/d
DKCHCON_SO	Distillate Fuel Oil Consumption (Total), Comm. and Ind. Sectors, Southeast Region	Mbbl/d
DKCHCON_WE	Distillate Fuel Oil Consumption (Total), Comm. and Ind. Sectors, West Region	Mbbl/d
DKCHCON_US	Distillate Fuel Oil Consumption (Total), Comm. and Ind. Sectors, United States	Mbbl/d
DKCHCON	U.S. Distillate Fuel Oil Consumption (Total), Comm. and Ind. Sectors	MMbbl/d
DKEP_MW	Distillate Fuel Oil Net Generation, Electric Power Sector, Midwest Region	GWh/d
DKEP_NE	Distillate Fuel Oil Net Generation, Electric Power Sector, Northeast Region	GWh/d
DKEP_SO	Distillate Fuel Oil Net Generation, Electric Power Sector, Southeast Region	GWh/d
DKEP_WE	Distillate Fuel Oil Net Generation, Electric Power Sector, West Region	GWh/d
DKEP_US	Distillate Fuel Oil Net Generation, Electric Power Sector, United States	GWh/d
DKEPTOT	U.S. Distillate Fuel Oil Net Generation, Electric Power Sector	BkWh/d
DKEPCON_EL_MW	Distillate Fuel Oil Consumption for Generation, Electric Power Sector, Midwest Region	Mbbl/d
DKEPCON_EL_NE	Distillate Fuel Oil Consumption for Generation, Electric Power Sector, Northeast Region	Mbbl/d
DKEPCON_EL_SO	Distillate Fuel Oil Consumption for Generation, Electric Power Sector, Southeast Region	Mbbl/d
DKEPCON_EL_WE	Distillate Fuel Oil Consumption for Generation, Electric Power Sector, West Region	Mbbl/d
DKEPCON_EL_US	Distillate Fuel Oil Consumption for Generation, Electric Power Sector, United States	Mbbl/d
DKEPCON_EL	U.S. Distillate Fuel Oil Consumption for Generation, Electric Power Sector	MMbbl/d
DKEPCON_UTO_MW	Distillate Fuel Oil Consumption for Useful Thermal Output, Electric Power Sector, Midwest Region	Mbbl/d
DKEPCON_UTO_NE	Distillate Fuel Oil Consumption for Useful Thermal Output, Electric Power Sector, Northeast Region	Mbbl/d
DKEPCON_UTO_SO	Distillate Fuel Oil Consumption for Useful Thermal Output, Electric Power Sector, Southeast Region	Mbbl/d
DKEPCON_UTO_WE	Distillate Fuel Oil Consumption for Useful Thermal Output, Electric Power Sector, West Region	Mbbl/d
DKEPCON_UTO_US	Distillate Fuel Oil Consumption for Useful Thermal Output, Electric Power Sector, United States	Mbbl/d
DKEPCON_MW	Distillate Fuel Oil Consumption (Total), Electric Power Sector, Midwest Region	Mbbl/d

DKEPCON_NE	Distillate Fuel Oil Consumption (Total), Electric Power Sector, Northeast Region	Mbbl/d
DKEPCON_SO	Distillate Fuel Oil Consumption (Total), Electric Power Sector, Southeast Region	Mbbl/d
DKEPCON_WE	Distillate Fuel Oil Consumption (Total), Electric Power Sector, West Region	Mbbl/d
DKEPCON_US	Distillate Fuel Oil Consumption (Total), Electric Power Sector, United States	Mbbl/d
DKEPCON	U.S. Distillate Fuel Oil Consumption (Total), Electric Power Sector	MMbbl/d
DKEUDUS	U.S. Average Cost of Distillate Fuel Oil Delivered to Electricity Industry	$/MMBtu
DKTO_MW	Distillate Fuel Oil Net Generation, All Sectors, Midwest Region	GWh/d
DKTO_NE	Distillate Fuel Oil Net Generation, All Sectors, Northeast Region	GWh/d
DKTO_SO	Distillate Fuel Oil Net Generation, All Sectors, Southeast Region	GWh/d
DKTO_WE	Distillate Fuel Oil Net Generation, All Sectors, West Region	GWh/d
DKTO_US	Distillate Fuel Oil Net Generation, All Sectors, United States	GWh/d
DKTOPUS	U.S. Distillate Fuel Oil Net Generation, All Sectors	BkWh/d
DKTOCON_EL_MW	Distillate Fuel Oil Consumption for Generation, All Sectors, Midwest Region	Mbbl/d
DKTOCON_EL_NE	Distillate Fuel Oil Consumption for Generation, All Sectors, Northeast Region	Mbbl/d
DKTOCON_EL_SO	Distillate Fuel Oil Consumption for Generation, All Sectors, Southeast Region	Mbbl/d
DKTOCON_EL_WE	Distillate Fuel Oil Consumption for Generation, All Sectors, West Region	Mbbl/d
DKTOCON_EL_US	Distillate Fuel Oil Consumption for Generation, All Sectors, United States	Mbbl/d
DKTOCON_EL	U.S. Distillate Fuel Oil Consumption for Generation, All Sectors	MMbbl/d
DKTOCON_MW	Distillate Fuel Oil Consumption (Total), All Sectors, Midwest Region	Mbbl/d
DKTOCON_NE	Distillate Fuel Oil Consumption (Total), All Sectors, Northeast Region	Mbbl/d
DKTOCON_SO	Distillate Fuel Oil Consumption (Total), All Sectors, Southeast Region	Mbbl/d
DKTOCON_WE	Distillate Fuel Oil Consumption (Total), All Sectors, West Region	Mbbl/d
DKTOCON_US	Distillate Fuel Oil Consumption (Total), All Sectors, United States	Mbbl/d
DKTOCON	U.S. Distillate Fuel Oil Consumption (Total), All Sectors	MMbbl/d
EESPP_NCR	Employment, Private Service Providing, Region=North Central Region	Millions
EESPP_NER	Employment, Private Service Providing, Region=Northeast Region	Millions
EESPP_SOR	Employment, Private Service Providing, Region=South Region	Millions
EESPP_WER	Employment, Private Service Providing, Region=West Region	Millions
ELDUPUS	U.S. Direct Use of Electricity by Comm. and Ind. Sectors	BkWh/d
ELEXPUS	U.S. Electricity Exports to Canada and Mexico	BkWh/d
ELIMPUS	U.S. Electricity Imports from Canada and Mexico	BkWh/d
ELNIPUS	U.S. Electricity Net Imports from Canada and Mexico	BkWh/d
EPEO_MW	Total Net Generation, Electric Power Sector, Midwest Region	GWh/d
EPEO_NE	Total Net Generation, Electric Power Sector, Northeast Region	GWh/d
EPEO_SO	Total Net Generation, Electric Power Sector, Southeast Region	GWh/d
EPEO_WE	Total Net Generation, Electric Power Sector, West Region	GWh/d
EPEO_US	Total Net Generation, Electric Power Sector, United States	GWh/d
EPEOPUS	U.S. Total Net Generation, Electric Power Sector	BkWh/d
EPEOX_MW	Total Net Generation (unadjusted), Electric Power Sector, Midwest Region	GWh/d
EPEOX_NE	Total Net Generation (unadjusted), Electric Power Sector, Northeast Region	GWh/d
EPEOX_SO	Total Net Generation (unadjusted), Electric Power Sector, Southeast Region	GWh/d

EPEOX_WE	Total Net Generation (unadjusted), Electric Power Sector, West Region	GWh/d
ESTXPUS	U.S. Total Electricity Demand, including Total Retail Sales and Direct Use of Electricity	BkWh/d
ETXXSUP	Total U.S. Electricity Supply, including Total Generation from All Sectors and Net Imports	BkWh/d
EXCCP_MW	Electricity Retail Sales to Commercial Sector, Midwest Region	GWh/d
EXCCP_NE	Electricity Retail Sales to Commercial Sector, Northeast Region	GWh/d
EXCCP_SO	Electricity Retail Sales to Commercial Sector, South Region	GWh/d
EXCCP_WE	Electricity Retail Sales to Commercial Sector, West Region	GWh/d
EXICP_MW	Electricity Retail Sales to Industrial Sector, Midwest Region	GWh/d
EXICP_NE	Electricity Retail Sales to Industrial Sector, Northeast Region	GWh/d
EXICP_SO	Electricity Retail Sales to Industrial Sector, South Region	GWh/d
EXICP_WE	Electricity Retail Sales to Industrial Sector, West Region	GWh/d
EXTCP_MW	Electricity Retail Sales to All Sectors, Midwest Region	GWh/d
EXTCP_NE	Electricity Retail Sales to All Sectors, Northeast Region	GWh/d
EXTCP_SO	Electricity Retail Sales to All Sectors, South Region	GWh/d
EXTCP_WE	Electricity Retail Sales to All Sectors, West Region	GWh/d
EXTCPUS	U.S. Electricity Retail Sales to All Sectors	BkWh/d
FEB	= 1 if February, 0 otherwise	--
FFCH_MW	Fossil Fuel Net Generation, Comm. and Ind. Sectors, Midwest Region	GWh/d
FFCH_NE	Fossil Fuel Net Generation, Comm. and Ind. Sectors, Northeast Region	GWh/d
FFCH_SO	Fossil Fuel Net Generation, Comm. and Ind. Sectors, Southeast Region	GWh/d
FFCH_WE	Fossil Fuel Net Generation, Comm. and Ind. Sectors, West Region	GWh/d
FFCH_US	Fossil Fuel Net Generation, Comm. and Ind. Sectors, United States	GWh/d
FFEP_MW	Fossil Fuel Net Generation, Electric Power Sector, Midwest Region	GWh/d
FFEP_NE	Fossil Fuel Net Generation, Electric Power Sector, Northeast Region	GWh/d
FFEP_SO	Fossil Fuel Net Generation, Electric Power Sector, Southeast Region	GWh/d
FFEP_WE	Fossil Fuel Net Generation, Electric Power Sector, West Region	GWh/d
FFEP_US	Fossil Fuel Net Generation, Electric Power Sector, United States	GWh/d
FFEPTOT	U.S. Fossil Fuel Net Generation, Electric Power Sector	BkWh/d
FFTO_MW	Fossil Fuel Net Generation, All Sectors, Midwest Region	GWh/d
FFTO_NE	Fossil Fuel Net Generation, All Sectors, Northeast Region	GWh/d
FFTO_SO	Fossil Fuel Net Generation, All Sectors, Southeast Region	GWh/d
FFTO_WE	Fossil Fuel Net Generation, All Sectors, West Region	GWh/d
FFTO_US	Fossil Fuel Net Generation, All Sectors, United States	GWh/d
GEEP_MW	Geothermal Net Generation, Electric Power Sector, Midwest Region	GWh/d
GEEP_NE	Geothermal Net Generation, Electric Power Sector, Northeast Region	GWh/d
GEEP_SO	Geothermal Net Generation, Electric Power Sector, Southeast Region	GWh/d
GEEP_WE	Geothermal Net Generation, Electric Power Sector, West Region	GWh/d
GEEP_US	Geothermal Net Generation, Electric Power Sector, United States	GWh/d
GEEPTOT	U.S. Geothermal Net Generation, Electric Power Sector	BkWh/d
GEEPCAP_MW	Geothermal Capacity, Electric Power Sector, Midwest Region	MW
GEEPCAP_NE	Geothermal Capacity, Electric Power Sector, Northeast Region	MW

GEEPCAP_SO	Geothermal Capacity, Electric Power Sector, Southeast Region	MW
GEEPCAP_WE	Geothermal Capacity, Electric Power Sector, West Region	MW
GEEPCAP_US	Geothermal Capacity, Electric Power Sector, United States	MW
GETO_MW	Geothermal Net Generation, All Sectors, Midwest Region	GWh/d
GETO_NE	Geothermal Net Generation, All Sectors, Northeast Region	GWh/d
GETO_SO	Geothermal Net Generation, All Sectors, Southeast Region	GWh/d
GETO_WE	Geothermal Net Generation, All Sectors, West Region	GWh/d
GETO_US	Geothermal Net Generation, All Sectors, United States	GWh/d
GETOPUS	U.S. Geothermal Net Generation, All Sectors	BkWh/d
HPEP_MW	Pumped Storage Hydroelectric Net Generation, Electric Power Sector, Midwest Region	GWh/d
HPEP_NE	Pumped Storage Hydroelectric Net Generation, Electric Power Sector, Northeast Region	GWh/d
HPEP_SO	Pumped Storage Hydroelectric Net Generation, Electric Power Sector, Southeast Region	GWh/d
HPEP_WE	Pumped Storage Hydroelectric Net Generation, Electric Power Sector, West Region	GWh/d
HPEP_US	Pumped Storage Hydroelectric Net Generation, Electric Power Sector, United States	GWh/d
HPEPTOT	U.S. Pumped Storage Hydroelectric Net Generation, Electric Power Sector	BkWh/d
HPTO_MW	Pumped Storage Hydroelectric Net Generation, All Sectors, Midwest Region	GWh/d
HPTO_NE	Pumped Storage Hydroelectric Net Generation, All Sectors, Northeast Region	GWh/d
HPTO_SO	Pumped Storage Hydroelectric Net Generation, All Sectors, Southeast Region	GWh/d
HPTO_WE	Pumped Storage Hydroelectric Net Generation, All Sectors, West Region	GWh/d
HPTO_US	Pumped Storage Hydroelectric Net Generation, All Sectors, United States	GWh/d
HPTOPUS	U.S. Pumped Storage Hydroelectric Net Generation, All Sectors	BkWh/d
HVCH_MW	Conventional Hydroelectric Net Generation, Comm. and Ind. Sectors, Midwest Region	GWh/d
HVCH_NE	Conventional Hydroelectric Net Generation, Comm. and Ind. Sectors, Northeast Region	GWh/d
HVCH_SO	Conventional Hydroelectric Net Generation, Comm. and Ind. Sectors, Southeast Region	GWh/d
HVCH_WE	Conventional Hydroelectric Net Generation, Comm. and Ind. Sectors, West Region	GWh/d
HVCH_US	Conventional Hydroelectric Net Generation, Comm. and Ind. Sectors, United States	GWh/d
HVEP_01	Conventional Hydroelectric Net Generation, Electric Power Sector, New England Division	GWh/d
HVEP_02	Conventional Hydroelectric Net Generation, Electric Power Sector, Mid-Atlantic Division (ex NY)	GWh/d
HVEP_03	Conventional Hydroelectric Net Generation, Electric Power Sector, East North Central Division	GWh/d
HVEP_04	Conventional Hydroelectric Net Generation, Electric Power Sector, West North Central Division	GWh/d
HVEP_05	Conventional Hydroelectric Net Generation, Electric Power Sector, South Atlantic Division (ex FL)	GWh/d
HVEP_06	Conventional Hydroelectric Net Generation, Electric Power Sector, East South Central Division	GWh/d
HVEP_07	Conventional Hydroelectric Net Generation, Electric Power Sector, West South Central Division (ex TX)	GWh/d
HVEP_08	Conventional Hydroelectric Net Generation, Electric Power Sector, Mountain Division	GWh/d
HVEP_09	Conventional Hydroelectric Net Generation, Electric Power Sector, Pacific Contiguous Division (ex CA)	GWh/d
HVEP_10	Conventional Hydroelectric Net Generation, Electric Power Sector, California	GWh/d
HVEP_11	Conventional Hydroelectric Net Generation, Electric Power Sector, Florida	GWh/d
HVEP_12	Conventional Hydroelectric Net Generation, Electric Power Sector, New York	GWh/d

HVEP_13	Conventional Hydroelectric Net Generation, Electric Power Sector, Texas	GWh/d
HVEP_14	Conventional Hydroelectric Net Generation, Electric Power Sector, Pacific Non-Contiguous Division	GWh/d
HVEP_MW	Conventional Hydroelectric Net Generation, Electric Power Sector, Midwest Region	GWh/d
HVEP_NE	Conventional Hydroelectric Net Generation, Electric Power Sector, Northeast Region	GWh/d
HVEP_SO	Conventional Hydroelectric Net Generation, Electric Power Sector, Southeast Region	GWh/d
HVEP_WE	Conventional Hydroelectric Net Generation, Electric Power Sector, West Region	GWh/d
HVEP_US	Conventional Hydroelectric Net Generation, Electric Power Sector, United States	GWh/d
HVEPTOT	U.S. Conventional Hydroelectric Net Generation, Electric Power Sector	BkWh/d
HVEPPAC	Conventional Hydroelectric Net Generation, Electric Power Sector, Pacific Contiguous Division	BkWh/d
HVEPCAP_MW	Conventional Hydroelectric Capacity, Electric Power Sector, Midwest Region	MW
HVEPCAP_NE	Conventional Hydroelectric Capacity, Electric Power Sector, Northeast Region	MW
HVEPCAP_SO	Conventional Hydroelectric Capacity, Electric Power Sector, Southeast Region	MW
HVEPCAP_US	Conventional Hydroelectric Capacity, Electric Power Sector, West Region	MW
HVEPCAP_WE	Conventional Hydroelectric Capacity, Electric Power Sector, United States	MW
HVTO_MW	Conventional Hydroelectric Net Generation, All Sectors, Midwest Region	GWh/d
HVTO_NE	Conventional Hydroelectric Net Generation, All Sectors, Northeast Region	GWh/d
HVTO_SO	Conventional Hydroelectric Net Generation, All Sectors, Southeast Region	GWh/d
HVTO_WE	Conventional Hydroelectric Net Generation, All Sectors, West Region	GWh/d
HVTO_US	Conventional Hydroelectric Net Generation, All Sectors, United States	GWh/d
HVTOPUS	U.S. Conventional Hydroelectric Net Generation, All Sectors	BkWh/d
HYEP_MW	Hydroelectric Net Generation, Electric Power Sector, Midwest Region	GWh/d
HYEP_NE	Hydroelectric Net Generation, Electric Power Sector, Northeast Region	GWh/d
HYEP_SO	Hydroelectric Net Generation, Electric Power Sector, Southeast Region	GWh/d
HYEP_WE	Hydroelectric Net Generation, Electric Power Sector, West Region	GWh/d
HYEP_US	Hydroelectric Net Generation, Electric Power Sector, United States	GWh/d
HYEPTOT	U.S. Hydroelectric Net Generation, Electric Power Sector	BkWh/d
HYTO_MW	Hydroelectric Net Generation, All Sectors, Midwest Region	GWh/d
HYTO_NE	Hydroelectric Net Generation, All Sectors, Northeast Region	GWh/d
HYTO_SO	Hydroelectric Net Generation, All Sectors, Southeast Region	GWh/d
HYTO_WE	Hydroelectric Net Generation, All Sectors, West Region	GWh/d
HYTO_US	Hydroelectric Net Generation, All Sectors, United States	GWh/d
HYTOPUS	U.S. Hydroelectric Net Generation, All Sectors	BkWh/d
IPMFG_NCR	Industrial Production Index, Manufacturing, 1997=100, Region=North Central Region	index
IPMFG_NER	Industrial Production Index, Manufacturing, 1997=100, Region=Northeast Region	index
IPMFG_SOR	Industrial Production Index, Manufacturing, 1997=100, Region=South Region	index
IPMFG_WER	Industrial Production Index, Manufacturing, 1997=100, Region=West Region	index
JUL	= 1 if July, 0 otherwise	--
JUN	= 1 if June, 0 otherwise	--
MAR	= 1 if March, 0 otherwise	--
MAY	= 1 if May, 0 otherwise	--

MLCH_MW	Municipal Waste Biomass Net Generation, Comm. and Ind. Sectors, Midwest Region	GWh/d
MLCH_NE	Municipal Waste Biomass Net Generation, Comm. and Ind. Sectors, Northeast Region	GWh/d
MLCH_SO	Municipal Waste Biomass Net Generation, Comm. and Ind. Sectors, Southeast Region	GWh/d
MLCH_WE	Municipal Waste Biomass Net Generation, Comm. and Ind. Sectors, West Region	GWh/d
MLCH_US	Municipal Waste Biomass Net Generation, Comm. and Ind. Sectors, United States	GWh/d
MLEP_MW	Municipal Waste Biomass Net Generation, Electric Power Sector, Midwest Region	GWh/d
MLEP_NE	Municipal Waste Biomass Net Generation, Electric Power Sector, Northeast Region	GWh/d
MLEP_SO	Municipal Waste Biomass Net Generation, Electric Power Sector, Southeast Region	GWh/d
MLEP_WE	Municipal Waste Biomass Net Generation, Electric Power Sector, West Region	GWh/d
MLEP_US	Municipal Waste Biomass Net Generation, Electric Power Sector, United States	GWh/d
MLEPTOT	U.S. Municipal Waste Biomass Net Generation, Electric Power Sector	BkWh/d
MLEPCAP_MW	Municipal Waste Biomass Capacity, Electric Power Sector, Midwest Region	MW
MLEPCAP_NE	Municipal Waste Biomass Capacity, Electric Power Sector, Northeast Region	MW
MLEPCAP_SO	Municipal Waste Biomass Capacity, Electric Power Sector, Southeast Region	MW
MLEPCAP_WE	Municipal Waste Biomass Capacity, Electric Power Sector, West Region	MW
MLEPCAP_US	Municipal Waste Biomass Capacity, Electric Power Sector, United States	MW
MLTO_MW	Municipal Waste Biomass Net Generation, All Sectors, Midwest Region	GWh/d
MLTO_NE	Municipal Waste Biomass Net Generation, All Sectors, Northeast Region	GWh/d
MLTO_SO	Municipal Waste Biomass Net Generation, All Sectors, Southeast Region	GWh/d
MLTO_WE	Municipal Waste Biomass Net Generation, All Sectors, West Region	GWh/d
MLTO_US	Municipal Waste Biomass Net Generation, All Sectors, United States	GWh/d
NGCH_MW	Natural Gas Net Generation, Comm. and Ind. Sectors, Midwest Region	GWh/d
NGCH_NE	Natural Gas Net Generation, Comm. and Ind. Sectors, Northeast Region	GWh/d
NGCH_SO	Natural Gas Net Generation, Comm. and Ind. Sectors, Southeast Region	GWh/d
NGCH_WE	Natural Gas Net Generation, Comm. and Ind. Sectors, West Region	GWh/d
NGCH_US	Natural Gas Net Generation, Comm. and Ind. Sectors, United States	GWh/d
NGCHCON_EL_MW	Natural Gas Consumption for Generation, Comm. and Ind. Sectors, Midwest Region	MMcf/d
NGCHCON_EL_NE	Natural Gas Consumption for Generation, Comm. and Ind. Sectors, Northeast Region	MMcf/d
NGCHCON_EL_SO	Natural Gas Consumption for Generation, Comm. and Ind. Sectors, Southeast Region	MMcf/d
NGCHCON_EL_WE	Natural Gas Consumption for Generation, Comm. and Ind. Sectors, West Region	MMcf/d
NGCHCON_EL_US	Natural Gas Consumption for Generation, Comm. and Ind. Sectors, United States	MMcf/d
NGCHCON_EL	U.S. Natural Gas Consumption for Generation, Comm. and Ind. Sectors	Bcf/d
NGCHCON_MW	Natural Gas Consumption (Total), Comm. and Ind. Sectors, Midwest Region	MMcf/d
NGCHCON_NE	Natural Gas Consumption (Total), Comm. and Ind. Sectors, Northeast Region	MMcf/d
NGCHCON_SO	Natural Gas Consumption (Total), Comm. and Ind. Sectors, Southeast Region	MMcf/d
NGCHCON_WE	Natural Gas Consumption (Total), Comm. and Ind. Sectors, West Region	MMcf/d
NGCHCON_US	Natural Gas Consumption (Total), Comm. and Ind. Sectors, United States	MMcf/d
NGCHCON	U.S. Natural Gas Consumption (Total), Comm. and Ind. Sectors	Bcf/d
NGEP_MW	Natural Gas Net Generation, Electric Power Sector, Midwest Region	GWh/d
NGEP_NE	Natural Gas Net Generation, Electric Power Sector, Northeast Region	GWh/d
NGEP_SO	Natural Gas Net Generation, Electric Power Sector, Southeast Region	GWh/d

NGEP_WE	Natural Gas Net Generation, Electric Power Sector, West Region	GWh/d
NGEP_US	Natural Gas Net Generation, Electric Power Sector, United States	GWh/d
NGEPTOT	U.S. Natural Gas Net Generation, Electric Power Sector	BkWh/d
NGEPCAP_MW	Natural Gas Capacity, Electric Power Sector, Midwest Region	MW
NGEPCAP_NE	Natural Gas Capacity, Electric Power Sector, Northeast Region	MW
NGEPCAP_SO	Natural Gas Capacity, Electric Power Sector, Southeast Region	MW
NGEPCAP_WE	Natural Gas Capacity, Electric Power Sector, West Region	MW
NGEPCAP_US	Natural Gas Capacity, Electric Power Sector, United States	MW
NGEPCON_EL_MW	Natural Gas Consumption for Generation, Electric Power Sector, Midwest Region	MMcf/d
NGEPCON_EL_NE	Natural Gas Consumption for Generation, Electric Power Sector, Northeast Region	MMcf/d
NGEPCON_EL_SO	Natural Gas Consumption for Generation, Electric Power Sector, Southeast Region	MMcf/d
NGEPCON_EL_WE	Natural Gas Consumption for Generation, Electric Power Sector, West Region	MMcf/d
NGEPCON_EL_US	Natural Gas Consumption for Generation, Electric Power Sector, United States	MMcf/d
NGEPCON_EL	U.S. Natural Gas Consumption for Generation, Electric Power Sector	Bcf/d
NGEPCON_UTO_MW	Natural Gas Consumption for Useful Thermal Output, Electric Power Sector, Midwest Region	MMcf/d
NGEPCON_UTO_NE	Natural Gas Consumption for Useful Thermal Output, Electric Power Sector, Northeast Region	MMcf/d
NGEPCON_UTO_SO	Natural Gas Consumption for Useful Thermal Output, Electric Power Sector, Southeast Region	MMcf/d
NGEPCON_UTO_WE	Natural Gas Consumption for Useful Thermal Output, Electric Power Sector, West Region	MMcf/d
NGEPCON_UTO_US	Natural Gas Consumption for Useful Thermal Output, Electric Power Sector, United States	MMcf/d
NGEPCON_MW	Natural Gas Consumption (Total), Electric Power Sector, Midwest Region	MMcf/d
NGEPCON_NE	Natural Gas Consumption (Total), Electric Power Sector, Northeast Region	MMcf/d
NGEPCON_SO	Natural Gas Consumption (Total), Electric Power Sector, Southeast Region	MMcf/d
NGEPCON_WE	Natural Gas Consumption (Total), Electric Power Sector, West Region	MMcf/d
NGEPCON_US	Natural Gas Consumption (Total), Electric Power Sector, United States	MMcf/d
NGEPCON	U.S. Natural Gas Consumption (Total), Electric Power Sector	Bcf/d
NGEUDUS	U.S. Average Cost of Natural Gas Delivered to Electricity Industry	$/MMBtu
NGTO_MW	Natural Gas Net Generation, All Sectors, Midwest Region	GWh/d
NGTO_NE	Natural Gas Net Generation, All Sectors, Northeast Region	GWh/d
NGTO_SO	Natural Gas Net Generation, All Sectors, Southeast Region	GWh/d
NGTO_WE	Natural Gas Net Generation, All Sectors, West Region	GWh/d
NGTO_US	Natural Gas Net Generation, All Sectors, United States	GWh/d
NGTOPUS	U.S. Natural Gas Net Generation, All Sectors	BkWh/d
NGTOCON_EL_MW	Natural Gas Consumption for Generation, All Sectors, Midwest Region	MMcf/d
NGTOCON_EL_NE	Natural Gas Consumption for Generation, All Sectors, Northeast Region	MMcf/d
NGTOCON_EL_SO	Natural Gas Consumption for Generation, All Sectors, Southeast Region	MMcf/d
NGTOCON_EL_WE	Natural Gas Consumption for Generation, All Sectors, West Region	MMcf/d
NGTOCON_EL_US	Natural Gas Consumption for Generation, All Sectors, United States	MMcf/d
NGTOCON_EL	U.S. Natural Gas Consumption for Generation, All Sectors	Bcf/d
NGTOCON_MW	Natural Gas Consumption (Total), All Sectors, Midwest Region	MMcf/d

NGTOCON_NE	Natural Gas Consumption (Total), All Sectors, Northeast Region	MMcf/d
NGTOCON_SO	Natural Gas Consumption (Total), All Sectors, Southeast Region	MMcf/d
NGTOCON_WE	Natural Gas Consumption (Total), All Sectors, West Region	MMcf/d
NGTOCON_US	Natural Gas Consumption (Total), All Sectors, United States	MMcf/d
NGTOCON	U.S. Natural Gas Consumption (Total), All Sectors	Bcf/d
NOV	= 1 if November, 0 otherwise	--
NUEP_01	Nuclear Net Generation, Electric Power Sector, New England Division	GWh/d
NUEP_02	Nuclear Net Generation, Electric Power Sector, Mid-Atlantic Division (ex NY)	GWh/d
NUEP_03	Nuclear Net Generation, Electric Power Sector, East North Central Division	GWh/d
NUEP_04	Nuclear Net Generation, Electric Power Sector, West North Central Division	GWh/d
NUEP_05	Nuclear Net Generation, Electric Power Sector, South Atlantic Division (ex FL)	GWh/d
NUEP_06	Nuclear Net Generation, Electric Power Sector, East South Central Division	GWh/d
NUEP_07	Nuclear Net Generation, Electric Power Sector, West South Central Division (ex TX)	GWh/d
NUEP_08	Nuclear Net Generation, Electric Power Sector, Mountain Division	GWh/d
NUEP_09	Nuclear Net Generation, Electric Power Sector, Pacific Contiguous Division (ex CA)	GWh/d
NUEP_10	Nuclear Net Generation, Electric Power Sector, California	GWh/d
NUEP_11	Nuclear Net Generation, Electric Power Sector, Florida	GWh/d
NUEP_12	Nuclear Net Generation, Electric Power Sector, New York	GWh/d
NUEP_13	Nuclear Net Generation, Electric Power Sector, Texas	GWh/d
NUEP_14	Nuclear Net Generation, Electric Power Sector, Pacific Non-Contiguous Division	GWh/d
NUEP_MW	Nuclear Net Generation, Electric Power Sector, Midwest Region	GWh/d
NUEP_NE	Nuclear Net Generation, Electric Power Sector, Northeast Region	GWh/d
NUEP_SO	Nuclear Net Generation, Electric Power Sector, Southeast Region	GWh/d
NUEP_WE	Nuclear Net Generation, Electric Power Sector, West Region	GWh/d
NUEP_US	Nuclear Net Generation, Electric Power Sector, United States	GWh/d
NUEPTOT	U.S. Nuclear Net Generation, Electric Power Sector	BkWh/d
NUTO_MW	Nuclear Net Generation, All Sectors, Midwest Region	GWh/d
NUTO_NE	Nuclear Net Generation, All Sectors, Northeast Region	GWh/d
NUTO_SO	Nuclear Net Generation, All Sectors, Southeast Region	GWh/d
NUTO_WE	Nuclear Net Generation, All Sectors, West Region	GWh/d
NUTO_US	Nuclear Net Generation, All Sectors, United States	GWh/d
NUTOPUS	U.S. Nuclear Net Generation, All Sectors	BkWh/d
OCT	= 1 if October, 0 otherwise	--
OGCH_MW	Other Gases Net Generation, Comm. and Ind. Sectors, Midwest Region	GWh/d
OGCH_NE	Other Gases Net Generation, Comm. and Ind. Sectors, Northeast Region	GWh/d
OGCH_SO	Other Gases Net Generation, Comm. and Ind. Sectors, Southeast Region	GWh/d
OGCH_WE	Other Gases Net Generation, Comm. and Ind. Sectors, West Region	GWh/d
OGCH_US	Other Gases Net Generation, Comm. and Ind. Sectors, United States	GWh/d
OGEP_MW	Other Gases Net Generation, Electric Power Sector, Midwest Region	GWh/d
OGEP_NE	Other Gases Net Generation, Electric Power Sector, Northeast Region	GWh/d
OGEP_SO	Other Gases Net Generation, Electric Power Sector, Southeast Region	GWh/d

OGEP_WE	Other Gases Net Generation, Electric Power Sector, West Region	GWh/d
OGEP_US	Other Gases Net Generation, Electric Power Sector, United States	GWh/d
OGEPTOT	U.S. Other Gases Net Generation, Electric Power Sector	BkWh/d
OGTO_MW	Other Gases Net Generation, All Sectors, Midwest Region	GWh/d
OGTO_NE	Other Gases Net Generation, All Sectors, Northeast Region	GWh/d
OGTO_SO	Other Gases Net Generation, All Sectors, Southeast Region	GWh/d
OGTO_WE	Other Gases Net Generation, All Sectors, West Region	GWh/d
OGTO_US	Other Gases Net Generation, All Sectors, United States	GWh/d
OGTOPUS	U.S. Other Gases Net Generation, All Sectors	BkWh/d
OPCH_MW	Other Petroleum Net Generation, Comm. and Ind. Sectors, Midwest Region	GWh/d
OPCH_NE	Other Petroleum Net Generation, Comm. and Ind. Sectors, Northeast Region	GWh/d
OPCH_SO	Other Petroleum Net Generation, Comm. and Ind. Sectors, Southeast Region	GWh/d
OPCH_WE	Other Petroleum Net Generation, Comm. and Ind. Sectors, West Region	GWh/d
OPCH_US	Other Petroleum Net Generation, Comm. and Ind. Sectors, United States	GWh/d
OPCHCON_EL_MW	Other Petroleum Consumption for Generation, Comm. and Ind. Sectors, Midwest Region	Mbbl/d
OPCHCON_EL_NE	Other Petroleum Consumption for Generation, Comm. and Ind. Sectors, Northeast Region	Mbbl/d
OPCHCON_EL_SO	Other Petroleum Consumption for Generation, Comm. and Ind. Sectors, Southeast Region	Mbbl/d
OPCHCON_EL_WE	Other Petroleum Consumption for Generation, Comm. and Ind. Sectors, West Region	Mbbl/d
OPCHCON_EL_US	Other Petroleum Consumption for Generation, Comm. and Ind. Sectors, United States	Mbbl/d
OPCHCON_EL	U.S. Other Petroleum Consumption for Generation, Comm. and Ind. Sectors	MMbbl/d
OPCHCON_MW	Other Petroleum Consumption (Total), Comm. and Ind. Sectors, Midwest Region	Mbbl/d
OPCHCON_NE	Other Petroleum Consumption (Total), Comm. and Ind. Sectors, Northeast Region	Mbbl/d
OPCHCON_SO	Other Petroleum Consumption (Total), Comm. and Ind. Sectors, Southeast Region	Mbbl/d
OPCHCON_WE	Other Petroleum Consumption (Total), Comm. and Ind. Sectors, West Region	Mbbl/d
OPCHCON_US	Other Petroleum Consumption (Total), Comm. and Ind. Sectors, United States	Mbbl/d
OPCHCON	U.S. Other Petroleum Consumption (Total), Comm. and Ind. Sectors	MMbbl/d
OPEP_MW	Other Petroleum Net Generation, Electric Power Sector, Midwest Region	GWh/d
OPEP_NE	Other Petroleum Net Generation, Electric Power Sector, Northeast Region	GWh/d
OPEP_SO	Other Petroleum Net Generation, Electric Power Sector, Southeast Region	GWh/d
OPEP_WE	Other Petroleum Net Generation, Electric Power Sector, West Region	GWh/d
OPEP_US	Other Petroleum Net Generation, Electric Power Sector, United States	GWh/d
OPEPTOT	U.S. Other Petroleum Net Generation, Electric Power Sector	BkWh/d
OPEPCON_EL_MW	Other Petroleum Consumption for Generation, Electric Power Sector, Midwest Region	Mbbl/d
OPEPCON_EL_NE	Other Petroleum Consumption for Generation, Electric Power Sector, Northeast Region	Mbbl/d
OPEPCON_EL_SO	Other Petroleum Consumption for Generation, Electric Power Sector, Southeast Region	Mbbl/d
OPEPCON_EL_WE	Other Petroleum Consumption for Generation, Electric Power Sector, West Region	Mbbl/d
OPEPCON_EL_US	Other Petroleum Consumption for Generation, Electric Power Sector, United States	Mbbl/d
OPEPCON_EL	U.S. Other Petroleum Consumption for Generation, Electric Power Sector	MMbbl/d
OPEPCON_UTO_MW	Other Petroleum Consumption for Useful Thermal Output, Electric Power Sector, Midwest Region	Mbbl/d
OPEPCON_UTO_NE	Other Petroleum Consumption for Useful Thermal Output, Electric Power Sector, Northeast Region	Mbbl/d

OPEPCON_UTO_SO	Other Petroleum Consumption for Useful Thermal Output, Electric Power Sector, Southeast Region	Mbbl/d
OPEPCON_UTO_WE	Other Petroleum Consumption for Useful Thermal Output, Electric Power Sector, West Region	Mbbl/d
OPEPCON_UTO_US	Other Petroleum Consumption for Useful Thermal Output, Electric Power Sector, United States	Mbbl/d
OPEPCON_MW	Other Petroleum Consumption (Total), Electric Power Sector, Midwest Region	Mbbl/d
OPEPCON_NE	Other Petroleum Consumption (Total), Electric Power Sector, Northeast Region	Mbbl/d
OPEPCON_SO	Other Petroleum Consumption (Total), Electric Power Sector, Southeast Region	Mbbl/d
OPEPCON_WE	Other Petroleum Consumption (Total), Electric Power Sector, West Region	Mbbl/d
OPEPCON_US	Other Petroleum Consumption (Total), Electric Power Sector, United States	Mbbl/d
OPEPCON	U.S. Other Petroleum Consumption (Total), Electric Power Sector	MMbbl/d
OPTO_MW	Other Petroleum Net Generation, All Sectors, Midwest Region	GWh/d
OPTO_NE	Other Petroleum Net Generation, All Sectors, Northeast Region	GWh/d
OPTO_SO	Other Petroleum Net Generation, All Sectors, Southeast Region	GWh/d
OPTO_WE	Other Petroleum Net Generation, All Sectors, West Region	GWh/d
OPTO_US	Other Petroleum Net Generation, All Sectors, United States	GWh/d
OPTOPUS	U.S. Other Petroleum Net Generation, All Sectors	BkWh/d
OPTOCON_EL_MW	Other Petroleum Consumption for Generation, All Sectors, Midwest Region	Mbbl/d
OPTOCON_EL_NE	Other Petroleum Consumption for Generation, All Sectors, Northeast Region	Mbbl/d
OPTOCON_EL_SO	Other Petroleum Consumption for Generation, All Sectors, Southeast Region	Mbbl/d
OPTOCON_EL_WE	Other Petroleum Consumption for Generation, All Sectors, West Region	Mbbl/d
OPTOCON_EL_US	Other Petroleum Consumption for Generation, All Sectors, United States	Mbbl/d
OPTOCON_EL	U.S. Other Petroleum Consumption for Generation, All Sectors	MMbbl/d
OPTOCON_MW	Other Petroleum Consumption (Total), All Sectors, Midwest Region	Mbbl/d
OPTOCON_NE	Other Petroleum Consumption (Total), All Sectors, Northeast Region	Mbbl/d
OPTOCON_SO	Other Petroleum Consumption (Total), All Sectors, Southeast Region	Mbbl/d
OPTOCON_WE	Other Petroleum Consumption (Total), All Sectors, West Region	Mbbl/d
OPTOCON_US	Other Petroleum Consumption (Total), All Sectors, United States	Mbbl/d
OPTOCON	U.S. Other Petroleum Consumption (Total), All Sectors	MMbbl/d
ORCH_MW	Other Waste Biomass Net Generation, Comm. and Ind. Sectors, Midwest Region	GWh/d
ORCH_NE	Other Waste Biomass Net Generation, Comm. and Ind. Sectors, Northeast Region	GWh/d
ORCH_SO	Other Waste Biomass Net Generation, Comm. and Ind. Sectors, Southeast Region	GWh/d
ORCH_WE	Other Waste Biomass Net Generation, Comm. and Ind. Sectors, West Region	GWh/d
ORCH_US	Other Waste Biomass Net Generation, Comm. and Ind. Sectors, United States	GWh/d
OREP_MW	Other Waste Biomass Net Generation, Electric Power Sector, Midwest Region	GWh/d
OREP_NE	Other Waste Biomass Net Generation, Electric Power Sector, Northeast Region	GWh/d
OREP_SO	Other Waste Biomass Net Generation, Electric Power Sector, Southeast Region	GWh/d
OREP_WE	Other Waste Biomass Net Generation, Electric Power Sector, West Region	GWh/d
OREP_US	Other Waste Biomass Net Generation, Electric Power Sector, United States	GWh/d
OREPTOT	U.S. Other Waste Biomass Net Generation, Electric Power Sector	BkWh/d
OREPCAP_MW	Other Waste Biomass Capacity, Electric Power Sector, Midwest Region	MW
OREPCAP_NE	Other Waste Biomass Capacity, Electric Power Sector, Northeast Region	MW

OREPCAP_SO	Other Waste Biomass Capacity, Electric Power Sector, Southeast Region	MW
OREPCAP_WE	Other Waste Biomass Capacity, Electric Power Sector, West Region	MW
OREPCAP_US	Other Waste Biomass Capacity, Electric Power Sector, United States	MW
ORTO_MW	Other Waste Biomass Net Generation, All Sectors, Midwest Region	GWh/d
ORTO_NE	Other Waste Biomass Net Generation, All Sectors, Northeast Region	GWh/d
ORTO_SO	Other Waste Biomass Net Generation, All Sectors, Southeast Region	GWh/d
ORTO_WE	Other Waste Biomass Net Generation, All Sectors, West Region	GWh/d
ORTO_US	Other Waste Biomass Net Generation, All Sectors, United States	GWh/d
OTCH_MW	Other Nonrenewable Fuels Net Generation, Comm. and Ind. Sectors, Midwest Region	GWh/d
OTCH_NE	Other Nonrenewable Fuels Net Generation, Comm. and Ind. Sectors, Northeast Region	GWh/d
OTCH_SO	Other Nonrenewable Fuels Net Generation, Comm. and Ind. Sectors, Southeast Region	GWh/d
OTCH_WE	Other Nonrenewable Fuels Net Generation, Comm. and Ind. Sectors, West Region	GWh/d
OTCH_US	Other Nonrenewable Fuels Net Generation, Comm. and Ind. Sectors, United States	GWh/d
OTEP_MW	Other Nonrenewable Fuels Net Generation, Electric Power Sector, Midwest Region	GWh/d
OTEP_NE	Other Nonrenewable Fuels Net Generation, Electric Power Sector, Northeast Region	GWh/d
OTEP_SO	Other Nonrenewable Fuels Net Generation, Electric Power Sector, Southeast Region	GWh/d
OTEP_WE	Other Nonrenewable Fuels Net Generation, Electric Power Sector, West Region	GWh/d
OTEP_US	Other Nonrenewable Fuels Net Generation, Electric Power Sector, United States	GWh/d
OTEPTOT	U.S. Other Nonrenewable Fuels Net Generation, Electric Power Sector	BkWh/d
OTTO_MW	Other Nonrenewable Fuels Net Generation, All Sectors, Midwest Region	GWh/d
OTTO_NE	Other Nonrenewable Fuels Net Generation, All Sectors, Northeast Region	GWh/d
OTTO_SO	Other Nonrenewable Fuels Net Generation, All Sectors, Southeast Region	GWh/d
OTTO_WE	Other Nonrenewable Fuels Net Generation, All Sectors, West Region	GWh/d
OTTO_US	Other Nonrenewable Fuels Net Generation, All Sectors, United States	GWh/d
OTTOPUS	U.S. Other Nonrenewable Fuels Net Generation, All Sectors	BkWh/d
OWCH_MW	Waste Biomass Net Generation, Comm. and Ind. Sectors, Midwest Region	GWh/d
OWCH_NE	Waste Biomass Net Generation, Comm. and Ind. Sectors, Northeast Region	GWh/d
OWCH_SO	Waste Biomass Net Generation, Comm. and Ind. Sectors, Southeast Region	GWh/d
OWCH_WE	Waste Biomass Net Generation, Comm. and Ind. Sectors, West Region	GWh/d
OWCH_US	Waste Biomass Net Generation, Comm. and Ind. Sectors, United States	GWh/d
OWEP_MW	Waste Biomass Net Generation, Electric Power Sector, Midwest Region	GWh/d
OWEP_NE	Waste Biomass Net Generation, Electric Power Sector, Northeast Region	GWh/d
OWEP_SO	Waste Biomass Net Generation, Electric Power Sector, Southeast Region	GWh/d
OWEP_WE	Waste Biomass Net Generation, Electric Power Sector, West Region	GWh/d
OWEP_US	Waste Biomass Net Generation, Electric Power Sector, United States	GWh/d
OWEPTOT	U.S. Waste Biomass Net Generation, Electric Power Sector	BkWh/d
OWEPCAP_MW	Waste Biomass Capacity, Electric Power Sector, Midwest Region	MW
OWEPCAP_NE	Waste Biomass Capacity, Electric Power Sector, Northeast Region	MW
OWEPCAP_SO	Waste Biomass Capacity, Electric Power Sector, Southeast Region	MW
OWEPCAP_WE	Waste Biomass Capacity, Electric Power Sector, West Region	MW
OWEPCAP_US	Waste Biomass Capacity, Electric Power Sector, United States	MW

OWTO_MW	Waste Biomass Net Generation, All Sectors, Midwest Region	GWh/d
OWTO_NE	Waste Biomass Net Generation, All Sectors, Northeast Region	GWh/d
OWTO_SO	Waste Biomass Net Generation, All Sectors, Southeast Region	GWh/d
OWTO_WE	Waste Biomass Net Generation, All Sectors, West Region	GWh/d
OWTO_US	Waste Biomass Net Generation, All Sectors, United States	GWh/d
OWTOPUS	U.S. Waste Biomass Net Generation, All Sectors	BkWh/d
PACH_MW	Petroleum Net Generation, Comm. and Ind. Sectors, Midwest Region	GWh/d
PACH_NE	Petroleum Net Generation, Comm. and Ind. Sectors, Northeast Region	GWh/d
PACH_SO	Petroleum Net Generation, Comm. and Ind. Sectors, Southeast Region	GWh/d
PACH_WE	Petroleum Net Generation, Comm. and Ind. Sectors, West Region	GWh/d
PACH_US	Petroleum Net Generation, Comm. and Ind. Sectors, United States	GWh/d
PACHCON_EL_MW	Petroleum Consumption for Generation, Comm. and Ind. Sectors, Midwest Region	Mbbl/d
PACHCON_EL_NE	Petroleum Consumption for Generation, Comm. and Ind. Sectors, Northeast Region	Mbbl/d
PACHCON_EL_SO	Petroleum Consumption for Generation, Comm. and Ind. Sectors, Southeast Region	Mbbl/d
PACHCON_EL_WE	Petroleum Consumption for Generation, Comm. and Ind. Sectors, West Region	Mbbl/d
PACHCON_EL_US	Petroleum Consumption for Generation, Comm. and Ind. Sectors, United States	Mbbl/d
PACHCON_EL	U.S. Petroleum Consumption for Generation, Comm. and Ind. Sectors	MMbbl/d
PACHCON_MW	Petroleum Consumption (Total), Comm. and Ind. Sectors, Midwest Region	Mbbl/d
PACHCON_NE	Petroleum Consumption (Total), Comm. and Ind. Sectors, Northeast Region	Mbbl/d
PACHCON_SO	Petroleum Consumption (Total), Comm. and Ind. Sectors, Southeast Region	Mbbl/d
PACHCON_WE	Petroleum Consumption (Total), Comm. and Ind. Sectors, West Region	Mbbl/d
PACHCON_US	Petroleum Consumption (Total), Comm. and Ind. Sectors, United States	Mbbl/d
PACHCON	U.S. Petroleum Consumption (Total), Comm. and Ind. Sectors	MMbbl/d
PAEP_MW	Petroleum Net Generation, Electric Power Sector, Midwest Region	GWh/d
PAEP_NE	Petroleum Net Generation, Electric Power Sector, Northeast Region	GWh/d
PAEP_SO	Petroleum Net Generation, Electric Power Sector, Southeast Region	GWh/d
PAEP_WE	Petroleum Net Generation, Electric Power Sector, West Region	GWh/d
PAEP_US	Petroleum Net Generation, Electric Power Sector, United States	GWh/d
PAEPTOT	U.S. Petroleum Net Generation, Electric Power Sector	BkWh/d
PAEPCON_EL_MW	Petroleum Consumption for Generation, Electric Power Sector, Midwest Region	Mbbl/d
PAEPCON_EL_NE	Petroleum Consumption for Generation, Electric Power Sector, Northeast Region	Mbbl/d
PAEPCON_EL_SO	Petroleum Consumption for Generation, Electric Power Sector, Southeast Region	Mbbl/d
PAEPCON_EL_WE	Petroleum Consumption for Generation, Electric Power Sector, West Region	Mbbl/d
PAEPCON_EL_US	Petroleum Consumption for Generation, Electric Power Sector, United States	Mbbl/d
PAEPCON_EL	U.S. Petroleum Consumption for Generation, Electric Power Sector	MMbbl/d
PAEPCON_MW	Petroleum Consumption (Total), Electric Power Sector, Midwest Region	Mbbl/d
PAEPCON_NE	Petroleum Consumption (Total), Electric Power Sector, Northeast Region	Mbbl/d
PAEPCON_SO	Petroleum Consumption (Total), Electric Power Sector, Southeast Region	Mbbl/d
PAEPCON_WE	Petroleum Consumption (Total), Electric Power Sector, West Region	Mbbl/d
PAEPCON_US	Petroleum Consumption (Total), Electric Power Sector, United States	Mbbl/d
PAEPCON	U.S. Petroleum Consumption (Total), Electric Power Sector	MMbbl/d

PATO_MW	Petroleum Net Generation, All Sectors, Midwest Region	GWh/d
PATO_NE	Petroleum Net Generation, All Sectors, Northeast Region	GWh/d
PATO_SO	Petroleum Net Generation, All Sectors, Southeast Region	GWh/d
PATO_WE	Petroleum Net Generation, All Sectors, West Region	GWh/d
PATO_US	Petroleum Net Generation, All Sectors, United States	GWh/d
PATOPUS	U.S. Petroleum Net Generation, All Sectors	BkWh/d
PATOCON_EL_MW	Petroleum Consumption for Generation, All Sectors, Midwest Region	Mbbl/d
PATOCON_EL_NE	Petroleum Consumption for Generation, All Sectors, Northeast Region	Mbbl/d
PATOCON_EL_SO	Petroleum Consumption for Generation, All Sectors, Southeast Region	Mbbl/d
PATOCON_EL_WE	Petroleum Consumption for Generation, All Sectors, West Region	Mbbl/d
PATOCON_EL_US	Petroleum Consumption for Generation, All Sectors, United States	Mbbl/d
PATOCON_EL	U.S. Petroleum Consumption for Generation, All Sectors	MMbbl/d
PATOCON_MW	Petroleum Consumption (Total), All Sectors, Midwest Region	Mbbl/d
PATOCON_NE	Petroleum Consumption (Total), All Sectors, Northeast Region	Mbbl/d
PATOCON_SO	Petroleum Consumption (Total), All Sectors, Southeast Region	Mbbl/d
PATOCON_WE	Petroleum Consumption (Total), All Sectors, West Region	Mbbl/d
PATOCON_US	Petroleum Consumption (Total), All Sectors, United States	Mbbl/d
PATOCON	U.S. Petroleum Consumption (Total), All Sectors	MMbbl/d
PCCH_MW	Petroleum Coke Net Generation, Comm. and Ind. Sectors, Midwest Region	GWh/d
PCCH_NE	Petroleum Coke Net Generation, Comm. and Ind. Sectors, Northeast Region	GWh/d
PCCH_SO	Petroleum Coke Net Generation, Comm. and Ind. Sectors, Southeast Region	GWh/d
PCCH_WE	Petroleum Coke Net Generation, Comm. and Ind. Sectors, West Region	GWh/d
PCCH_US	Petroleum Coke Net Generation, Comm. and Ind. Sectors, United States	GWh/d
PCCHCON_EL_MW	Petroleum Coke Consumption for Generation, Comm. and Ind. Sectors, Midwest Region	Mbbl/d
PCCHCON_EL_NE	Petroleum Coke Consumption for Generation, Comm. and Ind. Sectors, Northeast Region	Mbbl/d
PCCHCON_EL_SO	Petroleum Coke Consumption for Generation, Comm. and Ind. Sectors, Southeast Region	Mbbl/d
PCCHCON_EL_WE	Petroleum Coke Consumption for Generation, Comm. and Ind. Sectors, West Region	Mbbl/d
PCCHCON_EL_US	Petroleum Coke Consumption for Generation, Comm. and Ind. Sectors, United States	Mbbl/d
PCCHCON_EL	U.S. Petroleum Coke Consumption for Generation, Comm. and Ind. Sectors	MMbbl/d
PCCHCON_MW	Petroleum Coke Consumption (Total), Comm. and Ind. Sectors, Midwest Region	Mbbl/d
PCCHCON_NE	Petroleum Coke Consumption (Total), Comm. and Ind. Sectors, Northeast Region	Mbbl/d
PCCHCON_SO	Petroleum Coke Consumption (Total), Comm. and Ind. Sectors, Southeast Region	Mbbl/d
PCCHCON_WE	Petroleum Coke Consumption (Total), Comm. and Ind. Sectors, West Region	Mbbl/d
PCCHCON_US	Petroleum Coke Consumption (Total), Comm. and Ind. Sectors, United States	Mbbl/d
PCCHCON	U.S. Petroleum Coke Consumption (Total), Comm. and Ind. Sectors	MMbbl/d
PCEP_MW	Petroleum Coke Net Generation, Electric Power Sector, Midwest Region	GWh/d
PCEP_NE	Petroleum Coke Net Generation, Electric Power Sector, Northeast Region	GWh/d
PCEP_SO	Petroleum Coke Net Generation, Electric Power Sector, Southeast Region	GWh/d
PCEP_WE	Petroleum Coke Net Generation, Electric Power Sector, West Region	GWh/d
PCEP_US	Petroleum Coke Net Generation, Electric Power Sector, United States	GWh/d

PCEPTOT	U.S. Petroleum Coke Net Generation, Electric Power Sector	BkWh/d
PCEPCON_EL_MW	Petroleum Coke Consumption for Generation, Electric Power Sector, Midwest Region	Mbbl/d
PCEPCON_EL_NE	Petroleum Coke Consumption for Generation, Electric Power Sector, Northeast Region	Mbbl/d
PCEPCON_EL_SO	Petroleum Coke Consumption for Generation, Electric Power Sector, Southeast Region	Mbbl/d
PCEPCON_EL_WE	Petroleum Coke Consumption for Generation, Electric Power Sector, West Region	Mbbl/d
PCEPCON_EL_US	Petroleum Coke Consumption for Generation, Electric Power Sector, United States	Mbbl/d
PCEPCON_EL	U.S. Petroleum Coke Consumption for Generation, Electric Power Sector	MMbbl/d
PCEPCON_UTO_MW	Petroleum Coke Consumption for Useful Thermal Output, Electric Power Sector, Midwest Region	Mbbl/d
PCEPCON_UTO_NE	Petroleum Coke Consumption for Useful Thermal Output, Electric Power Sector, Northeast Region	Mbbl/d
PCEPCON_UTO_SO	Petroleum Coke Consumption for Useful Thermal Output, Electric Power Sector, Southeast Region	Mbbl/d
PCEPCON_UTO_WE	Petroleum Coke Consumption for Useful Thermal Output, Electric Power Sector, West Region	Mbbl/d
PCEPCON_UTO_US	Petroleum Coke Consumption for Useful Thermal Output, Electric Power Sector, United States	Mbbl/d
PCEPCON_MW	Petroleum Coke Consumption (Total), Electric Power Sector, Midwest Region	Mbbl/d
PCEPCON_NE	Petroleum Coke Consumption (Total), Electric Power Sector, Northeast Region	Mbbl/d
PCEPCON_SO	Petroleum Coke Consumption (Total), Electric Power Sector, Southeast Region	Mbbl/d
PCEPCON_WE	Petroleum Coke Consumption (Total), Electric Power Sector, West Region	Mbbl/d
PCEPCON_US	Petroleum Coke Consumption (Total), Electric Power Sector, United States	Mbbl/d
PCEPCON	U.S. Petroleum Coke Consumption (Total), Electric Power Sector	MMbbl/d
PCTO_MW	Petroleum Coke Net Generation, All Sectors, Midwest Region	GWh/d
PCTO_NE	Petroleum Coke Net Generation, All Sectors, Northeast Region	GWh/d
PCTO_SO	Petroleum Coke Net Generation, All Sectors, Southeast Region	GWh/d
PCTO_WE	Petroleum Coke Net Generation, All Sectors, West Region	GWh/d
PCTO_US	Petroleum Coke Net Generation, All Sectors, United States	GWh/d
PCTOPUS	U.S. Petroleum Coke Net Generation, All Sectors	BkWh/d
PCTOCON_EL_MW	Petroleum Coke Consumption for Generation, All Sectors, Midwest Region	Mbbl/d
PCTOCON_EL_NE	Petroleum Coke Consumption for Generation, All Sectors, Northeast Region	Mbbl/d
PCTOCON_EL_SO	Petroleum Coke Consumption for Generation, All Sectors, Southeast Region	Mbbl/d
PCTOCON_EL_WE	Petroleum Coke Consumption for Generation, All Sectors, West Region	Mbbl/d
PCTOCON_EL_US	Petroleum Coke Consumption for Generation, All Sectors, United States	Mbbl/d
PCTOCON_EL	U.S. Petroleum Coke Consumption for Generation, All Sectors	MMbbl/d
PCTOCON_MW	Petroleum Coke Consumption (Total), All Sectors, Midwest Region	Mbbl/d
PCTOCON_NE	Petroleum Coke Consumption (Total), All Sectors, Northeast Region	Mbbl/d
PCTOCON_SO	Petroleum Coke Consumption (Total), All Sectors, Southeast Region	Mbbl/d
PCTOCON_WE	Petroleum Coke Consumption (Total), All Sectors, West Region	Mbbl/d
PCTOCON_US	Petroleum Coke Consumption (Total), All Sectors, United States	Mbbl/d
PCTOCON	U.S. Petroleum Coke Consumption (Total), All Sectors	MMbbl/d
RFCH_MW	Residual Fuel Oil Net Generation, Comm. and Ind. Sectors, Midwest Region	GWh/d
RFCH_NE	Residual Fuel Oil Net Generation, Comm. and Ind. Sectors, Northeast Region	GWh/d
RFCH_SO	Residual Fuel Oil Net Generation, Comm. and Ind. Sectors, Southeast Region	GWh/d

RFCH_WE	Residual Fuel Oil Net Generation, Comm. and Ind. Sectors, West Region	GWh/d
RFCH_US	Residual Fuel Oil Net Generation, Comm. and Ind. Sectors, United States	GWh/d
RFCHCON_EL_MW	Residual Fuel Oil Consumption for Generation, Comm. and Ind. Sectors, Midwest Region	Mbbl/d
RFCHCON_EL_NE	Residual Fuel Oil Consumption for Generation, Comm. and Ind. Sectors, Northeast Region	Mbbl/d
RFCHCON_EL_SO	Residual Fuel Oil Consumption for Generation, Comm. and Ind. Sectors, Southeast Region	Mbbl/d
RFCHCON_EL_WE	Residual Fuel Oil Consumption for Generation, Comm. and Ind. Sectors, West Region	Mbbl/d
RFCHCON_EL_US	Residual Fuel Oil Consumption for Generation, Comm. and Ind. Sectors, United States	Mbbl/d
RFCHCON_EL	U.S. Residual Fuel Oil Consumption for Generation, Comm. and Ind. Sectors	MMbbl/d
RFCHCON_MW	Residual Fuel Oil Consumption (Total), Comm. and Ind. Sectors, Midwest Region	Mbbl/d
RFCHCON_NE	Residual Fuel Oil Consumption (Total), Comm. and Ind. Sectors, Northeast Region	Mbbl/d
RFCHCON_SO	Residual Fuel Oil Consumption (Total), Comm. and Ind. Sectors, Southeast Region	Mbbl/d
RFCHCON_WE	Residual Fuel Oil Consumption (Total), Comm. and Ind. Sectors, West Region	Mbbl/d
RFCHCON_US	Residual Fuel Oil Consumption (Total), Comm. and Ind. Sectors, United States	Mbbl/d
RFCHCON	U.S. Residual Fuel Oil Consumption (Total), Comm. and Ind. Sectors	MMbbl/d
RFEP_MW	Residual Fuel Oil Net Generation, Electric Power Sector, Midwest Region	GWh/d
RFEP_NE	Residual Fuel Oil Net Generation, Electric Power Sector, Northeast Region	GWh/d
RFEP_SO	Residual Fuel Oil Net Generation, Electric Power Sector, Southeast Region	GWh/d
RFEP_WE	Residual Fuel Oil Net Generation, Electric Power Sector, West Region	GWh/d
RFEP_US	Residual Fuel Oil Net Generation, Electric Power Sector, United States	GWh/d
RFEPTOT	U.S. Residual Fuel Oil Net Generation, Electric Power Sector	BkWh/d
RFEPCON_EL_MW	Residual Fuel Oil Consumption for Generation, Electric Power Sector, Midwest Region	Mbbl/d
RFEPCON_EL_NE	Residual Fuel Oil Consumption for Generation, Electric Power Sector, Northeast Region	Mbbl/d
RFEPCON_EL_SO	Residual Fuel Oil Consumption for Generation, Electric Power Sector, Southeast Region	Mbbl/d
RFEPCON_EL_WE	Residual Fuel Oil Consumption for Generation, Electric Power Sector, West Region	Mbbl/d
RFEPCON_EL_US	Residual Fuel Oil Consumption for Generation, Electric Power Sector, United States	Mbbl/d
RFEPCON_EL	U.S. Residual Fuel Oil Consumption for Generation, Electric Power Sector	MMbbl/d
RFEPCON_UTO_MW	Residual Fuel Oil Consumption for Useful Thermal Output, Electric Power Sector, Midwest Region	Mbbl/d
RFEPCON_UTO_NE	Residual Fuel Oil Consumption for Useful Thermal Output, Electric Power Sector, Northeast Region	Mbbl/d
RFEPCON_UTO_SO	Residual Fuel Oil Consumption for Useful Thermal Output, Electric Power Sector, Southeast Region	Mbbl/d
RFEPCON_UTO_WE	Residual Fuel Oil Consumption for Useful Thermal Output, Electric Power Sector, West Region	Mbbl/d
RFEPCON_UTO_US	Residual Fuel Oil Consumption for Useful Thermal Output, Electric Power Sector, United States	Mbbl/d
RFEPCON_MW	Residual Fuel Oil Consumption (Total), Electric Power Sector, Midwest Region	Mbbl/d
RFEPCON_NE	Residual Fuel Oil Consumption (Total), Electric Power Sector, Northeast Region	Mbbl/d
RFEPCON_SO	Residual Fuel Oil Consumption (Total), Electric Power Sector, Southeast Region	Mbbl/d
RFEPCON_WE	Residual Fuel Oil Consumption (Total), Electric Power Sector, West Region	Mbbl/d
RFEPCON_US	Residual Fuel Oil Consumption (Total), Electric Power Sector, United States	Mbbl/d
RFEPCON	U.S. Residual Fuel Oil Consumption (Total), Electric Power Sector	MMbbl/d
RFTOCON_EL_MW	Residual Fuel Oil Consumption for Generation, All Sectors, Midwest Region	Mbbl/d

RFTOCON_EL_NE	Residual Fuel Oil Consumption for Generation, All Sectors, Northeast Region	Mbbl/d
RFTOCON_EL_SO	Residual Fuel Oil Consumption for Generation, All Sectors, Southeast Region	Mbbl/d
RFTOCON_EL_WE	Residual Fuel Oil Consumption for Generation, All Sectors, West Region	Mbbl/d
RFTOCON_EL_US	Residual Fuel Oil Consumption for Generation, All Sectors, United States	Mbbl/d
RFTOCON_EL	U.S. Residual Fuel Oil Consumption for Generation, All Sectors	MMbbl/d
RFTOCON_MW	Residual Fuel Oil Consumption (Total), All Sectors, Midwest Region	Mbbl/d
RFTOCON_NE	Residual Fuel Oil Consumption (Total), All Sectors, Northeast Region	Mbbl/d
RFTOCON_SO	Residual Fuel Oil Consumption (Total), All Sectors, Southeast Region	Mbbl/d
RFTOCON_WE	Residual Fuel Oil Consumption (Total), All Sectors, West Region	Mbbl/d
RFTOCON_US	Residual Fuel Oil Consumption (Total), All Sectors, United States	Mbbl/d
RFTOCON	U.S. Residual Fuel Oil Consumption (Total), All Sectors	MMbbl/d
RNEPTOT	U.S. Renewable Net Generation (Non-hydro), Electric Power Sector	BkWh/d
RNTO_MW	Renewable Net Generation (Non-hydro), All Sectors, Midwest Region	GWh/d
RNTO_NE	Renewable Net Generation (Non-hydro), All Sectors, Northeast Region	GWh/d
RNTO_SO	Renewable Net Generation (Non-hydro), All Sectors, Southeast Region	GWh/d
RNTO_WE	Renewable Net Generation (Non-hydro), All Sectors, West Region	GWh/d
RNTO_US	Renewable Net Generation (Non-hydro), All Sectors, United States	GWh/d
RNTOPUS	U.S. Renewable Net Generation (Non-hydro), All Sectors	BkWh/d
SEP	= 1 if September, 0 otherwise	--
SOCH_MW	Solar Net Generation, Comm. and Ind. Sectors, Midwest Region	GWh/d
SOCH_NE	Solar Net Generation, Comm. and Ind. Sectors, Northeast Region	GWh/d
SOCH_SO	Solar Net Generation, Comm. and Ind. Sectors, Southeast Region	GWh/d
SOCH_WE	Solar Net Generation, Comm. and Ind. Sectors, West Region	GWh/d
SOCH_US	Solar Net Generation, Comm. and Ind. Sectors, United States	GWh/d
SOEP_MW	Solar Net Generation, Electric Power Sector, Midwest Region	GWh/d
SOEP_NE	Solar Net Generation, Electric Power Sector, Northeast Region	GWh/d
SOEP_SO	Solar Net Generation, Electric Power Sector, Southeast Region	GWh/d
SOEP_WE	Solar Net Generation, Electric Power Sector, West Region	GWh/d
SOEP_US	Solar Net Generation, Electric Power Sector, United States	GWh/d
SOEPTOT	U.S. Solar Net Generation, Electric Power Sector	BkWh/d
SOEPCAP_MW	Solar Capacity, Electric Power Sector, Midwest Region	MW
SOEPCAP_NE	Solar Capacity, Electric Power Sector, Northeast Region	MW
SOEPCAP_SO	Solar Capacity, Electric Power Sector, Southeast Region	MW
SOEPCAP_WE	Solar Capacity, Electric Power Sector, West Region	MW
SOEPCAP_US	Solar Capacity, Electric Power Sector, United States	MW
SOTO_MW	Solar Net Generation, All Sectors, Midwest Region	GWh/d
SOTO_NE	Solar Net Generation, All Sectors, Northeast Region	GWh/d
SOTO_SO	Solar Net Generation, All Sectors, Southeast Region	GWh/d
SOTO_WE	Solar Net Generation, All Sectors, West Region	GWh/d
SOTO_US	Solar Net Generation, All Sectors, United States	GWh/d
SOTOPUS	U.S. Solar Net Generation, All Sectors	BkWh/d

TDLOPUS	U.S. Electricity Transmission and Distribution Losses	BkWh/d
TSEO_MW	Total Net Generation, All Sectors, Midwest Region	GWh/d
TSEO_NE	Total Net Generation, All Sectors, Northeast Region	GWh/d
TSEO_SO	Total Net Generation, All Sectors, Southeast Region	GWh/d
TSEO_WE	Total Net Generation, All Sectors, West Region	GWh/d
TSEO_US	Total Net Generation, All Sectors, United States	GWh/d
TSEOPUS	U.S. Total Net Generation, All Sectors	BkWh/d
WNCH_MW	Wind Net Generation, Comm. and Ind. Sectors, Midwest Region	GWh/d
WNCH_NE	Wind Net Generation, Comm. and Ind. Sectors, Northeast Region	GWh/d
WNCH_SO	Wind Net Generation, Comm. and Ind. Sectors, Southeast Region	GWh/d
WNCH_WE	Wind Net Generation, Comm. and Ind. Sectors, West Region	GWh/d
WNCH_US	Wind Net Generation, Comm. and Ind. Sectors, United States	GWh/d
WNEP_MW	Wind Net Generation, Electric Power Sector, Midwest Region	GWh/d
WNEP_NE	Wind Net Generation, Electric Power Sector, Northeast Region	GWh/d
WNEP_SO	Wind Net Generation, Electric Power Sector, Southeast Region	GWh/d
WNEP_WE	Wind Net Generation, Electric Power Sector, West Region	GWh/d
WNEP_US	Wind Net Generation, Electric Power Sector, United States	GWh/d
WNEPTOT	U.S. Wind Net Generation, Electric Power Sector	BkWh/d
WNEPCAP_MW	Total Wind Capacity, Electric Power Sector, Midwest Region	MW
WNEPCAP_NE	Total Wind Capacity, Electric Power Sector, Northeast Region	MW
WNEPCAP_SO	Total Wind Capacity, Electric Power Sector, Southeast Region	MW
WNEPCAP_WE	Total Wind Capacity, Electric Power Sector, West Region	MW
WNEPCAP_US	Total Wind Capacity, Electric Power Sector, United States	MW
WNEPCAPX_MW	Reported Wind Capacity, Electric Power Sector, Midwest Region	MW
WNEPCAPX_NE	Reported Wind Capacity, Electric Power Sector, Northeast Region	MW
WNEPCAPX_SO	Reported Wind Capacity, Electric Power Sector, Southeast Region	MW
WNEPCAPX_WE	Reported Wind Capacity, Electric Power Sector, West Region	MW
WNEPCAPX_US	Reported Wind Capacity, Electric Power Sector, United States	MW
WNEPCAP_MW_A	Wind Capacity Additions, Electric Power Sector, Midwest Region	MW
WNEPCAP_NE_A	Wind Capacity Additions, Electric Power Sector, Northeast Region	MW
WNEPCAP_SO_A	Wind Capacity Additions, Electric Power Sector, Southeast Region	MW
WNEPCAP_US_A	Wind Capacity Additions, Electric Power Sector, West Region	MW
WNEPCAP_WE_A	Wind Capacity Additions, Electric Power Sector, United States	MW
WNTO_MW	Wind Net Generation, All Sectors, Midwest Region	GWh/d
WNTO_NE	Wind Net Generation, All Sectors, Northeast Region	GWh/d
WNTO_SO	Wind Net Generation, All Sectors, Southeast Region	GWh/d
WNTO_WE	Wind Net Generation, All Sectors, West Region	GWh/d
WNTO_US	Wind Net Generation, All Sectors, United States	GWh/d
WNTOPUS	U.S. Wind Net Generation, All Sectors	BkWh/d
WWCH_MW	Wood Biomass Net Generation, Comm. and Ind. Sectors, Midwest Region	GWh/d
WWCH_NE	Wood Biomass Net Generation, Comm. and Ind. Sectors, Northeast Region	GWh/d

WWCH_SO	Wood Biomass Net Generation, Comm. and Ind. Sectors, Southeast Region	GWh/d
WWCH_WE	Wood Biomass Net Generation, Comm. and Ind. Sectors, West Region	GWh/d
WWCH_US	Wood Biomass Net Generation, Comm. and Ind. Sectors, United States	GWh/d
WWEP_MW	Wood Biomass Net Generation, Electric Power Sector, Midwest Region	GWh/d
WWEP_NE	Wood Biomass Net Generation, Electric Power Sector, Northeast Region	GWh/d
WWEP_SO	Wood Biomass Net Generation, Electric Power Sector, Southeast Region	GWh/d
WWEP_WE	Wood Biomass Net Generation, Electric Power Sector, West Region	GWh/d
WWEP_US	Wood Biomass Net Generation, Electric Power Sector, United States	GWh/d
WWEPTOT	U.S. Wood Biomass Net Generation, Electric Power Sector	BkWh/d
WWEPCAP_MW	Wood Biomass Capacity, Electric Power Sector, Midwest Region	MW
WWEPCAP_NE	Wood Biomass Capacity, Electric Power Sector, Northeast Region	MW
WWEPCAP_SO	Wood Biomass Capacity, Electric Power Sector, Southeast Region	MW
WWEPCAP_WE	Wood Biomass Capacity, Electric Power Sector, West Region	MW
WWEPCAP_US	Wood Biomass Capacity, Electric Power Sector, United States	MW
WWTO_MW	Wood Biomass Net Generation, All Sectors, Midwest Region	GWh/d
WWTO_NE	Wood Biomass Net Generation, All Sectors, Northeast Region	GWh/d
WWTO_SO	Wood Biomass Net Generation, All Sectors, Southeast Region	GWh/d
WWTO_WE	Wood Biomass Net Generation, All Sectors, West Region	GWh/d
WWTO_US	Wood Biomass Net Generation, All Sectors, United States	GWh/d
WWTOPUS	U.S. Wood Biomass Net Generation, All Sectors	BkWh/d
ZWCD_MW	Cooling Degree Days, Midwest Region	DD
ZWCD_NE	Cooling Degree Days, Northeast Region	DD
ZWCD_SO	Cooling Degree Days, South Region	DD
ZWCD_WE	Cooling Degree Days, West Region	DD
ZWCDPUS	U.S. Cooling Degree Days	DD
ZWCN_MW	Cooling Degree Days (10-Year Average), Midwest Region	DD
ZWCN_NE	Cooling Degree Days (10-Year Average), Northeast Region	DD
ZWCN_SO	Cooling Degree Days (10-Year Average), South Region	DD
ZWCN_WE	Cooling Degree Days (10-Year Average), West Region	DD
ZWHD_MW	Heating Degree Days, Midwest Region	DD
ZWHD_NE	Heating Degree Days, Northeast Region	DD
ZWHD_SO	Heating Degree Days, South Region	DD
ZWHD_WE	Heating Degree Days, West Region	DD
ZWHDPUS	U.S. Heating Degree Days	DD
ZWHN_MW	Heating Degree Days (10-Year Average), Midwest Region	DD
ZWHN_NE	Heating Degree Days (10-Year Average), Northeast Region	DD
ZWHN_SO	Heating Degree Days (10-Year Average), South Region	DD
ZWHN_WE	Heating Degree Days (10-Year Average), West Region	DD

Appendix B. Eviews Model Object File (electricity generation)

```
'****************************************************************************
' ------------------ ELECTRICITY BALANCE IDENTITIES --------------------
'****************************************************************************

' -------------------------------------------------------------------------------------
' DIRECT USE OF ELECTRICITY
' -------------------------------------------------------------------------------------

eldupus  = (cheo_us)  * (eldupus(-12)  / cheo_us(-12))

' -------------------------------------------------------------------------------------
' TRANSMISSION & DISTRIBUTION (T&D) LOSSES
' -------------------------------------------------------------------------------------

:eq_tdlopus
@ADD TDLOPUS  TDLOPUS_A

' -------------------------------------------------------------------------------------
' ELECTRICITY TRADE WITH CANADA AND MEXICO
' -------------------------------------------------------------------------------------

:eq_elimpus
@ADD ELIMPUS  ELIMPUS_A

:eq_elexpus
@ADD ELEXPUS  ELEXPUS_A

elnipus  = elimpus  - elexpus

' -------------------------------------------------------------------------------------
' TOTAL CONSUMPTION, OF ELECTRICITY
' -------------------------------------------------------------------------------------

estxpus  = extcpus  + eldupus

' -------------------------------------------------------------------------------------
' TOTAL U.S. ELECTRICITY OUTPUT IDENTITY
' -------------------------------------------------------------------------------------

tseopus  = estxpus  + tdlopus  - elnipus

'--------------------------------------------------------------------------------------
' TOTAL ELECTRICITY SUPPLY
'--------------------------------------------------------------------------------------

etxxsup  = tseopus  + elnipus

' ***************************************************************************
' -------------- ELECTRIC POWER SECTOR GENERATION -----------------
' ***************************************************************************
' ----- TOTAL  EP GENERATION --------------------------------------------------

epeopus  = tseopus  - (cheo_us  / 1000)

:eq_epeo_mw

:eq_epeo_ne
```

```
:eq_epeo_so

:eq_epeo_we

epeo_ne  = 1000  * epeox_ne  * (epeopus  / (epeox_ne  + epeox_mw  + epeox_so  + epeox_we))

epeo_mw  = 1000  * epeox_mw  * (epeopus  / (epeox_ne  + epeox_mw  + epeox_so  + epeox_we))

epeo_so  = 1000  * epeox_so  * (epeopus  / (epeox_ne  + epeox_mw  + epeox_so  + epeox_we))

epeo_we  = 1000  * epeox_we  * (epeopus  / (epeox_ne  + epeox_mw  + epeox_so  + epeox_we))

epeo_us  = epeo_ne  + epeo_mw  + epeo_so  + epeo_we

' ------------------------------------------------------------------------
' ----- WIND GENERATION ---------------------------------------------------

:eq_wnep_mw

:eq_wnep_ne

:eq_wnep_so

:eq_wnep_we

' ------------------------------------------------------------------------
' ----- WOOD & WOOD WASTE GENERATION --------------------------------

:eq_wwep_mw

:eq_wwep_ne

:eq_wwep_so

:eq_wwep_we

' ------------------------------------------------------------------------
' ----- MUNICIPAL BIOMASS GENERATION ------------------------------------

:eq_mlep_mw

:eq_mlep_ne

:eq_mlep_so

:eq_mlep_we

' ------------------------------------------------------------------------
' ----- OTHER BIOMASS GENERATION -----------------------------------------

:eq_orep_mw

:eq_orep_ne

:eq_orep_so

:eq_orep_we

' ------------------------------------------------------------------------
' ----- TOTAL BIOMASS GENERATION ------------------------------------------

owep_mw  = mlep_mw  + orep_mw
```

```
owep_ne  = mlep_ne  + orep_ne

owep_so  = mlep_so  + orep_so

owep_we  = mlep_we  + orep_we

' --------------------------------------------------------------------------
' ----- SOLAR GENERATION -----------------------------------------------------

:eq_soep_we

soep_mw  = (soepcap_mw  + soepcap_mw_a)  * (soep_we  / (soepcap_we  + soepcap_we_a))

soep_ne  = (soepcap_ne  + soepcap_ne_a)  * (soep_we  / (soepcap_we  + soepcap_we_a))

soep_so  = (soepcap_so  + soepcap_so_a)  * (soep_we  / (soepcap_we  + soepcap_we_a))

' --------------------------------------------------------------------------
' ----- GEOTHERMAL GENERATION ------------------------------------------------

:eq_geep_we

geep_mw  = geepcap_mw  * (geep_we  / geepcap_we)

geep_ne  = geepcap_ne  * (geep_we  / geepcap_we)

geep_so  = geepcap_so  * (geep_we  / geepcap_we)

' --------------------------------------------------------------------------
' ----- PUMPED STORAGE GENERATION --------------------------------------------

:eq_hpep_ne

:eq_hpep_mw

:eq_hpep_so

:eq_hpep_we

' --------------------------------------------------------------------------
' ----- CONVENTIONAL  HYDROELECTRIC GENERATION ---------------
' -----            (Regional Forecasts Exogenous)             ---------------

hvep_ne  = hvep_01  + hvep_02  + hvep_12

hvep_mw  = hvep_03  + hvep_04

hvep_so  = hvep_05  + hvep_06  + hvep_07  + hvep_11  + hvep_13

hvep_we  = hvep_08  + hvep_09  + hvep_10  + hvep_14

' --------------------------------------------------------------------------
' ----- NET HYDROELECTRIC GENERATION ---------------------------------

hyep_mw  = hvep_mw  + hpep_mw

hyep_ne  = hvep_ne  + hpep_ne

hyep_so  = hvep_so  + hpep_so

hyep_we  = hvep_we  + hpep_we
```

```
' -------------------------------------------------------------------------
' ----- NUCLEAR GENERATION (Exogenous) ---------------------------------

nuep_mw  = nuep_03  + nuep_04

nuep_ne  = nuep_01  + nuep_02  + nuep_12

nuep_so  = nuep_05  + nuep_06  + nuep_07  + nuep_11  + nuep_13

nuep_we  = nuep_08  + nuep_09  + nuep_10  + nuep_14

' -------------------------------------------------------------------------
' ----- NATURAL GAS GENERATION --------------------------------------------

:eq_ngep_mw
@ADD NGEP_MW  NGEP_MW_A

:eq_ngep_ne
@ADD NGEP_NE  NGEP_NE_A

:eq_ngep_so
@ADD NGEP_SO  NGEP_SO_A

:eq_ngep_we
@ADD NGEP_WE  NGEP_WE_A

' -------------------------------------------------------------------------
' ----- RESIDUAL FUEL OIL GENERATION -------------------------------------

:eq_rfep_mw
@ADD RFEP_MW  RFEP_MW_A

:eq_rfep_ne
@ADD RFEP_NE  RFEP_NE_A

:eq_rfep_so
@ADD RFEP_SO  RFEP_SO_A

:eq_rfep_we
@ADD RFEP_WE  RFEP_WE_A

' -------------------------------------------------------------------------
' ----- DISTILLATE FUEL OIL GENERATION -----------------------------------

:eq_dkep_mw

:eq_dkep_ne

:eq_dkep_so

:eq_dkep_we

' -------------------------------------------------------------------------
' ----- PETROLEUM COKE GENERATION ----------------------------------------

:eq_pcep_we

:eq_pcep_so

:eq_pcep_mw
```

```
':eq_pcep_ne

pcep_ne  = pcep_ne(-12)

' ---------------------------------------------------------------------------
' ----- OTHER PETROLEUM GENERATION ------------------------------------

:eq_opep_mw

:eq_opep_ne

:eq_opep_so

:eq_opep_we

' ---------------------------------------------------------------------------
' ----- TOTAL PETROLEUM GENERATION ------------------------------------

paep_mw  = rfep_mw  + dkep_mw  + pcep_mw  + opep_mw

paep_ne  = rfep_ne  + dkep_ne  + pcep_ne  + opep_ne

paep_so  = rfep_so  + dkep_so  + pcep_so  + opep_so

paep_we  = rfep_we  + dkep_we  + pcep_we  + opep_we

' ---------------------------------------------------------------------------
' ----- OTHER GASES GENERATION ---------------------------------------------

:eq_ogep_mw

:eq_ogep_ne

:eq_ogep_so

:eq_ogep_we

' ---------------------------------------------------------------------------
' ----- COAL GENERATION IDENTITIES  ---------------------------------------

clep_mw  = epeo_mw  - (ngep_mw  + rfep_mw  + dkep_mw  + pcep_mw  + opep_mw  + ogep_mw  + hyep_mw  +
nuep_mw  + wwep_mw  + owep_mw  + wnep_mw  + soep_mw  + geep_mw  + otep_mw)

clep_ne  = epeo_ne  - (ngep_ne  + rfep_ne  + dkep_ne  + pcep_ne  + opep_ne  + ogep_ne  + hyep_ne  + nuep_ne  +
wwep_ne  + owep_ne  + wnep_ne  + soep_ne  + geep_ne  + otep_ne)

clep_so  = epeo_so  - (ngep_so  + rfep_so  + dkep_so  + pcep_so  + opep_so  + ogep_so  + hyep_so  + nuep_so  +
wwep_so  + owep_so  + wnep_so  + soep_so  + geep_so  + otep_so)

clep_we  = epeo_we  - (ngep_we  + rfep_we  + dkep_we  + pcep_we  + opep_we  + ogep_we  + hyep_we  +
nuep_we  + wwep_we  + owep_we  + wnep_we  + soep_we  + geep_we  + otep_we)

' ---------------------------------------------------------------------------
' ----- GENERATION FROM OTHER SOURCES ------------------------

:eq_otep_mw

:eq_otep_ne

:eq_otep_so

:eq_otep_we
```

```
' -----------------------------------------------------------------------
' ----- FOSSIL FUEL GENERATION ----------------------------------------------

ffep_ne  = clep_ne  + ngep_ne  + paep_ne  + ogep_ne

ffep_mw  = clep_mw  + ngep_mw  + paep_mw  + ogep_mw

ffep_so  = clep_so  + ngep_so  + paep_so  + ogep_so

ffep_we  = clep_we  + ngep_we  + paep_we  + ogep_we

' -----------------------------------------------------------------------
' ----- NON-HYDRO RENEWABLE GENERATION ----------------------------

rnep_ne  = wnep_ne  + soep_ne  + wwep_ne  + mlep_ne  + geep_ne  + orep_ne

rnep_mw  = wnep_mw  + soep_mw  + wwep_mw  + mlep_mw  + geep_mw  + orep_mw

rnep_so  = wnep_so  + soep_so  + wwep_so  + mlep_so  + geep_so  + orep_so

rnep_we  = wnep_we  + soep_we  + wwep_we  + mlep_we  + geep_we  + orep_we

' -----------------------------------------------------------------------
' ----- U.S. GENERATION AGGREGATION  ----------------------------
' -----------------------------------------------------------------------

clep_us  = clep_ne  + clep_mw  + clep_so  + clep_we

cleptot  = clep_us  / 1000

ngep_us  = ngep_ne  + ngep_mw  + ngep_so  + ngep_we

ngeptot  = ngep_us  / 1000

rfep_us  = rfep_ne  + rfep_mw  + rfep_so  + rfep_we

rfeptot  = rfep_us  / 1000

dkep_us  = dkep_ne  + dkep_mw  + dkep_so  + dkep_we

dkeptot  = dkep_us  / 1000

pcep_us  = pcep_ne  + pcep_mw  + pcep_so  + pcep_we

pceptot  = pcep_us  / 1000

opep_us  = opep_ne  + opep_mw  + opep_so  + opep_we

opeptot  = opep_us  / 1000

ogep_us  = ogep_ne  + ogep_mw  + ogep_so  + ogep_we

ogeptot  = ogep_us  / 1000

wwep_us  = wwep_ne  + wwep_mw  + wwep_so  + wwep_we

wweptot  = wwep_us  / 1000

mlep_us  = mlep_ne  + mlep_mw  + mlep_so  + mlep_we

mleptot  = mlep_us  / 1000
```

```
orep_us  = orep_ne  + orep_mw  + orep_so  + orep_we

oreptot  = orep_us  / 1000

owep_us  = owep_ne  + owep_mw  + owep_so  + owep_we

oweptot  = owep_us  / 1000

wnep_us  = wnep_ne  + wnep_mw  + wnep_so  + wnep_we

wneptot  = wnep_us  / 1000

soep_us  = soep_ne  + soep_mw  + soep_so  + soep_we

soeptot  = soep_us  / 1000

geep_us  = geep_ne  + geep_mw  + geep_so  + geep_we

geeptot  = geep_us  / 1000

otep_us  = otep_ne  + otep_mw  + otep_so  + otep_we

oteptot  = otep_us  / 1000

paep_us  = paep_ne  + paep_mw  + paep_so  + paep_we

paeptot  = paep_us  / 1000

nuep_us  = nuep_ne  + nuep_mw  + nuep_so  + nuep_we

nueptot  = nueptot

hvep_us  = hvep_ne  + hvep_mw  + hvep_so  + hvep_we

hveptot  = hveptot

hpep_us  = hpep_ne  + hpep_mw  + hpep_so  + hpep_we

hpeptot  = hpep_us  / 1000

hyep_us  = hvep_us  + hpep_us

hyeptot  = hyep_us  / 1000

ffep_us  = ffep_ne  + ffep_mw  + ffep_so  + ffep_we

ffeptot  = ffep_us  / 1000

rnep_us  = rnep_ne  + rnep_mw  + rnep_so  + rnep_we

rneptot  = rnep_us  / 1000

' ---------------------------------------------------------------------------------
' ----- U.S. RENEWABLE CAPACITY AGGREGATION  ------------
' ---------------------------------------------------------------------------------

geepcap_us  = geepcap_ne  + geepcap_mw  + geepcap_so  + geepcap_we

hvepcap_us  = hvepcap_ne  + hvepcap_mw  + hvepcap_so  + hvepcap_we

mlepcap_us  = mlepcap_ne  + mlepcap_mw  + mlepcap_so  + mlepcap_we
```

```
orepcap_us  = orepcap_ne  + orepcap_mw  + orepcap_so  + orepcap_we

owepcap_us  = owepcap_ne  + owepcap_mw  + owepcap_so  + owepcap_we

wwepcap_us  = wwepcap_ne  + wwepcap_mw  + wwepcap_so  + wwepcap_we

wnepcap_us  = wnepcap_mw  + wnepcap_ne  + wnepcap_so  + wnepcap_we

wnepcap_us_a  = wnepcap_mw_a  + wnepcap_ne_a  + wnepcap_so_a  + wnepcap_we_a

soepcap_us  = soepcap_mw  + soepcap_ne  + soepcap_so  + soepcap_we

soepcap_us_a  = soepcap_mw_a  + soepcap_ne_a  + soepcap_so_a  + soepcap_we_a


' ********************************************************************************
' --------------------- END-USE CHP SECTOR GENERATION --------------------
' ********************************************************************************
' ----- TOTAL  CHP GENERATION ---------------------------------------------------

:eq_cheo_ne
@ADD CHEO_NE  CHEO_NE_A
@INNOV CHEO_NE  1.6285731

:eq_cheo_so
@ADD CHEO_SO  CHEO_SO_A

:eq_cheo_mw
@ADD CHEO_MW  CHEO_MW_A

:eq_cheo_we
@ADD CHEO_WE  CHEO_WE_A

cheo_us  = cheo_ne  + cheo_so  + cheo_mw  + cheo_we

cheopus  = cheo_us  / 1000

' -------------------------------------------------------------------------
' ----- NATURAL GAS GENERATION IDENTITIES ------------------------

ngch_ne  = cheo_ne  - (clch_ne  + pach_ne  + ogch_ne  + hvch_ne  + wwch_ne  + owch_ne  + soch_ne  + wnch_ne
+ otch_ne)

ngch_so  = cheo_so  - (clch_so  + pach_so  + ogch_so  + hvch_so  + wwch_so  + owch_so  + soch_so  + wnch_so  +
otch_so)

ngch_mw  = cheo_mw  - (clch_mw  + pach_mw  + ogch_mw  + hvch_mw  + wwch_mw  + owch_mw  + soch_mw  +
wnch_mw  + otch_mw)

ngch_we  = cheo_we  - (clch_we  + pach_we  + ogch_we  + hvch_we  + wwch_we  + owch_we  + soch_we  +
wnch_we  + otch_we)

' -------------------------------------------------------------------------
' ----- COAL GENERATION -------------------------------------------------------

:eq_clch_ne

:eq_clch_so

:eq_clch_mw
```

```
:eq_clch_we

' --------------------------------------------------------------------------
' ----- RESIDUAL FUEL OIL GENERATION -------------------------------------

:eq_rfch_ne

:eq_rfch_so

:eq_rfch_mw

:eq_rfch_we

' --------------------------------------------------------------------------
' ----- DISTILLATE FUEL OIL GENERATION ----------------------------------

:eq_dkch_ne

:eq_dkch_so

:eq_dkch_mw

:eq_dkch_we

' --------------------------------------------------------------------------
' ----- PETROLEUM COKE GENERATION --------------------------------------

pcch_ne  = cheo_ne  * (pcch_ne(-12)  / cheo_ne(-12))

pcch_so  = cheo_so  * (pcch_so(-12)  / cheo_so(-12))

pcch_mw  = cheo_mw  * (pcch_mw(-12)  / cheo_mw(-12))

pcch_we  = cheo_we  * (pcch_we(-12)  / cheo_we(-12))

' --------------------------------------------------------------------------
' ----- OTHER PETROLEUM GENERATION ------------------------------------

opch_ne  = cheo_ne  * (opch_ne(-12)  / cheo_ne(-12))

opch_so  = cheo_so  * (opch_so(-12)  / cheo_so(-12))

opch_mw  = cheo_mw  * (opch_mw(-12)  / cheo_mw(-12))

opch_we  = cheo_we  * (opch_we(-12)  / cheo_we(-12))

' --------------------------------------------------------------------------
' ----- TOTAL PETROLEUM IDENTITIES  ------------------------------------

pach_ne  = rfch_ne  + dkch_ne  + pcch_ne  + opch_ne

pach_so  = rfch_so  + dkch_so  + pcch_so  + opch_so

pach_mw  = rfch_mw  + dkch_mw  + pcch_mw  + opch_mw

pach_we  = rfch_we  + dkch_we  + pcch_we  + opch_we

' --------------------------------------------------------------------------
' ----- OTHER GASES GENERATION ---------------------------------------------

ogch_ne  = cheo_ne  * (ogch_ne(-12)  / cheo_ne(-12))
```

```
ogch_so  = cheo_so  * (ogch_so(-12)  / cheo_so(-12))

ogch_mw  = cheo_mw  * (ogch_mw(-12)  / cheo_mw(-12))

ogch_we  = cheo_we  * (ogch_we(-12)  / cheo_we(-12))

' -------------------------------------------------------------------------
' ----- CONVENTIONAL  HYDROELECTRIC GENERATION ---------------

hvch_ne  = cheo_ne  * (hvch_ne(-12)  / cheo_ne(-12))

hvch_so  = cheo_so  * (hvch_so(-12)  / cheo_so(-12))

hvch_mw  = cheo_mw  * (hvch_mw(-12)  / cheo_mw(-12))

hvch_we  = cheo_we  * (hvch_we(-12)  / cheo_we(-12))

' -------------------------------------------------------------------------
' ----- WOOD & WOOD WASTE GENERATION ---------------------------------

wwch_ne  = cheo_ne  * (wwch_ne(-12)  / cheo_ne(-12))

wwch_so  = cheo_so  * (wwch_so(-12)  / cheo_so(-12))

wwch_mw  = cheo_mw  * (wwch_mw(-12)  / cheo_mw(-12))

wwch_we  = cheo_we  * (wwch_we(-12)  / cheo_we(-12))

' -------------------------------------------------------------------------
' ----- MUNICIPAL BIOMASS GENERATION ------------------------------------

mlch_ne  = cheo_ne  * (mlch_ne(-12)  / cheo_ne(-12))

mlch_so  = cheo_so  * (mlch_so(-12)  / cheo_so(-12))

mlch_mw  = cheo_mw  * (mlch_mw(-12)  / cheo_mw(-12))

mlch_we  = cheo_we  * (mlch_we(-12)  / cheo_we(-12))

' -------------------------------------------------------------------------
' ----- OTHER BIOMASS GENERATION ------------------------------------

orch_ne  = cheo_ne  * (orch_ne(-12)  / cheo_ne(-12))

orch_so  = cheo_so  * (orch_so(-12)  / cheo_so(-12))

orch_mw  = cheo_mw  * (orch_mw(-12)  / cheo_mw(-12))

orch_we  = cheo_we  * (orch_we(-12)  / cheo_we(-12))

' -------------------------------------------------------------------------
' ----- TOTAL BIOMASS GENERATION ------------------------------------

owch_ne  = mlch_ne  + orch_ne

owch_so  = mlch_so  + orch_so

owch_mw  = mlch_mw  + orch_mw

owch_we  = mlch_we  + orch_we

' -------------------------------------------------------------------------
```

```
' ----- SOLAR GENERATION ------------------------------------

soch_ne  = cheo_ne  * (soch_ne(-12)  / cheo_ne(-12))

soch_so  = cheo_so  * (soch_so(-12)  / cheo_so(-12))

soch_mw  = cheo_mw  * (soch_mw(-12)  / cheo_mw(-12))

soch_we  = cheo_we  * (soch_we(-12)  / cheo_we(-12))

' -------------------------------------------------------------------------
' ----- WIND GENERATION ------------------------------------

wnch_ne  = cheo_ne  * (wnch_ne(-12)  / cheo_ne(-12))

wnch_so  = cheo_so  * (wnch_so(-12)  / cheo_so(-12))

wnch_mw  = cheo_mw  * (wnch_mw(-12)  / cheo_mw(-12))

wnch_we  = cheo_we  * (wnch_we(-12)  / cheo_we(-12))

' -------------------------------------------------------------------------
' ----- OTHER GENERATION ------------------------------------

otch_ne  = cheo_ne  * (otch_ne(-12)  / cheo_ne(-12))

otch_so  = cheo_so  * (otch_so(-12)  / cheo_so(-12))

otch_mw  = cheo_mw  * (otch_mw(-12)  / cheo_mw(-12))

otch_we  = cheo_we  * (otch_we(-12)  / cheo_we(-12))

' -------------------------------------------------------------------------
' ----- FOSSIL FUEL GENERATION -----------------------------------------------

ffch_ne  = clch_ne  + ngch_ne  + pach_ne  + ogch_ne

ffch_mw  = clch_mw  + ngch_mw  + pach_mw  + ogch_mw

ffch_so  = clch_so  + ngch_so  + pach_so  + ogch_so

ffch_we  = clch_we  + ngch_we  + pach_we  + ogch_we

' -------------------------------------------------------------------------
' ----- NON-HYDRO RENEWABLE GENERATION ----------------------------

rnch_ne  = wnch_ne  + soch_ne  + wwch_ne  + mlch_ne  + orch_ne

rnch_mw  = wnch_mw  + soch_mw  + wwch_mw  + mlch_mw  + orch_mw

rnch_so  = wnch_so  + soch_so  + wwch_so  + mlch_so  + orch_so

rnch_we  = wnch_we  + soch_we  + wwch_we  + mlch_we  + orch_we

' -------------------------------------------------------------------------
' ----- U.S. GENERATION AGGREGATION  ----------------------------
' -------------------------------------------------------------------------

ngch_us  = ngch_ne  + ngch_so  + ngch_mw  + ngch_we

clch_us  = clch_ne  + clch_so  + clch_mw  + clch_we
```

```
rfch_us  = rfch_ne  + rfch_so  + rfch_mw  + rfch_we

dkch_us  = dkch_ne  + dkch_so  + dkch_mw  + dkch_we

pcch_us  = pcch_ne  + pcch_so  + pcch_mw  + pcch_we

opch_us  = opch_ne  + opch_so  + opch_mw  + opch_we

pach_us  = pach_ne  + pach_so  + pach_mw  + pach_we

ogch_us  = ogch_ne  + ogch_so  + ogch_mw  + ogch_we

hvch_us  = hvch_ne  + hvch_so  + hvch_mw  + hvch_we

wwch_us  = wwch_ne  + wwch_so  + wwch_mw  + wwch_we

mlch_us  = mlch_ne  + mlch_so  + mlch_mw  + mlch_we

orch_us  = orch_ne  + orch_so  + orch_mw  + orch_we

owch_us  = owch_ne  + owch_so  + owch_mw  + owch_we

otch_us  = otch_ne  + otch_so  + otch_mw  + otch_we

soch_us  = soch_ne  + soch_so  + soch_mw  + soch_we

wnch_us  = wnch_ne  + wnch_so  + wnch_mw  + wnch_we

ffch_us  = ffch_ne  + ffch_so  + ffch_mw  + ffch_we

rnch_us  = rnch_ne  + rnch_so  + rnch_mw  + rnch_we

' *********************************************************************************
' -------------  GENERATION BY FUEL FOR ALL SECTORS  --------------------
' *********************************************************************************

clto_ne  = clep_ne  + clch_ne

clto_so  = clep_so  + clch_so

clto_mw  = clep_mw  + clch_mw

clto_we  = clep_we  + clch_we

clto_us  = clep_us  + clch_us

ngto_ne  = ngep_ne  + ngch_ne

ngto_so  = ngep_so  + ngch_so

ngto_mw  = ngep_mw  + ngch_mw

ngto_we  = ngep_we  + ngch_we

ngto_us  = ngep_us  + ngch_us

rfto_ne  = rfep_ne  + rfch_ne

rfto_so  = rfep_so  + rfch_so

rfto_mw  = rfep_mw  + rfch_mw
```

rfto_we = rfep_we + rfch_we

rfto_us = rfep_us + rfch_us

dkto_ne = dkep_ne + dkch_ne

dkto_so = dkep_so + dkch_so

dkto_mw = dkep_mw + dkch_mw

dkto_we = dkep_we + dkch_we

dkto_us = dkep_us + dkch_us

pcto_ne = pcep_ne + pcch_ne

pcto_so = pcep_so + pcch_so

pcto_mw = pcep_mw + pcch_mw

pcto_we = pcep_we + pcch_we

pcto_us = pcep_us + pcch_us

opto_ne = opep_ne + opch_ne

opto_so = opep_so + opch_so

opto_mw = opep_mw + opch_mw

opto_we = opep_we + opch_we

opto_us = opep_us + opch_us

pato_ne = paep_ne + pach_ne

pato_so = paep_so + pach_so

pato_mw = paep_mw + pach_mw

pato_we = paep_we + pach_we

pato_us = paep_us + pach_us

ogto_ne = ogep_ne + ogch_ne

ogto_so = ogep_so + ogch_so

ogto_mw = ogep_mw + ogch_mw

ogto_we = ogep_we + ogch_we

ogto_us = ogep_us + ogch_us

nuto_ne = nuep_ne

nuto_so = nuep_so

nuto_mw = nuep_mw

nuto_we = nuep_we

nuto_us = nuep_us

hvto_ne = hvep_ne + hvch_ne

hvto_so = hvep_so + hvch_so

hvto_mw = hvep_mw + hvch_mw

hvto_we = hvep_we + hvch_we

hvto_us = hvep_us + hvch_us

hpto_ne = hpep_ne

hpto_so = hpep_so

hpto_mw = hpep_mw

hpto_we = hpep_we

hpto_us = hpep_us

hyto_ne = hvto_ne + hpto_ne

hyto_so = hvto_so + hpto_so

hyto_mw = hvto_mw + hpto_mw

hyto_we = hvto_we + hpto_we

hyto_us = hvto_us + hpto_us

geto_ne = geep_ne

geto_so = geep_so

geto_mw = geep_mw

geto_we = geep_we

geto_us = geep_us

soto_ne = soep_ne + soch_ne

soto_so = soep_so + soch_so

soto_mw = soep_mw + soch_mw

soto_we = soep_we + soch_we

soto_us = soep_us + soch_us

wnto_ne = wnep_ne + wnch_ne

wnto_so = wnep_so + wnch_so

wnto_mw = wnep_mw + wnch_mw

wnto_we = wnep_we + wnch_we

wnto_us = wnep_us + wnch_us

wwto_ne = wwep_ne + wwch_ne

wwto_so = wwep_so + wwch_so

wwto_mw = wwep_mw + wwch_mw

wwto_we = wwep_we + wwch_we

wwto_us = wwep_us + wwch_us

mlto_ne = mlep_ne + mlch_ne

mlto_so = mlep_so + mlch_so

mlto_mw = mlep_mw + mlch_mw

mlto_we = mlep_we + mlch_we

mlto_us = mlep_us + mlch_us

orto_ne = orep_ne + orch_ne

orto_so = orep_so + orch_so

orto_mw = orep_mw + orch_mw

orto_we = orep_we + orch_we

orto_us = orep_us + orch_us

owto_ne = owep_ne + owch_ne

owto_so = owep_so + owch_so

owto_mw = owep_mw + owch_mw

owto_we = owep_we + owch_we

owto_us = owep_us + owch_us

otto_ne = otep_ne + otch_ne

otto_so = otep_so + otch_so

otto_mw = otep_mw + otch_mw

otto_we = otep_we + otch_we

otto_us = otep_us + otch_us

ffto_ne = ffep_ne + ffch_ne

ffto_so = ffep_so + ffch_so

ffto_mw = ffep_mw + ffch_mw

ffto_we = ffep_we + ffch_we

ffto_us = ffep_us + ffch_us

rnto_ne = rnep_ne + rnch_ne

```
rnto_so  = rnep_so  + rnch_so

rnto_mw  = rnep_mw  + rnch_mw

rnto_we  = rnep_we  + rnch_we

rnto_us  = rnep_us  + rnch_us

cltopus  = clto_us  / 1000

ngtopus  = ngto_us  / 1000

rftopus  = rfto_us  / 1000

dktopus  = dkto_us  / 1000

pctopus  = pcto_us  / 1000

optopus  = opto_us  / 1000

patopus  = pato_us  / 1000

ogtopus  = ogto_us  / 1000

hvtopus  = hvto_us  / 1000

hptopus  = hpto_us  / 1000

hytopus  = hyto_us  / 1000

getopus  = geto_us  / 1000

sotopus  = soto_us  / 1000

wntopus  = wnto_us  / 1000

nutopus  = nuto_us  / 1000

wwtopus  = wwto_us  / 1000

owtopus  = owto_us  / 1000

ottopus  = otto_us  / 1000

rntopus  = rnto_us  / 1000

' ********************************************************************************
' ---------------  TOTAL GENERATION FOR ALL SECTORS  ---------------------
' ********************************************************************************

tseo_ne  = epeo_ne  + cheo_ne

tseo_so  = epeo_so  + cheo_so

tseo_mw  = epeo_mw  + cheo_mw

tseo_we  = epeo_we  + cheo_we

tseo_us  = epeo_us  + cheo_us
```

```
' ------------------------------------------------------------------------------------------
' STORE 14-REGION HYDRO & NUCLEAR FORECASTS
' ------------------------------------------------------------------------------------------

hvep_01  = hvep_01

hvep_02  = hvep_02

hvep_03  = hvep_03

hvep_04  = hvep_04

hvep_05  = hvep_05

hvep_06  = hvep_06

hvep_07  = hvep_07

hvep_08  = hvep_08

hvep_09  = hvep_09

hvep_10  = hvep_10

hvep_11  = hvep_11

hvep_12  = hvep_12

hvep_13  = hvep_13

hvep_14  = hvep_14

nuep_01  = nuep_01

nuep_02  = nuep_02

nuep_03  = nuep_03

nuep_04  = nuep_04

nuep_05  = nuep_05

nuep_06  = nuep_06

nuep_07  = nuep_07

nuep_08  = nuep_08

nuep_09  = nuep_09

nuep_10  = nuep_10

nuep_11  = nuep_11

nuep_12  = nuep_12

nuep_13  = nuep_13

nuep_14  = nuep_14

hveppac  = (hvep_09  + hvep_10)  / 1000
```

```
' ------------------------------------------------------------------------------------------
' AGGREGATE REPORTED (F860) AND MODELED WIND CAPACITY
' ------------------------------------------------------------------------------------------

WNEPCAPX_NE  = WNEPCAP_NE  + WNEPCAP_NE_A

WNEPCAPX_MW  = WNEPCAP_MW  + WNEPCAP_MW_A

WNEPCAPX_SO  = WNEPCAP_SO  + WNEPCAP_SO_A

WNEPCAPX_WE  = WNEPCAP_WE  + WNEPCAP_WE_A

WNEPCAPX_US  = WNEPCAPX_NE  + WNEPCAPX_MW  + WNEPCAPX_SO  + WNEPCAPX_WE
```

Appendix C. Generation Model Regression Results

Table 7 – TDLOPUS, United States total transmission and distribution losses

Dependent Variable: TDLOPUS/EXTCPUS
Method: Least Squares
Date: 07/16/13 Time: 11:18
Sample: 2001M01 2013M03
Included observations: 147

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.058595	0.002997	19.54946	0.0000
FEB	-0.014856	0.004352	-3.413269	0.0009
MAR	0.017042	0.004504	3.783587	0.0002
APR	0.022094	0.005339	4.138654	0.0001
MAY	0.038823	0.004929	7.876107	0.0000
JUN	0.012873	0.005573	2.309996	0.0225
JUL	0.003129	0.005197	0.602029	0.5482
AUG	0.022161	0.003854	5.750489	0.0000
SEP	-0.001973	0.006391	-0.308685	0.7581
OCT	0.002619	0.005458	0.479840	0.6321
NOV	0.003441	0.004218	0.815796	0.4161
DEC	0.006405	0.004603	1.391613	0.1664
D0402	0.025292	0.009605	2.633196	0.0095
ELNIPUS/EXTCPUS	0.493807	0.204364	2.416316	0.0171
ZWCDPUS-ZWCDPUS(-1)	0.000281	3.45E-05	8.166994	0.0000
ZWHDPUS-ZWHDPUS(-1)	9.62E-05	1.26E-05	7.622828	0.0000

R-squared	0.903808	Mean dependent var	0.071234
Adjusted R-squared	0.892793	S.D. dependent var	0.027652
S.E. of regression	0.009054	Akaike info criterion	-6.468788
Sum squared resid	0.010739	Schwarz criterion	-6.143299
Log likelihood	491.4559	Hannan-Quinn criter.	-6.336538
F-statistic	82.05685	Durbin-Watson stat	1.880527
Prob(F-statistic)	0.000000		

Table 8 – ELIMPUS, United States total imports of electricity

Dependent Variable: ELIMPUS/EXTCPUS
Method: Least Squares
Date: 08/09/13 Time: 13:34
Sample: 2001M01 2013M03
Included observations: 147
Convergence achieved after 6 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.002566	0.002720	0.943348	0.3472
FEB	5.85E-05	0.000444	0.131738	0.8954
MAR	0.000704	0.000595	1.183725	0.2387
APR	0.001409	0.000733	1.921266	0.0569
MAY	0.001919	0.000850	2.257326	0.0256
JUN	0.001075	0.000783	1.372855	0.1721
JUL	0.001900	0.000750	2.533237	0.0125
AUG	0.001569	0.000802	1.956421	0.0525
SEP	-0.001604	0.000839	-1.913086	0.0579
OCT	-0.001558	0.000740	-2.105333	0.0372
NOV	-0.000459	0.000598	-0.768337	0.4437
DEC	-0.000108	0.000438	-0.245544	0.8064
HYEPTOT/EXTCPUS	-0.007208	0.021639	-0.333108	0.7396
NGEUDUS	0.000339	0.000160	2.124472	0.0355
CLEUDUS	0.004511	0.000993	4.542221	0.0000
AR(1)	0.729655	0.061242	11.91437	0.0000

R-squared	0.788104	Mean dependent var	0.012498
Adjusted R-squared	0.763841	S.D. dependent var	0.003004
S.E. of regression	0.001460	Akaike info criterion	-10.11833
Sum squared resid	0.000279	Schwarz criterion	-9.792836
Log likelihood	759.6969	Hannan-Quinn criter.	-9.986075
F-statistic	32.48183	Durbin-Watson stat	2.172216
Prob(F-statistic)	0.000000		

Inverted AR Roots	.73

Table 9 – ELEXPUS, United States total exports of electricity

Dependent Variable: ELEXPUS/EXTCPUS
Method: Least Squares
Date: 08/09/13 Time: 13:35
Sample: 2001M03 2013M03
Included observations: 145
Convergence achieved after 8 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.001835	0.001617	1.135371	0.2583
FEB	-0.000121	0.000341	-0.354937	0.7232
MAR	0.000789	0.000432	1.825705	0.0702
APR	0.000190	0.000528	0.360196	0.7193
MAY	0.000384	0.000594	0.646764	0.5189
JUN	0.000185	0.000542	0.341997	0.7329
JUL	-0.001002	0.000518	-1.933792	0.0553
AUG	-0.000512	0.000558	-0.917627	0.3605
SEP	0.001297	0.000588	2.205771	0.0292
OCT	0.001032	0.000527	1.957689	0.0524
NOV	0.001083	0.000438	2.472368	0.0147
DEC	-0.000252	0.000337	-0.748130	0.4558
D0804	-0.004178	0.000935	-4.467685	0.0000
HYEPTOT/EXTCPUS	0.041044	0.015219	2.696925	0.0079
NGEUDUS	0.000353	9.78E-05	3.613800	0.0004
CLEUDUS	-0.000999	0.000505	-1.978553	0.0500
AR(1)	0.610515	0.066130	9.231996	0.0000

R-squared	0.689114	Mean dependent var	0.005293
Adjusted R-squared	0.650253	S.D. dependent var	0.001768
S.E. of regression	0.001046	Akaike info criterion	-10.77855
Sum squared resid	0.000140	Schwarz criterion	-10.42956
Log likelihood	798.4451	Hannan-Quinn criter.	-10.63674
F-statistic	17.73292	Durbin-Watson stat	1.673512
Prob(F-statistic)	0.000000		

Inverted AR Roots	.61

Table 10 – EPEOX_MW, total generation by electric power sector, Midwest region

Dependent Variable: DLOG(EPEOX_MW,0,12)
Method: Least Squares
Date: 08/09/13 Time: 13:37
Sample: 2001M01 2013M03
Included observations: 147
Convergence achieved after 6 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.002732	0.003540	0.771657	0.4416
DLOG(EXTCP_MW,0,12)	0.949439	0.037623	25.23550	0.0000
DLOG(EXTCP_MW(-1),0,12)	-0.060223	0.038130	-1.579430	0.1165
DLOG(CLEUDUS,0,12)	-0.035558	0.042702	-0.832703	0.4065
DLOG(NGEUDUS,0,12)	0.000687	0.008542	0.080431	0.9360
DLOG(RFEUDUS,0,12)	-0.002857	0.009161	-0.311867	0.7556
DLOG(ELIMPUS,0,12)	-0.010306	0.006822	-1.510832	0.1331
DLOG(ELEXPUS,0,12)	0.000599	0.004435	0.134984	0.8928
AR(1)	0.443779	0.081909	5.417924	0.0000

R-squared	0.897858	Mean dependent var	0.004787
Adjusted R-squared	0.891936	S.D. dependent var	0.048390
S.E. of regression	0.015907	Akaike info criterion	-5.384819
Sum squared resid	0.034919	Schwarz criterion	-5.201731
Log likelihood	404.7842	Hannan-Quinn criter.	-5.310429
F-statistic	151.6318	Durbin-Watson stat	2.084603
Prob(F-statistic)	0.000000		

Inverted AR Roots	.44

Table 11 – EPEOX_NE, total generation by electric power sector, Northeast region

Dependent Variable: DLOG(EPEOX_NE,0,12)
Method: Least Squares
Date: 08/09/13 Time: 13:39
Sample: 2002M01 2013M03
Included observations: 135
Convergence achieved after 5 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.004263	0.003845	-1.108796	0.2696
DLOG(EXTCP_NE,0,12)	1.143711	0.062498	18.29983	0.0000
DLOG(EXTCP_NE(-1),0,12)	-0.134428	0.061371	-2.190424	0.0303
DLOG(CLEUDUS,0,12)	0.118509	0.041909	2.827809	0.0055
DLOG(NGEUDUS,0,12)	-0.023474	0.011196	-2.096575	0.0380
DLOG(RFEUDUS,0,12)	0.012121	0.010547	1.149186	0.2527
DLOG(ELIMPUS,0,12)	-0.033490	0.009694	-3.454762	0.0008
DLOG(ELEXPUS,0,12)	0.008419	0.007346	1.146072	0.2539
AR(1)	0.019213	0.067250	0.285700	0.7756

R-squared	0.790791	Mean dependent var	0.005945
Adjusted R-squared	0.777508	S.D. dependent var	0.053555
S.E. of regression	0.025261	Akaike info criterion	-4.454759
Sum squared resid	0.080404	Schwarz criterion	-4.261074
Log likelihood	309.6962	Hannan-Quinn criter.	-4.376051
F-statistic	59.53374	Durbin-Watson stat	1.840613
Prob(F-statistic)	0.000000		

Inverted AR Roots	.02

Table 12 – EPEOX_SO, total generation by electric power sector, South region

Dependent Variable: DLOG(EPEOX_SO,0,12)
Method: Least Squares
Date: 08/09/13 Time: 13:41
Sample: 2001M01 2013M03
Included observations: 147
Convergence achieved after 7 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.003855	0.002713	1.421115	0.1576
DLOG(EXTCP_SO,0,12)	1.119389	0.065997	16.96114	0.0000
DLOG(EXTCP_SO(-1),0,12)	-0.271739	0.065801	-4.129694	0.0001
DLOG(CLEUDUS,0,12)	-0.053020	0.031437	-1.686549	0.0940
DLOG(NGEUDUS,0,12)	-0.015551	0.007400	-2.101600	0.0374
DLOG(RFEUDUS,0,12)	0.007111	0.007680	0.925956	0.3561
DLOG(ELIMPUS,0,12)	-0.001154	0.007753	-0.148839	0.8819
DLOG(ELEXPUS,0,12)	-0.001441	0.005780	-0.249340	0.8035
D09	-0.027709	0.006929	-3.999210	0.0001
AR(1)	-0.282237	0.089393	-3.157254	0.0020

R-squared	0.751817	Mean dependent var	0.006581
Adjusted R-squared	0.735513	S.D. dependent var	0.047571
S.E. of regression	0.024465	Akaike info criterion	-4.517549
Sum squared resid	0.081999	Schwarz criterion	-4.314118
Log likelihood	342.0399	Hannan-Quinn criter.	-4.434893
F-statistic	46.11244	Durbin-Watson stat	1.991242
Prob(F-statistic)	0.000000		

Inverted AR Roots	-.28

Table 13 – EPEOX_WE, total generation by electric power sector, West region

Dependent Variable: DLOG(EPEOX_WE,0,12)
Method: Least Squares
Date: 08/09/13 Time: 13:42
Sample: 2002M01 2013M03
Included observations: 135
Convergence achieved after 8 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.006156	0.002440	2.522743	0.0129
DLOG(EXTCP_WE,0,12)	0.702616	0.057943	12.12593	0.0000
DLOG(EXTCP_WE(-1),0,12)	0.032608	0.058514	0.557275	0.5783
DLOG(CLEUDUS,0,12)	-0.030136	0.029074	-1.036512	0.3020
DLOG(NGEUDUS,0,12)	-0.005702	0.007062	-0.807485	0.4209
DLOG(RFEUDUS,0,12)	0.012377	0.008395	1.474327	0.1429
DLOG(ELIMPUS,0,12)	-0.000408	0.008217	-0.049709	0.9604
DLOG(ELEXPUS,0,12)	0.019594	0.006508	3.010586	0.0032
DLOG(HYEP_WE,0,12)	0.022749	0.010166	2.237721	0.0270
D10	-0.024222	0.006063	-3.994972	0.0001
AR(12)	-0.347180	0.056908	-6.100686	0.0000

R-squared	0.713612	Mean dependent var	0.013104
Adjusted R-squared	0.690516	S.D. dependent var	0.032888
S.E. of regression	0.018296	Akaike info criterion	-5.086300
Sum squared resid	0.041508	Schwarz criterion	-4.849574
Log likelihood	354.3252	Hannan-Quinn criter.	-4.990101
F-statistic	30.89792	Durbin-Watson stat	2.069591
Prob(F-statistic)	0.000000		

Inverted AR Roots	.88+.24i	.88-.24i	.65+.65i	.65-.65i
	.24+.88i	.24-.88i	-.24-.88i	-.24+.88i
	-.65+.65i	-.65+.65i	-.88+.24i	-.88-.24i

Table 14 – WNEP_MW, wind generation by electric power sector, Midwest region

Dependent Variable: WNEP_MW/(24*(WNEPCAP_MW+WNEPCAP_MW_A)
/1000)
Method: Least Squares
Date: 08/09/13 Time: 13:46
Sample (adjusted): 2001M02 2013M03
Included observations: 146 after adjustments
Convergence achieved after 7 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.369673	0.013637	27.10764	0.0000
ZWCD_MW-ZWCD_MW(-1)	3.30E-05	8.02E-05	0.410970	0.6818
ZWHD_MW-ZWHD_MW(-1)	-5.81E-05	2.64E-05	-2.199694	0.0296
FEB	-0.029189	0.016691	-1.748759	0.0827
MAR	-0.022995	0.019360	-1.187717	0.2372
APR	0.008964	0.022477	0.398787	0.6907
MAY	-0.024162	0.020489	-1.179273	0.2405
JUN	-0.115540	0.021394	-5.400698	0.0000
JUL	-0.174009	0.020659	-8.422895	0.0000
AUG	-0.167859	0.019196	-8.744428	0.0000
SEP	-0.085387	0.022609	-3.776653	0.0002
OCT	-0.014366	0.019217	-0.747560	0.4561
NOV	0.014014	0.017691	0.792158	0.4297
DEC	0.003753	0.017011	0.220632	0.8257
D02	0.069413	0.018534	3.745115	0.0003
D04	-0.059246	0.018264	-3.243812	0.0015
D0202	0.178865	0.042352	4.223282	0.0000
D0712	-0.105785	0.041764	-2.532954	0.0125
AR(1)	0.347880	0.084975	4.093932	0.0001

R-squared	0.781755	Mean dependent var	0.320647
Adjusted R-squared	0.750822	S.D. dependent var	0.084522
S.E. of regression	0.042191	Akaike info criterion	-3.372350
Sum squared resid	0.226074	Schwarz criterion	-2.984073
Log likelihood	265.1816	Hannan-Quinn criter.	-3.214584
F-statistic	25.27300	Durbin-Watson stat	2.125635
Prob(F-statistic)	0.000000		

Inverted AR Roots	.35

Table 15 – WNEP_NE, wind generation by electric power sector, Northeast region

Dependent Variable: WNEP_NE/(24*(WNEPCAP_NE+WNEPCAP_NE_A)
/1000)
Method: Least Squares
Date: 08/09/13 Time: 13:56
Sample: 2003M01 2013M03
Included observations: 123

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.313014	0.015805	19.80490	0.0000
ZWCD_NE-ZWCD_NE(-1)	6.55E-05	0.000141	0.464362	0.6433
ZWHD_NE-ZWHD_NE(-1)	3.02E-05	4.41E-05	0.684829	0.4949
FEB	0.011709	0.024432	0.479241	0.6327
MAR	-0.010268	0.024885	-0.412619	0.6807
APR	-0.012773	0.030221	-0.422672	0.6734
MAY	-0.101343	0.027348	-3.705695	0.0003
JUN	-0.134168	0.027630	-4.855928	0.0000
JUL	-0.167539	0.028488	-5.880991	0.0000
AUG	-0.167372	0.022355	-7.486951	0.0000
SEP	-0.120416	0.030052	-4.006875	0.0001
OCT	-0.071382	0.022628	-3.154583	0.0021
NOV	-0.038260	0.020468	-1.869207	0.0643
DEC	0.028406	0.021877	1.298457	0.1969
D03	-0.086820	0.013986	-6.207662	0.0000
D0512	-0.191675	0.048881	-3.921264	0.0002

R-squared	0.743718	Mean dependent var	0.239262
Adjusted R-squared	0.707791	S.D. dependent var	0.085075
S.E. of regression	0.045988	Akaike info criterion	-3.200049
Sum squared resid	0.226298	Schwarz criterion	-2.834236
Log likelihood	212.8030	Hannan-Quinn criter.	-3.051457
F-statistic	20.70064	Durbin-Watson stat	1.240137
Prob(F-statistic)	0.000000		

Table 16 – WNEP_SO, wind generation by electric power sector, South region

Dependent Variable: WNEP_SO/(24*(WNEPCAP_SO+WNEPCAP_SO_A)
/1000)
Method: Least Squares
Date: 08/09/13 Time: 13:57
Sample: 2002M01 2013M03
Included observations: 135
Convergence achieved after 4 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.303466	0.016244	18.68213	0.0000
ZWCD_SO-ZWCD_SO(-1)	0.000227	0.000111	2.047755	0.0428
ZWHD_SO-ZWHD_SO(-1)	1.76E-06	6.00E-05	0.029391	0.9766
FEB	0.006976	0.019693	0.354248	0.7238
MAR	0.036625	0.023645	1.548989	0.1240
APR	0.059991	0.025139	2.386421	0.0186
MAY	-0.001401	0.025542	-0.054850	0.9563
JUN	-0.014300	0.027367	-0.522539	0.6023
JUL	-0.077241	0.023386	-3.302890	0.0013
AUG	-0.079014	0.021914	-3.605545	0.0005
SEP	-0.030964	0.029802	-1.038985	0.3009
OCT	0.026985	0.028308	0.953252	0.3424
NOV	0.029654	0.022341	1.327319	0.1869
DEC	0.015956	0.019810	0.805450	0.4222
D10ON	0.035354	0.014266	2.478257	0.0146
AR(1)	0.372557	0.083787	4.446507	0.0000

R-squared	0.554537	Mean dependent var	0.311144
Adjusted R-squared	0.498386	S.D. dependent var	0.067750
S.E. of regression	0.047984	Akaike info criterion	-3.125023
Sum squared resid	0.273990	Schwarz criterion	-2.780694
Log likelihood	226.9391	Hannan-Quinn criter.	-2.985097
F-statistic	9.875857	Durbin-Watson stat	1.959452
Prob(F-statistic)	0.000000		

Inverted AR Roots	.37

Table 17 – WNEP_WE, wind generation by electric power sector, West region

Dependent Variable: WNEP_WE/(24*(WNEPCAP_WE+WNEPCAP_WE_A)
/1000)
Method: Least Squares
Date: 08/09/13 Time: 13:58
Sample (adjusted): 2001M02 2013M03
Included observations: 146 after adjustments
Convergence achieved after 7 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.214558	0.012974	16.53721	0.0000
ZWCD_WE-ZWCD_WE(-1)	-1.07E-05	0.000106	-0.101653	0.9192
ZWHD_WE-ZWHD_WE(-1)	4.84E-05	4.21E-05	1.147990	0.2531
FEB	0.006472	0.011774	0.549689	0.5835
MAR	0.071550	0.013735	5.209468	0.0000
APR	0.114802	0.015317	7.494866	0.0000
MAY	0.122307	0.016433	7.442896	0.0000
JUN	0.150809	0.017244	8.745710	0.0000
JUL	0.080229	0.019644	4.084038	0.0001
AUG	0.061814	0.015510	3.985449	0.0001
SEP	0.011848	0.017841	0.664092	0.5078
OCT	0.004538	0.018631	0.243575	0.8079
NOV	-0.015586	0.016595	-0.939224	0.3494
DEC	-0.025511	0.015111	-1.688295	0.0938
D06ON	0.028673	0.010353	2.769542	0.0064
AR(1)	0.459536	0.076328	6.020581	0.0000

R-squared	0.755825	Mean dependent var	0.279587
Adjusted R-squared	0.727651	S.D. dependent var	0.064586
S.E. of regression	0.033705	Akaike info criterion	-3.839209
Sum squared resid	0.147687	Schwarz criterion	-3.512238
Log likelihood	296.2622	Hannan-Quinn criter.	-3.706353
F-statistic	26.82706	Durbin-Watson stat	2.108037
Prob(F-statistic)	0.000000		

Inverted AR Roots	.46

Table 18 – WWEP_MW, wood biomass generation by electric power sector, Midwest region

Dependent Variable: WWEP_MW/(24*WWEPCAP_MW/1000)
Method: Least Squares
Date: 08/09/13 Time: 13:44
Sample (adjusted): 2001M02 2013M03
Included observations: 146 after adjustments
Convergence achieved after 6 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.494022	0.017824	27.71605	0.0000
ZWCD_MW-ZWCD_MW(-1)	0.000166	9.11E-05	1.826340	0.0701
ZWHD_MW-ZWHD_MW(-1)	-7.68E-06	2.98E-05	-0.257497	0.7972
FEB	-0.007371	0.019037	-0.387177	0.6993
MAR	-0.042069	0.023383	-1.799120	0.0743
APR	-0.057238	0.027470	-2.083659	0.0391
MAY	-0.060315	0.025966	-2.322855	0.0217
JUN	-0.047694	0.027161	-1.756018	0.0814
JUL	0.018358	0.026504	0.692627	0.4898
AUG	0.030714	0.024962	1.230441	0.2207
SEP	-0.007654	0.028197	-0.271431	0.7865
OCT	-0.013062	0.024247	-0.538720	0.5910
NOV	-0.001068	0.021788	-0.049020	0.9610
DEC	-0.000800	0.019319	-0.041389	0.9670
AR(1)	0.497812	0.076255	6.528252	0.0000

R-squared	0.392103	Mean dependent var	0.478028
Adjusted R-squared	0.327137	S.D. dependent var	0.063640
S.E. of regression	0.052203	Akaike info criterion	-2.970292
Sum squared resid	0.356992	Schwarz criterion	-2.663757
Log likelihood	231.8313	Hannan-Quinn criter.	-2.845740
F-statistic	6.035500	Durbin-Watson stat	2.178949
Prob(F-statistic)	0.000000		

Inverted AR Roots	.50

Table 19 – WWEP_NE, wood biomass generation by electric power sector, Northeast region

Dependent Variable: WWEP_NE/(24*WWEPCAP_NE/1000)
Method: Least Squares
Date: 08/09/13 Time: 14:01
Sample (adjusted): 2001M02 2013M03
Included observations: 146 after adjustments
Convergence achieved after 3 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.811581	0.023386	34.70331	0.0000
FEB	-0.006435	0.017065	-0.377103	0.7067
MAR	-0.056356	0.022279	-2.529540	0.0126
APR	-0.229936	0.025618	-8.975725	0.0000
MAY	-0.122755	0.027492	-4.465044	0.0000
JUN	-0.065850	0.028469	-2.313043	0.0223
JUL	-0.021691	0.028784	-0.753563	0.4524
AUG	0.009217	0.028513	0.323242	0.7470
SEP	-0.032632	0.027610	-1.181891	0.2394
OCT	-0.139851	0.025893	-5.401117	0.0000
NOV	-0.074778	0.022937	-3.260133	0.0014
DEC	-0.014149	0.017649	-0.801735	0.4241
AR(1)	0.704697	0.061501	11.45834	0.0000

R-squared	0.719413	Mean dependent var	0.747884
Adjusted R-squared	0.694097	S.D. dependent var	0.102378
S.E. of regression	0.056624	Akaike info criterion	-2.819947
Sum squared resid	0.426433	Schwarz criterion	-2.554283
Log likelihood	218.8561	Hannan-Quinn criter.	-2.712001
F-statistic	28.41726	Durbin-Watson stat	2.179812
Prob(F-statistic)	0.000000		

Inverted AR Roots	.70

Table 20 – WWEP_SO, wood biomass generation by electric power sector, South region

Dependent Variable: WWEP_SO/(24*WWEPCAP_SO/1000)
Method: Least Squares
Date: 08/09/13 Time: 14:03
Sample (adjusted): 2001M02 2013M03
Included observations: 146 after adjustments
Convergence achieved after 4 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	2.188709	0.839500	2.607159	0.0102
ZWCD_SO-ZWCD_SO(-1)	0.000242	0.000138	1.759815	0.0808
ZWHD_SO-ZWHD_SO(-1)	0.000141	7.02E-05	2.012005	0.0463
FEB	0.038436	0.025719	1.494461	0.1375
MAR	-0.011800	0.033409	-0.353199	0.7245
APR	-0.047384	0.039195	-1.208917	0.2289
MAY	-0.065849	0.042418	-1.552370	0.1230
JUN	0.034068	0.045914	0.741985	0.4594
JUL	0.067787	0.043187	1.569602	0.1189
AUG	0.102693	0.041447	2.477679	0.0145
SEP	0.086058	0.047380	1.816335	0.0716
OCT	-0.055200	0.043040	-1.282504	0.2019
NOV	-0.024650	0.033319	-0.739800	0.4608
DEC	0.006032	0.026134	0.230821	0.8178
@TREND	-0.003837	0.002091	-1.835028	0.0688
AR(1)	0.918577	0.033369	27.52792	0.0000

R-squared	0.887956	Mean dependent var	0.690671
Adjusted R-squared	0.875028	S.D. dependent var	0.229735
S.E. of regression	0.081215	Akaike info criterion	-2.080339
Sum squared resid	0.857455	Schwarz criterion	-1.753368
Log likelihood	167.8647	Hannan-Quinn criter.	-1.947483
F-statistic	68.68412	Durbin-Watson stat	2.374649
Prob(F-statistic)	0.000000		

Inverted AR Roots	.92

Table 21 – WWEP_WE, wood biomass generation by electric power sector, West region

Dependent Variable: WWEP_WE/(24*WWEPCAP_WE/1000)
Method: Least Squares
Date: 08/09/13 Time: 14:04
Sample (adjusted): 2001M02 2013M03
Included observations: 146 after adjustments
Convergence achieved after 5 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.691172	0.021787	31.72453	0.0000
ZWCD_WE-ZWCD_WE(-1)	4.56E-05	0.000132	0.346092	0.7298
ZWHD_WE-ZWHD_WE(-1)	9.15E-05	5.37E-05	1.702776	0.0910
FEB	-0.011551	0.015527	-0.743959	0.4582
MAR	-0.046239	0.019619	-2.356847	0.0199
APR	-0.112590	0.022909	-4.914706	0.0000
MAY	-0.187390	0.025247	-7.422164	0.0000
JUN	-0.046698	0.026813	-1.741604	0.0839
JUL	0.001678	0.029588	0.056711	0.9549
AUG	0.006540	0.025216	0.259346	0.7958
SEP	-0.008957	0.026864	-0.333434	0.7393
OCT	-0.052200	0.026840	-1.944851	0.0540
NOV	-0.043894	0.023529	-1.865531	0.0644
DEC	-0.025779	0.020428	-1.261925	0.2092
D0701	0.537403	0.042123	12.75781	0.0000
AR(1)	0.738524	0.058284	12.67104	0.0000

R-squared	0.798306	Mean dependent var	0.649799
Adjusted R-squared	0.775034	S.D. dependent var	0.102865
S.E. of regression	0.048790	Akaike info criterion	-3.099491
Sum squared resid	0.309456	Schwarz criterion	-2.772520
Log likelihood	242.2628	Hannan-Quinn criter.	-2.966635
F-statistic	34.30270	Durbin-Watson stat	2.317545
Prob(F-statistic)	0.000000		

Inverted AR Roots	.74

Table 22 – MLEP_MW, municipal biomass generation by electric power sector, Midwest region

Dependent Variable: MLEP_MW/(24*MLEPCAP_MW/1000)
Method: Least Squares
Date: 08/12/13 Time: 08:43
Sample (adjusted): 2001M02 2013M03
Included observations: 146 after adjustments
Convergence achieved after 14 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.530729	0.025532	20.78687	0.0000
D01	-0.092545	0.064467	-1.435546	0.1536
D02	-0.145933	0.050806	-2.872360	0.0048
D03	-0.087380	0.043909	-1.990012	0.0487
D04	-0.058789	0.035583	-1.652157	0.1009
FEB	0.004211	0.011658	0.361220	0.7185
MAR	0.008206	0.015644	0.524554	0.6008
APR	0.016113	0.018371	0.877087	0.3821
MAY	0.022919	0.020072	1.141854	0.2556
JUN	0.038387	0.021046	1.823911	0.0705
JUL	0.034121	0.021426	1.592524	0.1137
AUG	0.038906	0.021255	1.830487	0.0695
SEP	0.016249	0.020514	0.792134	0.4297
OCT	5.37E-05	0.019111	0.002809	0.9978
NOV	0.020904	0.016831	1.242034	0.2165
DEC	0.003407	0.013127	0.259529	0.7956
AR(1)	0.837030	0.050268	16.65135	0.0000

R-squared	0.851239	Mean dependent var	0.514828
Adjusted R-squared	0.832788	S.D. dependent var	0.099127
S.E. of regression	0.040534	Akaike info criterion	-3.464247
Sum squared resid	0.211952	Schwarz criterion	-3.116841
Log likelihood	269.8900	Hannan-Quinn criter.	-3.323088
F-statistic	46.13501	Durbin-Watson stat	2.425681
Prob(F-statistic)	0.000000		

Inverted AR Roots	.84

Table 23 – MLEP_NE, municipal biomass generation by electric power sector, Northeast region

Dependent Variable: MLEP_NE/(24*MLEPCAP_NE/1000)
Method: Least Squares
Date: 08/12/13 Time: 08:43
Sample (adjusted): 2001M02 2013M03
Included observations: 146 after adjustments
Convergence achieved after 8 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.456415	0.006320	72.21436	0.0000
D11	-0.029433	0.009729	-3.025329	0.0030
FEB	0.004741	0.004338	1.092898	0.2764
MAR	0.024082	0.005696	4.227750	0.0000
APR	0.027446	0.006577	4.173000	0.0001
MAY	0.035930	0.007083	5.072977	0.0000
JUN	0.049473	0.007350	6.730883	0.0000
JUL	0.047886	0.007438	6.438258	0.0000
AUG	0.038452	0.007364	5.221760	0.0000
SEP	0.036152	0.007117	5.079369	0.0000
OCT	0.026271	0.006653	3.948421	0.0001
NOV	0.044537	0.005867	7.590464	0.0000
DEC	0.045859	0.004489	10.21655	0.0000
AR(1)	0.729391	0.060027	12.15107	0.0000

R-squared	0.695092	Mean dependent var	0.485515
Adjusted R-squared	0.665063	S.D. dependent var	0.025092
S.E. of regression	0.014522	Akaike info criterion	-5.535347
Sum squared resid	0.027837	Schwarz criterion	-5.249248
Log likelihood	418.0804	Hannan-Quinn criter.	-5.419099
F-statistic	23.14752	Durbin-Watson stat	2.342452
Prob(F-statistic)	0.000000		

Inverted AR Roots	.73

Table 24 – MLEP_SO, municipal biomass generation by electric power sector, South region

Dependent Variable: MLEP_SO/(24*MLEPCAP_SO/1000)
Method: Least Squares
Date: 08/12/13 Time: 08:44
Sample (adjusted): 2001M02 2013M03
Included observations: 146 after adjustments
Convergence achieved after 9 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.456938	0.009046	50.51206	0.0000
D01	0.002397	0.019082	0.125641	0.9002
D02	0.024016	0.015581	1.541374	0.1256
FEB	-0.020099	0.007636	-2.632247	0.0095
MAR	-0.014244	0.009744	-1.461893	0.1462
APR	-0.008493	0.011011	-0.771329	0.4419
MAY	-0.016143	0.011656	-1.384934	0.1684
JUN	0.012217	0.011970	1.020566	0.3093
JUL	0.024204	0.012070	2.005290	0.0470
AUG	0.005074	0.011992	0.423083	0.6729
SEP	-0.019328	0.011713	-1.650071	0.1013
OCT	-0.043573	0.011148	-3.908711	0.0001
NOV	-0.025851	0.010091	-2.561910	0.0115
DEC	0.003694	0.008020	0.460579	0.6459
AR(1)	0.611720	0.072454	8.442901	0.0000

R-squared	0.578281	Mean dependent var	0.450940
Adjusted R-squared	0.533212	S.D. dependent var	0.035816
S.E. of regression	0.024470	Akaike info criterion	-4.485663
Sum squared resid	0.078441	Schwarz criterion	-4.179128
Log likelihood	342.4534	Hannan-Quinn criter.	-4.361111
F-statistic	12.83096	Durbin-Watson stat	2.201417
Prob(F-statistic)	0.000000		

Inverted AR Roots	.61

Table 25 – MLEP_WE, municipal biomass generation by electric power sector, West region

Dependent Variable: MLEP_WE/(24*MLEPCAP_WE/1000)
Method: Least Squares
Date: 08/12/13 Time: 08:44
Sample (adjusted): 2001M02 2013M03
Included observations: 146 after adjustments
Convergence achieved after 7 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.570062	0.033843	16.84427	0.0000
D07	-0.081428	0.030999	-2.626771	0.0097
D08	-0.023703	0.030996	-0.764689	0.4458
FEB	0.013849	0.010766	1.286352	0.2006
MAR	0.002176	0.014368	0.151453	0.8799
APR	-0.017241	0.016848	-1.023338	0.3080
MAY	-0.009967	0.018408	-0.541433	0.5891
JUN	0.024009	0.019290	1.244618	0.2155
JUL	0.039966	0.019599	2.039213	0.0435
AUG	0.033316	0.019367	1.720268	0.0878
SEP	0.025720	0.018575	1.384665	0.1685
OCT	0.005233	0.017137	0.305366	0.7606
NOV	0.017648	0.014853	1.188222	0.2369
DEC	0.016851	0.011182	1.506976	0.1342
D1101	-0.149375	0.029300	-5.098046	0.0000
AR(1)	0.899717	0.040111	22.43042	0.0000

R-squared	0.833769	Mean dependent var	0.583377
Adjusted R-squared	0.814588	S.D. dependent var	0.087485
S.E. of regression	0.037670	Akaike info criterion	-3.616775
Sum squared resid	0.184478	Schwarz criterion	-3.289805
Log likelihood	280.0246	Hannan-Quinn criter.	-3.483920
F-statistic	43.46952	Durbin-Watson stat	2.148382
Prob(F-statistic)	0.000000		

Inverted AR Roots	.90

Table 26 – OREP_MW, other biomass generation by electric power sector, Midwest region

Dependent Variable: OREP_MW/(24*OREPCAP_MW/1000)
Method: Least Squares
Date: 08/12/13 Time: 08:51
Sample (adjusted): 2001M02 2013M03
Included observations: 146 after adjustments
Convergence achieved after 7 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.494160	0.177263	2.787726	0.0061
FEB	0.046378	0.033679	1.377063	0.1709
MAR	0.098618	0.046089	2.139736	0.0342
APR	0.131445	0.053614	2.451685	0.0155
MAY	0.050091	0.058735	0.852827	0.3953
JUN	0.079312	0.061646	1.286586	0.2005
JUL	0.093504	0.062667	1.492080	0.1381
AUG	0.140489	0.061902	2.269542	0.0249
SEP	0.116208	0.059785	1.943742	0.0541
OCT	0.069588	0.055111	1.262678	0.2090
NOV	0.042762	0.047014	0.909548	0.3647
DEC	0.014442	0.034928	0.413479	0.6799
D0203	0.300297	0.093553	3.209910	0.0017
D0210	-0.504629	0.093819	-5.378741	0.0000
D0709	0.428762	0.093611	4.580260	0.0000
AR(1)	0.939748	0.030628	30.68234	0.0000

R-squared	0.882773	Mean dependent var	0.496714
Adjusted R-squared	0.869247	S.D. dependent var	0.339558
S.E. of regression	0.122784	Akaike info criterion	-1.253678
Sum squared resid	1.959861	Schwarz criterion	-0.926707
Log likelihood	107.5185	Hannan-Quinn criter.	-1.120822
F-statistic	65.26388	Durbin-Watson stat	1.845396
Prob(F-statistic)	0.000000		

Inverted AR Roots	.94

Table 27 – OREP_NE, other biomass generation by electric power sector, Northeast region

Dependent Variable: OREP_NE/(24*OREPCAP_NE/1000)
Method: Least Squares
Date: 08/12/13 Time: 08:51
Sample (adjusted): 2001M02 2013M03
Included observations: 146 after adjustments
Convergence achieved after 6 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.029923	0.008480	3.528595	0.0006
FEB	0.003405	0.005361	0.635166	0.5264
MAR	-0.002431	0.007083	-0.343181	0.7320
APR	-0.011073	0.008217	-1.347499	0.1801
MAY	-0.008382	0.008883	-0.943606	0.3471
JUN	0.001699	0.009241	0.183831	0.8544
JUL	0.005602	0.009360	0.598513	0.5505
AUG	0.005338	0.009261	0.576366	0.5654
SEP	-0.004060	0.008932	-0.454596	0.6502
OCT	-0.009152	0.008320	-1.100019	0.2733
NOV	-0.008077	0.007300	-1.106451	0.2706
DEC	-0.010687	0.005549	-1.926066	0.0563
D03	0.294440	0.012358	23.82645	0.0000
D06	0.141008	0.012395	11.37654	0.0000
AR(1)	0.759485	0.056720	13.39016	0.0000

R-squared	0.965549	Mean dependent var	0.062226
Adjusted R-squared	0.961867	S.D. dependent var	0.092889
S.E. of regression	0.018139	Akaike info criterion	-5.084439
Sum squared resid	0.043102	Schwarz criterion	-4.777904
Log likelihood	386.1640	Hannan-Quinn criter.	-4.959886
F-statistic	262.2487	Durbin-Watson stat	1.787503
Prob(F-statistic)	0.000000		

Inverted AR Roots	.76

Table 28 – OREP_SO, other biomass generation by electric power sector, South region

Dependent Variable: OREP_SO/(24*OREPCAP_SO/1000)
Method: Least Squares
Date: 08/12/13 Time: 08:51
Sample (adjusted): 2001M02 2013M03
Included observations: 146 after adjustments
Convergence achieved after 8 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.330390	0.036401	9.076486	0.0000
D01	-0.174027	0.065351	-2.662945	0.0087
D08ON	0.017688	0.037559	0.470933	0.6385
FEB	-0.011510	0.024591	-0.468075	0.6405
MAR	-0.011258	0.031821	-0.353798	0.7241
APR	-0.079115	0.036360	-2.175916	0.0314
MAY	-0.065401	0.038822	-1.684627	0.0944
JUN	-0.052114	0.040082	-1.300194	0.1958
JUL	-0.048556	0.040501	-1.198861	0.2327
AUG	-0.042307	0.040196	-1.052531	0.2945
SEP	-0.074381	0.039101	-1.902293	0.0593
OCT	-0.091191	0.036948	-2.468083	0.0149
NOV	-0.024358	0.033115	-0.735572	0.4633
DEC	0.009891	0.026022	0.380108	0.7045
AR(1)	0.662876	0.065833	10.06905	0.0000

R-squared	0.631866	Mean dependent var	0.282055
Adjusted R-squared	0.592524	S.D. dependent var	0.125676
S.E. of regression	0.080224	Akaike info criterion	-2.110920
Sum squared resid	0.843099	Schwarz criterion	-1.804386
Log likelihood	169.0972	Hannan-Quinn criter.	-1.986368
F-statistic	16.06065	Durbin-Watson stat	1.976704
Prob(F-statistic)	0.000000		

Inverted AR Roots	.66

Table 29 – OREP_WE, other biomass generation by electric power sector, West region

Dependent Variable: OREP_WE/(24*OREPCAP_WE/1000)
Method: Least Squares
Date: 08/12/13 Time: 08:51
Sample (adjusted): 2001M02 2013M03
Included observations: 146 after adjustments
Convergence achieved after 10 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.367643	0.037123	9.903341	0.0000
D01	-0.144027	0.075841	-1.899061	0.0599
D02	-0.129310	0.058012	-2.229023	0.0276
D03	0.053771	0.044511	1.208050	0.2293
D09	0.015149	0.045072	0.336101	0.7374
D0701	0.329713	0.040087	8.224941	0.0000
D0906	0.204683	0.048751	4.198515	0.0001
D0907	-0.122103	0.056093	-2.176785	0.0314
D0908	-0.165292	0.048676	-3.395764	0.0009
D09ON	-0.052091	0.048234	-1.079973	0.2823
FEB	0.029957	0.014692	2.038996	0.0436
MAR	0.044468	0.019530	2.276947	0.0245
APR	0.021877	0.022885	0.955949	0.3410
MAY	0.032131	0.024996	1.285444	0.2010
JUN	0.053669	0.026531	2.022852	0.0452
JUL	0.046251	0.027120	1.705407	0.0906
AUG	0.043783	0.026844	1.631034	0.1054
SEP	0.023319	0.025655	0.908946	0.3651
OCT	0.015512	0.023977	0.646968	0.5188
NOV	0.043407	0.021250	2.042698	0.0432
DEC	0.002051	0.016865	0.121594	0.9034
AR(1)	0.839949	0.052171	16.09998	0.0000

R-squared	0.842429	Mean dependent var	0.370373
Adjusted R-squared	0.815743	S.D. dependent var	0.116217
S.E. of regression	0.049887	Akaike info criterion	-3.020087
Sum squared resid	0.308595	Schwarz criterion	-2.570502
Log likelihood	242.4663	Hannan-Quinn criter.	-2.837410
F-statistic	31.56881	Durbin-Watson stat	2.131058
Prob(F-statistic)	0.000000		

Inverted AR Roots	.84

Table 30 – SOEP_WE, solar generation by electric power sector, West region

Dependent Variable: SOEP_WE/(24*(SOEPCAP_WE+SOEPCAP_WE_A)
/1000)
Method: Least Squares
Date: 08/12/13 Time: 08:56
Sample (adjusted): 2001M02 2013M03
Included observations: 146 after adjustments
Convergence achieved after 6 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.027028	0.009758	2.769852	0.0064
FEB	0.044139	0.009430	4.680834	0.0000
MAR	0.123029	0.011404	10.78850	0.0000
APR	0.173687	0.012420	13.98487	0.0000
MAY	0.231432	0.012795	18.08748	0.0000
JUN	0.276838	0.012939	21.39578	0.0000
JUL	0.236783	0.012978	18.24566	0.0000
AUG	0.228400	0.012942	17.64773	0.0000
SEP	0.184969	0.012808	14.44119	0.0000
OCT	0.098556	0.012480	7.897210	0.0000
NOV	0.043974	0.011701	3.758072	0.0003
DEC	-0.000646	0.009735	-0.066370	0.9472
D10ON	0.056463	0.009448	5.976094	0.0000
AR(1)	0.448027	0.078937	5.675769	0.0000

R-squared	0.928067	Mean dependent var	0.177836
Adjusted R-squared	0.920983	S.D. dependent var	0.101746
S.E. of regression	0.028601	Akaike info criterion	-4.179785
Sum squared resid	0.107977	Schwarz criterion	-3.893686
Log likelihood	319.1243	Hannan-Quinn criter.	-4.063537
F-statistic	131.0037	Durbin-Watson stat	2.110263
Prob(F-statistic)	0.000000		

Inverted AR Roots	.45

Table 31 – GEEP_WE, geothermal generation by electric power sector, West region

Dependent Variable: GEEP_WE/(24*GEEPCAP_WE/1000)
Method: Least Squares
Date: 08/12/13 Time: 08:57
Sample (adjusted): 2001M02 2013M03
Included observations: 146 after adjustments
Convergence achieved after 4 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.764826	0.008762	87.29087	0.0000
FEB	-0.012617	0.006418	-1.965968	0.0514
MAR	-0.016818	0.008306	-2.024847	0.0449
APR	-0.038290	0.009495	-4.032611	0.0001
MAY	-0.040893	0.010145	-4.031051	0.0001
JUN	-0.018192	0.010477	-1.736306	0.0848
JUL	-0.016381	0.010587	-1.547364	0.1242
AUG	-0.020269	0.010501	-1.930149	0.0557
SEP	-0.019014	0.010204	-1.863415	0.0646
OCT	-0.026072	0.009624	-2.708977	0.0076
NOV	-0.017607	0.008598	-2.047838	0.0426
DEC	-0.008116	0.006705	-1.210599	0.2282
D11ON	-0.012644	0.011884	-1.064037	0.2893
AR(1)	0.669276	0.064524	10.37244	0.0000

R-squared	0.538810	Mean dependent var	0.742678
Adjusted R-squared	0.493390	S.D. dependent var	0.029548
S.E. of regression	0.021031	Akaike info criterion	-4.794626
Sum squared resid	0.058386	Schwarz criterion	-4.508527
Log likelihood	364.0077	Hannan-Quinn criter.	-4.678377
F-statistic	11.86277	Durbin-Watson stat	2.097827
Prob(F-statistic)	0.000000		

Inverted AR Roots	.67

Table 32 – HPEP_MW, pumped storage hydroelectric generation by electric power sector, Midwest region

Dependent Variable: HPEP_MW
Method: Least Squares
Date: 08/12/13 Time: 10:41
Sample: 2001M01 2013M03
Included observations: 147

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.115381	0.288076	-0.400520	0.6894
HPEP_MW(-1)	0.829503	0.061808	13.42066	0.0000
D(HPEP_MW(-1),0,12)	-0.147653	0.064505	-2.289002	0.0237
FEB	-0.189808	0.339728	-0.558705	0.5773
MAR	0.147580	0.339906	0.434178	0.6649
APR	0.045019	0.348498	0.129180	0.8974
MAY	-0.114301	0.350026	-0.326549	0.7445
JUN	-0.642190	0.350541	-1.831994	0.0692
JUL	-0.990477	0.347151	-2.853162	0.0050
AUG	-1.034685	0.346700	-2.984384	0.0034
SEP	0.728514	0.351365	2.073387	0.0401
OCT	0.043427	0.346486	0.125334	0.9004
NOV	-0.430360	0.347646	-1.237927	0.2179
DEC	-0.482009	0.346825	-1.389777	0.1669

R-squared	0.653627	Mean dependent var	-2.247980
Adjusted R-squared	0.619771	S.D. dependent var	1.402550
S.E. of regression	0.864850	Akaike info criterion	2.637872
Sum squared resid	99.47950	Schwarz criterion	2.922675
Log likelihood	-179.8836	Hannan-Quinn criter.	2.753591
F-statistic	19.30609	Durbin-Watson stat	2.380077
Prob(F-statistic)	0.000000		

Table 33 – HPEP_NE, pumped storage hydroelectric generation by electric power sector, Northeast region

Dependent Variable: HPEP_NE
Method: Least Squares
Date: 08/12/13 Time: 10:42
Sample: 2001M01 2013M03
Included observations: 147

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.766407	0.373033	-2.054531	0.0421
HPEP_NE(-1)	0.826924	0.050988	16.21809	0.0000
D(HPEP_NE(-1),0,12)	-0.242613	0.048864	-4.965026	0.0000
FEB	0.280962	0.335701	0.836942	0.4043
MAR	-0.097845	0.332027	-0.294690	0.7687
APR	0.069334	0.344197	0.201437	0.8407
MAY	-0.703544	0.353924	-1.987840	0.0491
JUN	-1.020824	0.351358	-2.905371	0.0044
JUL	-0.540563	0.344382	-1.569663	0.1191
AUG	-0.070116	0.347244	-0.201923	0.8403
SEP	0.401850	0.337726	1.189871	0.2364
OCT	0.274039	0.342710	0.799623	0.4255
NOV	0.302271	0.335070	0.902112	0.3688
DEC	-0.330134	0.335276	-0.984664	0.3267
D02	-0.479178	0.258489	-1.853762	0.0662
D0710	-4.887847	0.864063	-5.656819	0.0000
D0804	5.168114	0.859364	6.013886	0.0000
D0805	-3.337755	0.895041	-3.729164	0.0003
D0806	6.990059	0.862266	8.106617	0.0000
D0807	-10.40656	0.928490	-11.20805	0.0000
D0808	3.662276	0.933414	3.923529	0.0001
D1005	0.536393	0.860994	0.622993	0.5345
D1006	1.224520	0.861395	1.421554	0.1577
D1101	5.389136	0.855028	6.302876	0.0000
D1102	2.154134	0.920358	2.340539	0.0209

R-squared	0.852760	Mean dependent var	-5.545595
Adjusted R-squared	0.823794	S.D. dependent var	1.954633
S.E. of regression	0.820494	Akaike info criterion	2.595903
Sum squared resid	82.13160	Schwarz criterion	3.104480
Log likelihood	-165.7989	Hannan-Quinn criter.	2.802544
F-statistic	29.44071	Durbin-Watson stat	2.376816
Prob(F-statistic)	0.000000		

Table 34 – HPEP_SO, pumped storage hydroelectric generation by electric power sector, South region

Dependent Variable: HPEP_SO
Method: Least Squares
Date: 08/12/13 Time: 10:42
Sample: 2001M01 2013M03
Included observations: 147

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-2.988478	0.862786	-3.463753	0.0007
HPEP_SO(-1)	0.651254	0.086828	7.500547	0.0000
D(HPEP_SO(-1),0,12)	-0.032117	0.063024	-0.509594	0.6112
FEB	0.027504	0.663067	0.041480	0.9670
MAR	0.189651	0.647581	0.292861	0.7701
APR	-0.394590	0.660082	-0.597789	0.5510
MAY	-1.552484	0.661772	-2.345949	0.0205
JUN	-3.533769	0.680350	-5.194049	0.0000
JUL	-2.548192	0.783311	-3.253105	0.0015
AUG	-1.476450	0.827739	-1.783715	0.0768
SEP	-0.761527	0.802574	-0.948856	0.3444
OCT	2.039400	0.756233	2.696786	0.0079
NOV	0.187237	0.663992	0.281987	0.7784
DEC	0.534832	0.660974	0.809157	0.4199
D0801	-7.700480	1.692753	-4.549086	0.0000
D1002	4.927516	1.689527	2.916506	0.0042

R-squared	0.751843	Mean dependent var	-10.35055
Adjusted R-squared	0.723428	S.D. dependent var	3.073865
S.E. of regression	1.616550	Akaike info criterion	3.900917
Sum squared resid	342.3337	Schwarz criterion	4.226407
Log likelihood	-270.7174	Hannan-Quinn criter.	4.033167
F-statistic	26.45939	Durbin-Watson stat	2.115597
Prob(F-statistic)	0.000000		

Table 35 – HPEP_WE, pumped storage hydroelectric generation by electric power sector, West region

Dependent Variable: HPEP_WE
Method: Least Squares
Date: 08/12/13 Time: 10:42
Sample: 2001M01 2013M03
Included observations: 147

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-3.717411	0.624235	-5.955146	0.0000
HPEP_WE(-1)	0.244351	0.093651	2.609179	0.0101
D(HPEP_WE(-1),0,12)	-0.069015	0.062501	-1.104218	0.2715
FEB	2.173466	0.704685	3.084309	0.0025
MAR	1.568065	0.709543	2.209963	0.0288
APR	2.961145	0.721960	4.101536	0.0001
MAY	3.702069	0.751015	4.929422	0.0000
JUN	5.066115	0.783950	6.462295	0.0000
JUL	3.565891	0.857984	4.156126	0.0001
AUG	3.460945	0.815728	4.242767	0.0000
SEP	1.945794	0.798062	2.438149	0.0161
OCT	1.451062	0.738695	1.964358	0.0516
NOV	0.438776	0.723086	0.606810	0.5450
DEC	0.505829	0.714939	0.707514	0.4805
D05ON	1.849913	0.361231	5.121142	0.0000

R-squared	0.605688	Mean dependent var	-0.313893
Adjusted R-squared	0.563867	S.D. dependent var	2.703738
S.E. of regression	1.785559	Akaike info criterion	4.093791
Sum squared resid	420.8450	Schwarz criterion	4.398937
Log likelihood	-285.8936	Hannan-Quinn criter.	4.217775
F-statistic	14.48287	Durbin-Watson stat	2.075846
Prob(F-statistic)	0.000000		

Table 36 – NGEP_MW, natural gas generation by electric power sector, Midwest region

Dependent Variable: D((NGEP_MW/FFEP_MW),0,12)
Method: Least Squares
Date: 08/12/13 Time: 12:03
Sample (adjusted): 2003M01 2013M03
Included observations: 123 after adjustments
Convergence achieved after 13 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.001965	0.001902	-1.033425	0.3037
D(ZWCD_MW,0,12)	0.000350	2.93E-05	11.94499	0.0000
D(ZWHD_MW,0,12)	3.12E-05	1.02E-05	3.063495	0.0028
D(ZWCD_MW(-1),0,12)	3.63E-05	2.57E-05	1.415617	0.1597
D(ZWHD_MW(-1),0,12)	7.37E-06	9.60E-06	0.767485	0.4444
D((CLEUDUS/NGEUDUS),0,12)	0.028441	0.022176	1.282519	0.2024
D((RFEUDUS/NGEUDUS),0,12)	0.022504	0.002252	9.992251	0.0000
D((NUEP_MW/EPEO_MW),0,12)	-0.186226	0.091936	-2.025597	0.0452
D((HYEP_MW/EPEO_MW),0,12)	-1.207692	0.488528	-2.472103	0.0150
D((RNEP_MW/EPEO_MW),0,12)	-0.344297	0.190526	-1.807087	0.0735
D(NGEPCAP_MW/(NGEPCAP_MW+CLEPCAP_MW),0,12)	0.071681	0.083002	0.863612	0.3897
AR(1)	0.415312	0.076873	5.402574	0.0000
AR(12)	-0.401290	0.079086	-5.074088	0.0000

R-squared	0.892142	Mean dependent var	0.008333
Adjusted R-squared	0.880376	S.D. dependent var	0.032073
S.E. of regression	0.011093	Akaike info criterion	-6.065350
Sum squared resid	0.013536	Schwarz criterion	-5.768127
Log likelihood	386.0190	Hannan-Quinn criter.	-5.944619
F-statistic	75.82172	Durbin-Watson stat	1.922569
Prob(F-statistic)	0.000000		

Inverted AR Roots	.94-.24i	.94+.24i	.69-.65i	.69+.65i
	.27+.89i	.27-.89i	-.21+.89i	-.21-.89i
	-.63-.65i	-.63+.65i	-.87+.24i	-.87-.24i

Table 37 – NGEP_NE, natural gas generation by electric power sector, Northeast region

Dependent Variable: D((NGEP_NE/FFEP_NE),0,12)
Method: Least Squares
Date: 08/12/13 Time: 12:03
Sample (adjusted): 2003M01 2013M03
Included observations: 123 after adjustments
Convergence achieved after 11 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.025282	0.005298	4.772494	0.0000
D(ZWCD_NE,0,12)	0.000112	9.42E-05	1.191172	0.2362
D(ZWHD_NE,0,12)	-7.79E-05	2.80E-05	-2.778222	0.0064
D(ZWCD_NE(-1),0,12)	2.54E-05	7.55E-05	0.336947	0.7368
D(ZWHD_NE(-1),0,12)	2.26E-05	2.60E-05	0.868074	0.3873
D((CLEUDUS/NGEUDUS),0,12)	0.273769	0.068447	3.999716	0.0001
D((RFEUDUS/NGEUDUS),0,12)	0.012597	0.005993	2.101938	0.0379
D((NUEP_NE/EPEO_NE),0,12)	-0.345685	0.130154	-2.655968	0.0091
D((HYEP_NE/EPEO_NE),0,12)	0.145119	0.350534	0.413995	0.6797
D((RNEP_NE/EPEO_NE),0,12)	0.865059	1.413947	0.611804	0.5419
D(NGEPCAP_NE/(NGEPCAP_NE+CLEPCAP_NE),0,12)	-0.466383	0.220420	-2.115887	0.0366
D09	-0.028078	0.015377	-1.825963	0.0706
AR(1)	0.383530	0.077288	4.962334	0.0000
AR(12)	-0.479762	0.077533	-6.187841	0.0000

R-squared	0.809427	Mean dependent var	0.029021
Adjusted R-squared	0.786698	S.D. dependent var	0.054102
S.E. of regression	0.024987	Akaike info criterion	-4.434145
Sum squared resid	0.068052	Schwarz criterion	-4.114059
Log likelihood	286.6999	Hannan-Quinn criter.	-4.304127
F-statistic	35.61228	Durbin-Watson stat	1.911630
Prob(F-statistic)	0.000000		

Inverted AR Roots	.95-.24i	.95+.24i	.70-.66i	.70+.66i
	.28+.90i	.28-.90i	-.21+.90i	-.21-.90i
	-.64+.66i	-.64-.66i	-.88-.24i	-.88+.24i

Table 38 – NGEP_SO, natural gas generation by electric power sector, South region

Dependent Variable: D((NGEP_SO/FFEP_SO),0,12)
Method: Least Squares
Date: 08/12/13 Time: 12:04
Sample (adjusted): 2003M01 2013M03
Included observations: 123 after adjustments
Convergence achieved after 13 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.006062	0.003128	1.938063	0.0552
D(ZWCD_SO,0,12)	0.000247	4.71E-05	5.248919	0.0000
D(ZWHD_SO,0,12)	2.15E-05	2.75E-05	0.779591	0.4373
D(ZWCD_SO(-1),0,12)	2.99E-05	4.22E-05	0.708042	0.4804
D(ZWHD_SO(-1),0,12)	-5.00E-05	2.56E-05	-1.952971	0.0534
D((CLEUDUS/NGEUDUS),0,12)	0.205888	0.036296	5.672529	0.0000
D((RFEUDUS/NGEUDUS),0,12)	0.010062	0.004068	2.473558	0.0149
D(NUEP_SO/EPEO_SO,0,12)	-0.344843	0.166857	-2.066694	0.0412
D(HYEP_SO/EPEO_SO,0,12)	-0.206021	0.191028	-1.078484	0.2832
D((RNEP_SO/EPEO_SO),0,12)	0.759362	0.533858	1.422406	0.1578
D(NGEPCAP_SO/(NGEPCAP_SO+CLEPCAP_SO),0,12)	0.132447	0.134608	0.983944	0.3273
D0601	-0.027421	0.014032	-1.954087	0.0533
D0701	0.030637	0.014400	2.127623	0.0356
AR(1)	0.538081	0.081643	6.590689	0.0000
AR(12)	-0.264881	0.086019	-3.079326	0.0026

R-squared	0.883293	Mean dependent var	0.020633
Adjusted R-squared	0.868164	S.D. dependent var	0.041196
S.E. of regression	0.014958	Akaike info criterion	-5.453278
Sum squared resid	0.024164	Schwarz criterion	-5.110328
Log likelihood	350.3766	Hannan-Quinn criter.	-5.313973
F-statistic	58.38530	Durbin-Watson stat	2.056944
Prob(F-statistic)	0.000000		

Inverted AR Roots	.93-.22i	.93+.22i	.68+.62i	.68-.62i
	.28-.85i	.28+.85i	-.19-.86i	-.19+.86i
	-.60-.63i	-.60+.63i	-.83+.23i	-.83-.23i

Table 39 – NGEP_WE, natural gas generation by electric power sector, West region

Dependent Variable: D((NGEP_WE/FFEP_WE),0,12)
Method: Least Squares
Date: 08/12/13 Time: 12:04
Sample: 2001M01 2013M03
Included observations: 147
Convergence achieved after 10 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.003429	0.004636	0.739639	0.4608
D(ZWCD_WE,0,12)	0.000541	8.51E-05	6.355940	0.0000
D(ZWHD_WE,0,12)	0.000107	2.83E-05	3.778125	0.0002
D(ZWCD_WE(-1),0,12)	9.28E-05	8.15E-05	1.137697	0.2573
D(ZWHD_WE(-1),0,12)	-3.45E-05	2.80E-05	-1.232512	0.2199
D((CLEUDUS/NGEUDUS),0,12)	0.084540	0.048907	1.728567	0.0862
D((RFEUDUS/NGEUDUS),0,12)	0.009479	0.006260	1.514335	0.1323
D((NUEP_WE/EPEO_WE),0,12)	-0.740835	0.139689	-5.303466	0.0000
D((HYEP_WE/EPEO_WE),0,12)	-0.499410	0.055558	-8.989037	0.0000
D((RNEP_WE/EPEO_WE),0,12)	-0.590011	0.312563	-1.887657	0.0613
D0206	0.037658	0.017230	2.185655	0.0306
D0306	-0.057049	0.016617	-3.433294	0.0008
D0607	-0.045853	0.016807	-2.728157	0.0072
AR(1)	0.720228	0.061773	11.65923	0.0000
AR(12)	-0.133238	0.061219	-2.176410	0.0313

R-squared	0.857994	Mean dependent var	0.010378
Adjusted R-squared	0.842933	S.D. dependent var	0.050359
S.E. of regression	0.019958	Akaike info criterion	-4.893901
Sum squared resid	0.052580	Schwarz criterion	-4.588755
Log likelihood	374.7017	Hannan-Quinn criter.	-4.769917
F-statistic	56.96708	Durbin-Watson stat	2.090850
Prob(F-statistic)	0.000000		

Inverted AR Roots	.91+.20i	.91-.20i	.67-.57i	.67+.57i
	.27+.79i	.27-.79i	-.17-.80i	-.17+.80i
	-.55+.59i	-.55-.59i	-.77+.22i	-.77-.22i

Table 40 – RFEP_MW, residual fuel oil generation by electric power sector, Midwest region

Dependent Variable: RFEP_MW/FFEP_MW
Method: Least Squares
Date: 08/12/13 Time: 12:22
Sample: 2006M01 2013M03
Included observations: 87

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.000402	0.000212	1.900314	0.0612
ZWCD_MW	6.61E-07	2.09E-07	3.170327	0.0022
ZWHD_MW	-8.59E-08	6.07E-08	-1.415713	0.1609
ZWCD_MW(-1)	-2.46E-07	2.04E-07	-1.204549	0.2321
ZWHD_MW(-1)	1.31E-08	6.01E-08	0.218455	0.8277
NGEUDUS	1.74E-05	9.75E-06	1.784073	0.0784
CLEUDUS	-0.000160	9.82E-05	-1.625200	0.1083
RFEUDUS	-1.82E-06	4.37E-06	-0.416446	0.6783
D0702	0.001355	0.000132	10.22504	0.0000
D0708	0.000571	0.000134	4.253731	0.0001
D0710	0.000516	0.000132	3.917066	0.0002

R-squared	0.754235	Mean dependent var	0.000159
Adjusted R-squared	0.721898	S.D. dependent var	0.000242
S.E. of regression	0.000127	Akaike info criterion	-14.98036
Sum squared resid	1.23E-06	Schwarz criterion	-14.66858
Log likelihood	662.6457	Hannan-Quinn criter.	-14.85482
F-statistic	23.32387	Durbin-Watson stat	1.993851
Prob(F-statistic)	0.000000		

Table 41 – RFEP_NE, residual fuel oil generation by electric power sector, Northeast region

Dependent Variable: D((RFEP_NE/FFEP_NE),0,12)
Method: Least Squares
Date: 08/12/13 Time: 12:23
Sample: 2001M01 2013M03
Included observations: 147
Convergence achieved after 8 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.006346	0.002645	-2.398790	0.0178
D(ZWCD_NE,0,12)	0.000191	5.29E-05	3.617347	0.0004
D(ZWHD_NE,0,12)	0.000117	1.86E-05	6.280357	0.0000
D(ZWCD_NE(-1),0,12)	-1.99E-05	5.30E-05	-0.375240	0.7081
D(ZWHD_NE(-1),0,12)	-1.65E-05	1.90E-05	-0.867549	0.3871
D((NGEUDUS/RFEUDUS),0,12)	0.090202	0.012356	7.300076	0.0000
D((CLEUDUS/RFEUDUS),0,12)	-0.127150	0.052774	-2.409337	0.0173
AR(1)	0.495402	0.068891	7.191081	0.0000
AR(12)	-0.257444	0.059241	-4.345741	0.0000

R-squared	0.808387	Mean dependent var	-0.009767
Adjusted R-squared	0.797279	S.D. dependent var	0.047206
S.E. of regression	0.021254	Akaike info criterion	-4.805251
Sum squared resid	0.062340	Schwarz criterion	-4.622163
Log likelihood	362.1859	Hannan-Quinn criter.	-4.730860
F-statistic	72.77507	Durbin-Watson stat	1.973505
Prob(F-statistic)	0.000000		

Inverted AR Roots	.92+.23i	.92-.23i	.68+.62i	.68-.62i
	.27-.85i	.27+.85i	-.19+.85i	-.19-.85i
	-.60-.63i	-.60+.63i	-.83-.23i	-.83+.23i

Table 42 – RFEP_SO, residual fuel oil generation by electric power sector, South region

Dependent Variable: D((RFEP_SO/FFEP_SO),0,12)
Method: Least Squares
Date: 08/12/13 Time: 12:23
Sample: 2001M01 2013M03
Included observations: 147

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.000160	0.000515	-0.309729	0.7572
D(ZWCD_SO,0,12)	1.55E-05	1.42E-05	1.095923	0.2750
D(ZWHD_SO,0,12)	9.17E-06	7.31E-06	1.254462	0.2118
D(ZWCD_SO(-1),0,12)	-2.26E-05	1.45E-05	-1.556959	0.1218
D(ZWHD_SO(-1),0,12)	4.05E-07	7.97E-06	0.050850	0.9595
D((NGEUDUS/RFEUDUS),0,12)	0.031175	0.002032	15.33848	0.0000
D((CLEUDUS/RFEUDUS),0,12)	-0.018273	0.006920	-2.640484	0.0092
D06	-0.007336	0.001799	-4.077626	0.0001

R-squared	0.740539	Mean dependent var	-0.002682
Adjusted R-squared	0.727472	S.D. dependent var	0.011066
S.E. of regression	0.005777	Akaike info criterion	-7.417082
Sum squared resid	0.004638	Schwarz criterion	-7.254338
Log likelihood	553.1555	Hannan-Quinn criter.	-7.350957
F-statistic	56.67502	Durbin-Watson stat	1.061072
Prob(F-statistic)	0.000000		

Table 43 – RFEP_WE, residual fuel oil generation by electric power sector, West region

Dependent Variable: D((RFEP_WE/FFEP_WE),0,12)
Method: Least Squares
Date: 08/12/13 Time: 12:24
Sample: 2001M01 2013M03
Included observations: 147
Convergence achieved after 16 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	9.56E-05	0.000375	0.254973	0.7991
D(ZWCD_WE,0,12)	-2.20E-05	6.27E-06	-3.507303	0.0006
D(ZWHD_WE,0,12)	-2.09E-06	2.32E-06	-0.903943	0.3676
D(ZWCD_WE(-1),0,12)	1.89E-06	6.24E-06	0.303274	0.7621
D(ZWHD_WE(-1),0,12)	2.66E-06	2.26E-06	1.176957	0.2412
D((NGEUDUS/RFEUDUS),0,12)	0.002432	0.000895	2.718719	0.0074
D((CLEUDUS/RFEUDUS),0,12)	0.003414	0.003733	0.914549	0.3620
D04	-0.000794	0.000995	-0.797185	0.4267
AR(1)	0.619632	0.068358	9.064482	0.0000

R-squared	0.512962	Mean dependent var	-0.000199
Adjusted R-squared	0.484728	S.D. dependent var	0.002265
S.E. of regression	0.001626	Akaike info criterion	-9.946662
Sum squared resid	0.000365	Schwarz criterion	-9.763574
Log likelihood	740.0797	Hannan-Quinn criter.	-9.872271
F-statistic	18.16820	Durbin-Watson stat	1.939424
Prob(F-statistic)	0.000000		

Inverted AR Roots	.62

Table 44 – DKEP_MW, distillate fuel oil generation by electric power sector, Midwest region

Dependent Variable: LOG(DKEP_MW/FFEP_MW)
Method: Least Squares
Date: 08/12/13 Time: 12:47
Sample (adjusted): 2001M02 2013M03
Included observations: 146 after adjustments
Convergence achieved after 8 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-6.120545	0.124944	-48.98612	0.0000
ZWCD_MW-ZWCN_MW	0.001063	0.000427	2.487964	0.0142
ZWHD_MW-ZWHN_MW	0.000423	0.000156	2.708764	0.0077
LOG(NGEUDUS)	0.112475	0.073432	1.531680	0.1281
LOG(CLEUDUS)	-0.644269	0.195502	-3.295456	0.0013
LOG(RFEUDUS)	0.176297	0.147943	1.191661	0.2357
LOG(DKEUDUS)	-0.155642	0.179016	-0.869431	0.3863
FEB	-0.239620	0.057710	-4.152157	0.0001
MAR	-0.103043	0.060995	-1.689373	0.0937
APR	0.023511	0.063526	0.370100	0.7119
MAY	0.137263	0.063582	2.158830	0.0328
JUN	-0.059033	0.063928	-0.923430	0.3576
JUL	-0.240547	0.065710	-3.660721	0.0004
AUG	-0.240378	0.064452	-3.729566	0.0003
SEP	-0.231225	0.064807	-3.567894	0.0005
OCT	-0.158421	0.065083	-2.434124	0.0164
NOV	-0.113970	0.062413	-1.826052	0.0702
DEC	-0.087260	0.057645	-1.513763	0.1326
D0212	-0.270327	0.158001	-1.710917	0.0896
D0302	0.511095	0.158890	3.216667	0.0017
D0702	0.862814	0.163234	5.285736	0.0000
AR(1)	0.216271	0.090261	2.396052	0.0181

R-squared	0.692519	Mean dependent var	-6.411220
Adjusted R-squared	0.640446	S.D. dependent var	0.252556
S.E. of regression	0.151440	Akaike info criterion	-0.799213
Sum squared resid	2.843815	Schwarz criterion	-0.349629
Log likelihood	80.34256	Hannan-Quinn criter.	-0.616537
F-statistic	13.29893	Durbin-Watson stat	2.040771
Prob(F-statistic)	0.000000		

Inverted AR Roots	.22

Table 45 - DKEP_NE, distillate fuel oil generation by electric power sector, Northeast region

Dependent Variable: LOG(DKEP_NE/FFEP_NE)
Method: Least Squares
Date: 08/12/13 Time: 12:47
Sample (adjusted): 2001M02 2013M03
Included observations: 146 after adjustments
Convergence achieved after 11 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-4.276358	0.349525	-12.23477	0.0000
ZWCD_NE-ZWCN_NE	0.004767	0.001148	4.153899	0.0001
ZWHD_NE-ZWHN_NE	0.001523	0.000423	3.598783	0.0005
LOG(NGEUDUS)	0.275141	0.195673	1.406124	0.1622
LOG(CLEUDUS)	-1.840511	0.539364	-3.412375	0.0009
LOG(RFEUDUS)	-0.242810	0.386541	-0.628161	0.5310
LOG(DKEUDUS)	0.170585	0.459867	0.370945	0.7113
FEB	-0.620368	0.120528	-5.147071	0.0000
MAR	-0.724824	0.139725	-5.187499	0.0000
APR	-0.877364	0.152684	-5.746268	0.0000
MAY	-0.679793	0.152392	-4.460829	0.0000
JUN	-0.691567	0.153977	-4.491353	0.0000
JUL	-0.647202	0.155628	-4.158639	0.0001
AUG	-0.682623	0.156735	-4.355267	0.0000
SEP	-1.111830	0.156061	-7.124346	0.0000
OCT	-0.991853	0.153768	-6.450318	0.0000
NOV	-0.932270	0.143652	-6.489803	0.0000
DEC	-0.475957	0.121101	-3.930238	0.0001
D0604	1.022678	0.352758	2.899094	0.0044
D0702	0.775176	0.352499	2.199085	0.0297
AR(1)	0.384637	0.087953	4.373210	0.0000

R-squared	0.805576	Mean dependent var	-5.617854
Adjusted R-squared	0.774468	S.D. dependent var	0.730771
S.E. of regression	0.347045	Akaike info criterion	0.853653
Sum squared resid	15.05502	Schwarz criterion	1.282802
Log likelihood	-41.31668	Hannan-Quinn criter.	1.028026
F-statistic	25.89619	Durbin-Watson stat	1.903612
Prob(F-statistic)	0.000000		

Inverted AR Roots	.38

Table 46 – DKEP_SO, distillate fuel oil generation by electric power sector, South region

Dependent Variable: LOG(DKEP_SO/FFEP_SO)
Method: Least Squares
Date: 08/12/13 Time: 12:48
Sample (adjusted): 2001M02 2013M03
Included observations: 146 after adjustments
Convergence achieved after 8 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-4.291248	0.304877	-14.07534	0.0000
ZWCD_SO-ZWCN_SO	0.004451	0.001096	4.061857	0.0001
ZWHD_SO-ZWHN_SO	0.002919	0.000596	4.898939	0.0000
LOG(NGEUDUS)	0.503791	0.172549	2.919695	0.0041
LOG(CLEUDUS)	-0.645388	0.471189	-1.369702	0.1732
LOG(RFEUDUS)	0.639042	0.344669	1.854073	0.0660
LOG(DKEUDUS)	-1.231950	0.418907	-2.940866	0.0039
FEB	-0.471296	0.111084	-4.242678	0.0000
MAR	-0.462058	0.129297	-3.573632	0.0005
APR	-0.508604	0.138064	-3.683818	0.0003
MAY	-0.526600	0.139198	-3.783105	0.0002
JUN	-0.673416	0.141259	-4.767246	0.0000
JUL	-0.734050	0.140560	-5.222337	0.0000
AUG	-0.781621	0.142790	-5.473921	0.0000
SEP	-0.746596	0.142248	-5.248551	0.0000
OCT	-0.636552	0.141010	-4.514215	0.0000
NOV	-0.756017	0.132638	-5.699868	0.0000
DEC	-0.428997	0.113767	-3.770856	0.0002
AR(1)	0.336792	0.085261	3.950154	0.0001

R-squared	0.733312	Mean dependent var	-6.090571
Adjusted R-squared	0.695514	S.D. dependent var	0.581878
S.E. of regression	0.321082	Akaike info criterion	0.686613
Sum squared resid	13.09288	Schwarz criterion	1.074890
Log likelihood	-31.12273	Hannan-Quinn criter.	0.844379
F-statistic	19.40065	Durbin-Watson stat	2.078884
Prob(F-statistic)	0.000000		

Inverted AR Roots	.34

Table 47 – DKEP_WE, distillate fuel oil generation by electric power sector, West region

Dependent Variable: LOG(DKEP_WE/FFEP_WE)
Method: Least Squares
Date: 08/12/13 Time: 12:48
Sample (adjusted): 2001M02 2013M03
Included observations: 146 after adjustments
Convergence achieved after 8 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-4.745233	0.155541	-30.50798	0.0000
ZWCD_WE-ZWCN_WE	-0.001102	0.000526	-2.096125	0.0381
ZWHD_WE-ZWHN_WE	-0.000580	0.000226	-2.565283	0.0115
LOG(NGEUDUS)	-0.200000	0.079310	-2.521748	0.0129
LOG(CLEUDUS)	-0.482856	0.250152	-1.930253	0.0558
LOG(RFEUDUS)	-0.163507	0.137073	-1.192848	0.2352
LOG(DKEUDUS)	0.183394	0.151225	1.212722	0.2275
FEB	-0.077796	0.035563	-2.187547	0.0305
MAR	-0.040896	0.045444	-0.899932	0.3699
APR	0.100157	0.051350	1.950478	0.0533
MAY	0.106417	0.053859	1.975867	0.0504
JUN	0.032299	0.055637	0.580528	0.5626
JUL	-0.185810	0.056357	-3.297028	0.0013
AUG	-0.233136	0.055918	-4.169230	0.0001
SEP	-0.210197	0.055568	-3.782680	0.0002
OCT	-0.123249	0.053159	-2.318517	0.0220
NOV	-0.098975	0.047184	-2.097645	0.0379
DEC	-0.078552	0.036576	-2.147646	0.0337
D0301	-0.489765	0.104085	-4.705435	0.0000
AR(1)	0.630935	0.050400	12.51859	0.0000

R-squared	0.827377	Mean dependent var	-5.294626
Adjusted R-squared	0.801347	S.D. dependent var	0.247595
S.E. of regression	0.110355	Akaike info criterion	-1.443588
Sum squared resid	1.534445	Schwarz criterion	-1.034875
Log likelihood	125.3819	Hannan-Quinn criter.	-1.277519
F-statistic	31.78503	Durbin-Watson stat	2.112754
Prob(F-statistic)	0.000000		

Inverted AR Roots	.63

Table 48 – PCEP_MW, petroleum coke generation by electric power sector, Midwest region

Dependent Variable: PCEP_MW/FFEP_MW
Method: Least Squares
Date: 08/12/13 Time: 13:03
Sample: 2001M01 2013M03
Included observations: 147
Convergence achieved after 8 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.003741	0.000336	11.12889	0.0000
RFEUDUS	-8.01E-05	3.10E-05	-2.586568	0.0108
D01	-0.001376	0.000350	-3.931850	0.0001
D02	-0.001254	0.000349	-3.588921	0.0005
D03	-0.001654	0.000331	-4.999430	0.0000
FEB	0.000183	0.000227	0.808056	0.4205
MAR	-2.74E-05	0.000265	-0.103371	0.9178
APR	-7.93E-05	0.000283	-0.280462	0.7796
MAY	0.000172	0.000288	0.596697	0.5518
JUN	0.000116	0.000292	0.398475	0.6909
JUL	-0.000399	0.000292	-1.366717	0.1741
AUG	-0.000116	0.000292	-0.399555	0.6901
SEP	7.46E-05	0.000290	0.256761	0.7978
OCT	-0.000321	0.000286	-1.121382	0.2642
NOV	-0.000317	0.000272	-1.162650	0.2471
DEC	-0.000455	0.000232	-1.961627	0.0520
D11ON	0.001490	0.000390	3.815257	0.0002
AR(1)	0.360450	0.082806	4.352963	0.0000

R-squared	0.571643	Mean dependent var	0.002773
Adjusted R-squared	0.515193	S.D. dependent var	0.000966
S.E. of regression	0.000673	Akaike info criterion	-11.65659
Sum squared resid	5.84E-05	Schwarz criterion	-11.29042
Log likelihood	874.7596	Hannan-Quinn criter.	-11.50781
F-statistic	10.12650	Durbin-Watson stat	1.832652
Prob(F-statistic)	0.000000		

Inverted AR Roots	.36

Table 49 – PCEP_NE, petroleum coke generation by electric power sector, Northeast region

Dependent Variable: PCEP_NE/FFEP_NE
Method: Least Squares
Date: 08/12/13 Time: 13:04
Sample: 2001M01 2013M03
Included observations: 147
Convergence achieved after 9 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.002293	0.000293	7.831229	0.0000
RFEUDUS	-9.06E-05	1.84E-05	-4.914395	0.0000
D01	-0.001540	0.000354	-4.345586	0.0000
D05	0.002892	0.000343	8.430192	0.0000
D1103	0.005899	0.000682	8.646284	0.0000
FEB	-7.10E-05	0.000234	-0.304143	0.7615
MAR	-0.000170	0.000284	-0.599916	0.5496
APR	7.56E-05	0.000302	0.250415	0.8027
MAY	-0.000483	0.000310	-1.558493	0.1215
JUN	-0.000252	0.000313	-0.804510	0.4226
JUL	-0.000165	0.000314	-0.527132	0.5990
AUG	-0.000207	0.000313	-0.661845	0.5092
SEP	-0.000165	0.000310	-0.531900	0.5957
OCT	-0.000241	0.000303	-0.797557	0.4266
NOV	-0.000345	0.000284	-1.212506	0.2275
DEC	-0.000340	0.000236	-1.439460	0.1524
AR(1)	0.426705	0.080286	5.314828	0.0000

R-squared	0.782775	Mean dependent var	0.001359
Adjusted R-squared	0.756040	S.D. dependent var	0.001437
S.E. of regression	0.000710	Akaike info criterion	-11.55477
Sum squared resid	6.55E-05	Schwarz criterion	-11.20893
Log likelihood	866.2753	Hannan-Quinn criter.	-11.41425
F-statistic	29.27865	Durbin-Watson stat	2.239409
Prob(F-statistic)	0.000000		

Inverted AR Roots	.43

Table 50 – PCEP_SO, petroleum coke generation by electric power sector, South region

Dependent Variable: PCEP_SO/FFEP_SO
Method: Least Squares
Date: 08/12/13 Time: 13:04
Sample: 2007M01 2013M03
Included observations: 75
Convergence achieved after 5 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.008560	0.000764	11.20599	0.0000
RFEUDUS	-5.19E-05	5.31E-05	-0.976598	0.3327
FEB	-0.000489	0.000476	-1.027981	0.3081
MAR	-0.000284	0.000559	-0.508133	0.6132
APR	-0.000951	0.000612	-1.553117	0.1257
MAY	-0.001550	0.000626	-2.476839	0.0161
JUN	-0.001564	0.000637	-2.456072	0.0170
JUL	-0.001850	0.000637	-2.901673	0.0052
AUG	-0.002185	0.000634	-3.448406	0.0010
SEP	-0.001259	0.000632	-1.992436	0.0509
OCT	-0.001274	0.000623	-2.046541	0.0451
NOV	-0.002052	0.000589	-3.485595	0.0009
DEC	-0.001331	0.000496	-2.681369	0.0095
D12ON	-0.002206	0.000612	-3.605666	0.0006
AR(1)	0.372473	0.118708	3.137735	0.0026

R-squared	0.674023	Mean dependent var	0.006203
Adjusted R-squared	0.597962	S.D. dependent var	0.001639
S.E. of regression	0.001039	Akaike info criterion	-10.72405
Sum squared resid	6.48E-05	Schwarz criterion	-10.26056
Log likelihood	417.1520	Hannan-Quinn criter.	-10.53898
F-statistic	8.861592	Durbin-Watson stat	1.936484
Prob(F-statistic)	0.000000		

Inverted AR Roots	.37

Table 51 – PCEP_WE, petroleum coke generation by electric power sector, West region

Dependent Variable: PCEP_WE/FFEP_WE
Method: Least Squares
Date: 08/12/13 Time: 13:04
Sample: 2001M01 2013M03
Included observations: 147
Convergence achieved after 6 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.006241	0.000321	19.44858	0.0000
RFEUDUS	-0.000193	2.38E-05	-8.101913	0.0000
FEB	-1.00E-05	0.000167	-0.059843	0.9524
MAR	0.000464	0.000217	2.132500	0.0348
APR	0.000553	0.000249	2.218313	0.0282
MAY	0.000495	0.000267	1.853941	0.0660
JUN	0.000555	0.000276	2.008278	0.0466
JUL	-0.000345	0.000279	-1.238761	0.2176
AUG	-0.000714	0.000276	-2.590055	0.0107
SEP	-0.000280	0.000267	-1.049907	0.2957
OCT	-0.000148	0.000250	-0.591404	0.5553
NOV	1.51E-05	0.000221	0.068428	0.9455
DEC	-6.09E-05	0.000168	-0.362767	0.7174
AR(1)	0.695929	0.064353	10.81429	0.0000

R-squared	0.858976	Mean dependent var	0.004425
Adjusted R-squared	0.845192	S.D. dependent var	0.001411
S.E. of regression	0.000555	Akaike info criterion	-12.06478
Sum squared resid	4.10E-05	Schwarz criterion	-11.77998
Log likelihood	900.7614	Hannan-Quinn criter.	-11.94906
F-statistic	62.31565	Durbin-Watson stat	2.076273
Prob(F-statistic)	0.000000		

Inverted AR Roots	.70

Table 52 – OPEP_MW, other petroleum generation by electric power sector, Midwest region

Dependent Variable: OPEP_MW/FFEP_MW
Method: Least Squares
Date: 08/12/13 Time: 13:46
Sample: 2011M01 2013M03
Included observations: 27
Convergence achieved after 26 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	8.21E-06	6.41E-06	1.280461	0.2228
D1204	3.59E-05	1.21E-05	2.957259	0.0111
FEB	-9.72E-06	6.31E-06	-1.541965	0.1471
MAR	-8.94E-07	7.71E-06	-0.115963	0.9095
APR	7.29E-06	1.10E-05	0.659499	0.5211
MAY	1.68E-05	9.54E-06	1.755658	0.1027
JUN	6.80E-06	9.68E-06	0.702658	0.4947
JUL	2.24E-06	9.70E-06	0.230803	0.8211
AUG	6.70E-06	9.65E-06	0.693796	0.5000
SEP	2.38E-06	9.51E-06	0.249692	0.8067
OCT	6.77E-06	9.19E-06	0.737194	0.4741
NOV	2.26E-06	8.46E-06	0.267872	0.7930
DEC	-9.31E-07	6.64E-06	-0.140241	0.8906
AR(1)	0.473252	0.248128	1.907288	0.0788

R-squared	0.762294	Mean dependent var	1.19E-05
Adjusted R-squared	0.524588	S.D. dependent var	1.34E-05
S.E. of regression	9.24E-06	Akaike info criterion	-20.04001
Sum squared resid	1.11E-09	Schwarz criterion	-19.36809
Log likelihood	284.5401	Hannan-Quinn criter.	-19.84021
F-statistic	3.206878	Durbin-Watson stat	1.651143
Prob(F-statistic)	0.022341		

Inverted AR Roots	.47

Table 53 – OPEP_NE, other petroleum generation by electric power sector, Northeast region

Dependent Variable: OPEP_NE/FFEP_NE
Method: Least Squares
Date: 08/12/13 Time: 13:46
Sample: 2001M01 2013M03
Included observations: 147
Convergence achieved after 5 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.002796	0.000281	9.963990	0.0000
D0401	0.009527	0.000780	12.21959	0.0000
D0702	0.005431	0.000782	6.947942	0.0000
FEB	-0.001476	0.000282	-5.225310	0.0000
MAR	-0.001696	0.000336	-5.045030	0.0000
APR	-0.002222	0.000369	-6.014916	0.0000
MAY	-0.002160	0.000384	-5.631024	0.0000
JUN	-0.002304	0.000389	-5.916058	0.0000
JUL	-0.002072	0.000391	-5.300014	0.0000
AUG	-0.002081	0.000389	-5.346222	0.0000
SEP	-0.002392	0.000383	-6.241583	0.0000
OCT	-0.002466	0.000370	-6.666464	0.0000
NOV	-0.002391	0.000342	-6.998906	0.0000
DEC	-0.001734	0.000278	-6.247704	0.0000
AR(1)	0.510252	0.075138	6.790877	0.0000

R-squared	0.724077	Mean dependent var	0.000999
Adjusted R-squared	0.694812	S.D. dependent var	0.001521
S.E. of regression	0.000840	Akaike info criterion	-11.22879
Sum squared resid	9.32E-05	Schwarz criterion	-10.92364
Log likelihood	840.3158	Hannan-Quinn criter.	-11.10480
F-statistic	24.74239	Durbin-Watson stat	1.901692
Prob(F-statistic)	0.000000		

Inverted AR Roots	.51

Table 54 - OPEP_SO, other petroleum generation by electric power sector, South region

Dependent Variable: OPEP_SO/FFEP_SO
Method: Least Squares
Date: 08/12/13 Time: 13:46
Sample: 2006M01 2013M03
Included observations: 87
Convergence achieved after 3 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	7.62E-05	1.56E-05	4.871850	0.0000
FEB	-2.82E-05	2.25E-05	-1.250074	0.2152
MAR	-5.51E-05	2.16E-05	-2.551466	0.0128
APR	-6.21E-05	2.24E-05	-2.771633	0.0071
MAY	-6.33E-05	2.24E-05	-2.823106	0.0061
JUN	-3.09E-05	2.24E-05	-1.378522	0.1722
JUL	-5.18E-05	2.24E-05	-2.311895	0.0236
AUG	-5.97E-05	2.24E-05	-2.663708	0.0095
SEP	-6.01E-05	2.24E-05	-2.680373	0.0091
OCT	-6.74E-05	2.24E-05	-3.005215	0.0036
NOV	-4.81E-05	2.24E-05	-2.149838	0.0348
DEC	-2.84E-05	2.32E-05	-1.222060	0.2256
AR(1)	-0.071643	0.074366	-0.963378	0.3385

R-squared	0.198041	Mean dependent var	3.02E-05
Adjusted R-squared	0.067993	S.D. dependent var	4.39E-05
S.E. of regression	4.24E-05	Akaike info criterion	-17.16340
Sum squared resid	1.33E-07	Schwarz criterion	-16.79493
Log likelihood	759.6079	Hannan-Quinn criter.	-17.01503
F-statistic	1.522836	Durbin-Watson stat	1.793050
Prob(F-statistic)	0.135211		

Inverted AR Roots	-.07

Table 55 – OPEP_WE, other petroleum generation by electric power sector, West region

Dependent Variable: OPEP_WE/FFEP_WE
Method: Least Squares
Date: 08/12/13 Time: 13:46
Sample: 2002M01 2013M03
Included observations: 135
Convergence achieved after 7 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.001904	0.000128	14.87606	0.0000
D0702	-0.000568	0.000292	-1.944891	0.0541
FEB	-8.56E-05	0.000108	-0.788931	0.4317
MAR	-1.22E-05	0.000135	-0.089739	0.9286
APR	7.69E-05	0.000154	0.499540	0.6183
MAY	5.62E-05	0.000164	0.343887	0.7315
JUN	-0.000161	0.000168	-0.957147	0.3404
JUL	-0.000376	0.000170	-2.213786	0.0287
AUG	-0.000361	0.000168	-2.147119	0.0338
SEP	-0.000340	0.000164	-2.080658	0.0396
OCT	-0.000254	0.000155	-1.644625	0.1026
NOV	-0.000233	0.000138	-1.687076	0.0942
DEC	-0.000113	0.000107	-1.060018	0.2912
AR(1)	0.641916	0.063725	10.07323	0.0000

R-squared	0.512618	Mean dependent var	0.001735
Adjusted R-squared	0.460254	S.D. dependent var	0.000451
S.E. of regression	0.000331	Akaike info criterion	-13.08991
Sum squared resid	1.33E-05	Schwarz criterion	-12.78862
Log likelihood	897.5689	Hannan-Quinn criter.	-12.96747
F-statistic	9.789617	Durbin-Watson stat	2.106551
Prob(F-statistic)	0.000000		

Inverted AR Roots	.64

Table 56 – OGEP_MW, other fossil gases generation by electric power sector, Midwest region

Dependent Variable: D((OGEP_MW/FFEP_MW),0,12)
Method: Least Squares
Date: 08/13/13 Time: 08:54
Sample: 2005M01 2013M03
Included observations: 99
Convergence achieved after 8 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.000111	8.96E-05	-1.237839	0.2193
D((NGEP_MW/FFEP_MW),0,12)	-0.000308	0.000933	-0.330569	0.7418
FEB	2.13E-05	9.00E-05	0.236884	0.8133
MAR	4.23E-05	0.000110	0.385289	0.7010
APR	2.53E-05	0.000121	0.208918	0.8350
MAY	7.85E-05	0.000129	0.610585	0.5432
JUN	1.61E-05	0.000127	0.126041	0.9000
JUL	2.43E-05	0.000128	0.189692	0.8500
AUG	3.02E-05	0.000127	0.237645	0.8127
SEP	5.36E-05	0.000125	0.427743	0.6700
OCT	5.97E-05	0.000122	0.491166	0.6246
NOV	-1.52E-05	0.000120	-0.126332	0.8998
DEC	4.69E-05	9.16E-05	0.511311	0.6105
D0811	-0.000264	0.000226	-1.168349	0.2461
D0905	-0.000526	0.000223	-2.356258	0.0208
D0911	0.000336	0.000225	1.491092	0.1398
AR(1)	0.476945	0.090695	5.258798	0.0000

R-squared	0.353140	Mean dependent var	-7.88E-05
Adjusted R-squared	0.226924	S.D. dependent var	0.000263
S.E. of regression	0.000231	Akaike info criterion	-13.75079
Sum squared resid	4.39E-06	Schwarz criterion	-13.30516
Log likelihood	697.6640	Hannan-Quinn criter.	-13.57049
F-statistic	2.797893	Durbin-Watson stat	1.688904
Prob(F-statistic)	0.001238		

Inverted AR Roots	.48

Table 57 – OGEP_NE, other fossil gases generation by electric power sector, Northeast region

Dependent Variable: D((OGEP_NE/FFEP_NE),0,12)
Method: Least Squares
Date: 08/13/13 Time: 08:54
Sample: 2001M01 2013M03
Included observations: 147
Convergence achieved after 8 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-2.96E-05	3.38E-05	-0.876362	0.3825
D((NGEP_NE/FFEP_NE),0,12)	2.76E-05	0.000142	0.193957	0.8465
D06	3.20E-05	4.46E-05	0.716228	0.4752
D08	0.000244	4.40E-05	5.547690	0.0000
D0203	0.000409	5.04E-05	8.123108	0.0000
D0303	-0.000403	5.04E-05	-8.005815	0.0000
D1001	0.000196	5.07E-05	3.871820	0.0002
FEB	1.27E-05	1.84E-05	0.691987	0.4902
MAR	9.94E-06	2.49E-05	0.399284	0.6903
APR	1.70E-05	2.82E-05	0.604871	0.5463
MAY	1.42E-05	3.05E-05	0.466018	0.6420
JUN	7.45E-06	3.18E-05	0.234116	0.8153
JUL	-6.60E-06	3.22E-05	-0.204518	0.8383
AUG	1.40E-05	3.18E-05	0.440980	0.6600
SEP	1.19E-05	3.06E-05	0.388177	0.6985
OCT	-6.90E-06	2.83E-05	-0.243867	0.8077
NOV	-6.16E-06	2.46E-05	-0.250858	0.8023
DEC	-4.81E-06	1.84E-05	-0.261851	0.7939
AR(1)	0.812734	0.053297	15.24926	0.0000

R-squared	0.764600	Mean dependent var	3.35E-06
Adjusted R-squared	0.731497	S.D. dependent var	0.000120
S.E. of regression	6.20E-05	Akaike info criterion	-16.41790
Sum squared resid	4.92E-07	Schwarz criterion	-16.03138
Log likelihood	1225.716	Hannan-Quinn criter.	-16.26086
F-statistic	23.09748	Durbin-Watson stat	1.631577
Prob(F-statistic)	0.000000		

Inverted AR Roots	.81

Table 58 – OGEP_SO, other fossil gases generation by electric power sector, South region

Dependent Variable: D((OGEP_SO/FFEP_SO),0,12)
Method: Least Squares
Date: 08/13/13 Time: 08:55
Sample: 2001M01 2013M03
Included observations: 147
Convergence achieved after 8 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.000153	0.000159	0.968303	0.3347
D((NGEP_SO/FFEP_SO),0,12)	-0.000703	0.001132	-0.621306	0.5355
D01	-0.001117	0.000231	-4.831047	0.0000
FEB	-2.24E-05	9.90E-05	-0.225941	0.8216
MAR	-3.05E-05	0.000131	-0.232960	0.8162
APR	-3.02E-05	0.000152	-0.199286	0.8423
MAY	-5.52E-05	0.000164	-0.336258	0.7372
JUN	-4.60E-05	0.000171	-0.269608	0.7879
JUL	-5.88E-05	0.000173	-0.340257	0.7342
AUG	-4.99E-05	0.000171	-0.292655	0.7702
SEP	-3.25E-05	0.000164	-0.198216	0.8432
OCT	-1.63E-05	0.000152	-0.107037	0.9149
NOV	-1.61E-05	0.000133	-0.120958	0.9039
DEC	1.15E-05	9.93E-05	0.115815	0.9080
AR(1)	0.766892	0.056573	13.55583	0.0000

R-squared	0.637411	Mean dependent var	2.72E-05
Adjusted R-squared	0.598955	S.D. dependent var	0.000532
S.E. of regression	0.000337	Akaike info criterion	-13.05761
Sum squared resid	1.50E-05	Schwarz criterion	-12.75247
Log likelihood	974.7344	Hannan-Quinn criter.	-12.93363
F-statistic	16.57489	Durbin-Watson stat	2.215525
Prob(F-statistic)	0.000000		

Inverted AR Roots	.77

Table 59 – OGEP_WE, other fossil gases generation by electric power sector, West region

Dependent Variable: D((OGEP_WE/FFEP_WE),0,12)
Method: Least Squares
Date: 08/13/13 Time: 08:55
Sample: 2003M01 2013M03
Included observations: 123
Convergence achieved after 7 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-4.52E-05	7.40E-05	-0.610609	0.5428
D((NGEP_WE/FFEP_WE),0,12)	-0.000312	0.000519	-0.601422	0.5489
FEB	2.73E-05	8.32E-05	0.328177	0.7434
MAR	3.69E-05	0.000102	0.362475	0.7177
APR	5.60E-05	0.000103	0.542570	0.5886
MAY	6.92E-05	0.000105	0.659245	0.5112
JUN	5.23E-05	0.000105	0.495714	0.6211
JUL	4.78E-05	0.000106	0.452695	0.6517
AUG	4.62E-05	0.000106	0.438018	0.6623
SEP	8.10E-05	0.000110	0.734248	0.4644
OCT	2.21E-06	0.000104	0.021292	0.9831
NOV	5.36E-05	9.92E-05	0.540055	0.5903
DEC	-6.60E-06	8.51E-05	-0.077538	0.9383
D0809	-0.000745	0.000227	-3.283815	0.0014
D0903	-0.000682	0.000226	-3.017320	0.0032
D0909	0.000515	0.000227	2.268378	0.0254
D1003	0.000546	0.000226	2.415287	0.0175
AR(1)	0.344514	0.078644	4.380672	0.0000

R-squared	0.363665	Mean dependent var	-5.50E-06
Adjusted R-squared	0.260639	S.D. dependent var	0.000262
S.E. of regression	0.000226	Akaike info criterion	-13.82103
Sum squared resid	5.34E-06	Schwarz criterion	-13.40949
Log likelihood	867.9931	Hannan-Quinn criter.	-13.65386
F-statistic	3.529843	Durbin-Watson stat	1.893473
Prob(F-statistic)	0.000033		

Inverted AR Roots	.34

Table 60 – OTEP_MW, other fossil fuel generation by electric power sector, Midwest region

Dependent Variable: OTEP_MW/EPEO_MW
Method: Least Squares
Date: 08/13/13 Time: 08:59
Sample: 2001M01 2013M03
Included observations: 147
Convergence achieved after 9 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.000639	4.07E-05	15.69573	0.0000
D0101	0.000467	6.76E-05	6.909842	0.0000
D0207	0.000961	8.05E-05	11.93190	0.0000
D0208	0.000706	9.22E-05	7.660853	0.0000
D0209	0.000411	8.05E-05	5.101011	0.0000
FEB	3.50E-05	2.44E-05	1.432726	0.1543
MAR	8.98E-05	3.21E-05	2.801251	0.0059
APR	0.000113	3.72E-05	3.046665	0.0028
MAY	0.000155	4.02E-05	3.862447	0.0002
JUN	0.000107	4.18E-05	2.545874	0.0121
JUL	4.57E-06	4.29E-05	0.106656	0.9152
AUG	4.77E-05	4.25E-05	1.121386	0.2642
SEP	8.38E-05	4.07E-05	2.056327	0.0418
OCT	0.000106	3.73E-05	2.841300	0.0052
NOV	9.65E-05	3.25E-05	2.971879	0.0035
DEC	3.42E-05	2.44E-05	1.400897	0.1636
AR(1)	0.790309	0.045100	17.52334	0.0000

R-squared	0.841350	Mean dependent var	0.000709
Adjusted R-squared	0.821824	S.D. dependent var	0.000193
S.E. of regression	8.16E-05	Akaike info criterion	-15.88112
Sum squared resid	8.66E-07	Schwarz criterion	-15.53529
Log likelihood	1184.263	Hannan-Quinn criter.	-15.74061
F-statistic	43.08845	Durbin-Watson stat	2.065258
Prob(F-statistic)	0.000000		

Inverted AR Roots	.79

Table 61 – OTEP_NE, other fossil fuel generation by electric power sector, Northeast region

Dependent Variable: OTEP_NE/EPEO_NE
Method: Least Squares
Date: 08/13/13 Time: 09:00
Sample: 2001M01 2013M03
Included observations: 147
Convergence achieved after 4 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.006448	0.000118	54.53227	0.0000
D02	0.001282	0.000142	9.049778	0.0000
FEB	0.000127	0.000151	0.841301	0.4017
MAR	0.000803	0.000162	4.953144	0.0000
APR	0.001500	0.000167	8.981313	0.0000
MAY	0.001299	0.000167	7.764826	0.0000
JUN	0.000443	0.000167	2.646298	0.0091
JUL	-5.81E-05	0.000167	-0.347248	0.7290
AUG	-0.000202	0.000167	-1.204038	0.2307
SEP	0.000578	0.000167	3.454337	0.0007
OCT	0.001048	0.000167	6.272677	0.0000
NOV	0.001175	0.000166	7.095947	0.0000
DEC	0.000631	0.000155	4.083522	0.0001
AR(1)	0.145675	0.048901	2.978988	0.0034

R-squared	0.745565	Mean dependent var	0.007150
Adjusted R-squared	0.720695	S.D. dependent var	0.000772
S.E. of regression	0.000408	Akaike info criterion	-12.67935
Sum squared resid	2.22E-05	Schwarz criterion	-12.39454
Log likelihood	945.9319	Hannan-Quinn criter.	-12.56363
F-statistic	29.97894	Durbin-Watson stat	1.222647
Prob(F-statistic)	0.000000		

Inverted AR Roots	.15

Table 62 – OTEP_SO, other fossil fuel generation by electric power sector, South region

Dependent Variable: OTEP_SO/EPEO_SO
Method: Least Squares
Date: 08/13/13 Time: 09:00
Sample: 2001M01 2013M03
Included observations: 147
Convergence achieved after 7 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.001355	7.13E-05	19.01606	0.0000
D0101	0.000457	0.000125	3.653770	0.0004
FEB	1.81E-05	4.50E-05	0.402274	0.6881
MAR	9.61E-05	5.90E-05	1.628851	0.1057
APR	0.000183	6.82E-05	2.679547	0.0083
MAY	1.24E-05	7.36E-05	0.168758	0.8662
JUN	-5.35E-05	7.65E-05	-0.700119	0.4851
JUL	-0.000103	7.74E-05	-1.333247	0.1847
AUG	-0.000123	7.64E-05	-1.614037	0.1089
SEP	-0.000134	7.36E-05	-1.821574	0.0708
OCT	-6.47E-05	6.83E-05	-0.946803	0.3455
NOV	1.33E-05	5.97E-05	0.223310	0.8236
DEC	2.95E-05	4.50E-05	0.654468	0.5139
AR(1)	0.774502	0.044929	17.23823	0.0000

R-squared	0.714116	Mean dependent var	0.001320
Adjusted R-squared	0.686172	S.D. dependent var	0.000267
S.E. of regression	0.000150	Akaike info criterion	-14.68707
Sum squared resid	2.98E-06	Schwarz criterion	-14.40226
Log likelihood	1093.499	Hannan-Quinn criter.	-14.57135
F-statistic	25.55563	Durbin-Watson stat	1.570629
Prob(F-statistic)	0.000000		

Inverted AR Roots	.77

Table 63 – OTEP_WE, other fossil fuel generation by electric power sector, West region

Dependent Variable: OTEP_WE/EPEO_WE
Method: Least Squares
Date: 08/13/13 Time: 09:01
Sample: 2001M01 2013M03
Included observations: 147
Convergence achieved after 6 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.000650	6.35E-05	10.22705	0.0000
D04	0.001934	9.80E-05	19.74077	0.0000
D0307	0.003257	0.000125	26.01859	0.0000
D0308	0.005178	0.000156	33.20175	0.0000
D0309	0.004631	0.000169	27.42863	0.0000
D0310	0.004971	0.000172	28.95397	0.0000
D0311	0.004363	0.000166	26.29139	0.0000
D0312	0.001659	0.000148	11.16950	0.0000
D09ON	0.000474	7.35E-05	6.450298	0.0000
D1101	-0.000232	9.98E-05	-2.322597	0.0218
FEB	2.51E-05	3.62E-05	0.692876	0.4897
MAR	7.77E-06	4.73E-05	0.164185	0.8699
APR	1.73E-05	5.46E-05	0.317248	0.7516
MAY	2.02E-05	5.89E-05	0.342415	0.7326
JUN	-4.34E-05	6.12E-05	-0.708995	0.4796
JUL	-0.000101	6.28E-05	-1.609897	0.1099
AUG	-9.55E-05	6.25E-05	-1.526671	0.1294
SEP	-4.44E-05	6.06E-05	-0.732303	0.4654
OCT	1.24E-05	5.67E-05	0.218608	0.8273
NOV	2.38E-05	5.01E-05	0.474402	0.6360
DEC	-2.45E-05	3.86E-05	-0.635495	0.5263
AR(1)	0.756564	0.054333	13.92465	0.0000

R-squared	0.986393	Mean dependent var	0.001105
Adjusted R-squared	0.984107	S.D. dependent var	0.000951
S.E. of regression	0.000120	Akaike info criterion	-15.08180
Sum squared resid	1.80E-06	Schwarz criterion	-14.63425
Log likelihood	1130.512	Hannan-Quinn criter.	-14.89996
F-statistic	431.5072	Durbin-Watson stat	1.890646
Prob(F-statistic)	0.000000		

Inverted AR Roots	.76

Table 64 – CHEO_MW, total generation by end-use CHP sector, Midwest region

Dependent Variable: D(CHEO_MW,0,12)
Method: Least Squares
Date: 08/13/13 Time: 09:07
Sample (adjusted): 2002M02 2013M03
Included observations: 134 after adjustments
Convergence achieved after 8 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.056162	0.290025	-0.193644	0.8468
D(IPMFG_NCR,0,12)	0.397108	0.094726	4.192188	0.0001
D(EESPP_NCR,0,12)	-4.130903	1.546444	-2.671227	0.0086
D(ZWCD_MW,0,12)	0.013105	0.006547	2.001595	0.0475
D(ZWHD_MW,0,12)	0.000827	0.001277	0.648156	0.5181
D(EXICP_MW,0,12)	0.020189	0.007569	2.667520	0.0086
D(EXCCP_MW,0,12)	-0.011209	0.010136	-1.105877	0.2709
AR(1)	0.480084	0.079825	6.014181	0.0000

R-squared	0.718348	Mean dependent var	0.082863
Adjusted R-squared	0.702700	S.D. dependent var	3.092779
S.E. of regression	1.686344	Akaike info criterion	3.940848
Sum squared resid	358.3133	Schwarz criterion	4.113853
Log likelihood	-256.0368	Hannan-Quinn criter.	4.011152
F-statistic	45.90857	Durbin-Watson stat	1.818346
Prob(F-statistic)	0.000000		

Inverted AR Roots	.48

Table 65 – CHEO_NE, total generation by end-use CHP sector, Northeast region

Dependent Variable: D(CHEO_NE,0,12)
Method: Least Squares
Date: 08/13/13 Time: 09:07
Sample: 2006M01 2013M03
Included observations: 87

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-1.384379	0.257519	-5.375831	0.0000
D(IPMFG_NER,0,12)	-0.056633	0.055135	-1.027161	0.3075
D(EESPP_NER,0,12)	1.846434	1.055622	1.749143	0.0842
D(ZWCD_NE,0,12)	0.013576	0.006300	2.154747	0.0342
D(ZWHD_NE,0,12)	0.001715	0.001413	1.213503	0.2286
D(EXICP_NE,0,12)	-0.018539	0.012759	-1.453055	0.1502
D(EXCCP_NE,0,12)	0.000486	0.011515	0.042227	0.9664
D10ON	1.869397	0.385551	4.848643	0.0000

R-squared	0.412601	Mean dependent var	-0.278032
Adjusted R-squared	0.360553	S.D. dependent var	1.771656
S.E. of regression	1.416712	Akaike info criterion	3.622003
Sum squared resid	158.5588	Schwarz criterion	3.848753
Log likelihood	-149.5571	Hannan-Quinn criter.	3.713308
F-statistic	7.927327	Durbin-Watson stat	2.063497
Prob(F-statistic)	0.000000		

Table 66 – CHEO_SO, total generation by end-use CHP sector, South region

Dependent Variable: D(CHEO_SO,0,12)
Method: Least Squares
Date: 08/13/13 Time: 09:08
Sample (adjusted): 2002M02 2013M03
Included observations: 134 after adjustments
Convergence achieved after 14 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	8.162342	1.998553	4.084126	0.0001
D(IPMFG_SOR,0,12)	3.587583	0.745198	4.814266	0.0000
D(EESPP_SOR,0,12)	-21.94062	5.628880	-3.897866	0.0002
D(ZWCD_SO,0,12)	0.061851	0.041501	1.490364	0.1388
D(ZWHD_SO,0,12)	0.048949	0.019951	2.453425	0.0156
D(EXICP_SO,0,12)	-0.026764	0.038143	-0.701675	0.4842
D(EXCCP_SO,0,12)	0.008994	0.036042	0.249535	0.8034
D05	-26.97491	5.723471	-4.713035	0.0000
D07	-15.10104	5.371797	-2.811171	0.0058
D0510	-32.29475	13.03806	-2.476960	0.0146
D0511	-14.51674	12.45999	-1.165068	0.2463
D0610	51.37762	12.53921	4.097356	0.0001
D0611	26.29443	12.31343	2.135428	0.0348
AR(1)	0.320064	0.092700	3.452667	0.0008

R-squared	0.669426	Mean dependent var	1.114036
Adjusted R-squared	0.633614	S.D. dependent var	19.94741
S.E. of regression	12.07414	Akaike info criterion	7.918616
Sum squared resid	17494.18	Schwarz criterion	8.221375
Log likelihood	-516.5473	Hannan-Quinn criter.	8.041648
F-statistic	18.69268	Durbin-Watson stat	2.057841
Prob(F-statistic)	0.000000		

Inverted AR Roots	.32

Table 67 – CHEO_WE, total generation by end-use CHP sector, West region

Dependent Variable: D(CHEO_WE,0,12)
Method: Least Squares
Date: 08/13/13 Time: 09:08
Sample (adjusted): 2002M02 2013M03
Included observations: 134 after adjustments
Convergence achieved after 10 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.250335	0.522221	-0.479365	0.6326
D(IPMFG_WER,0,12)	0.413452	0.165697	2.495233	0.0140
D(EESPP_WER,0,12)	-4.214964	1.914541	-2.201554	0.0296
D(HVEP_WE,0,12)	-0.011019	0.003842	-2.867932	0.0049
D(ZWCD_WE,0,12)	0.021670	0.013231	1.637835	0.1041
D(ZWHD_WE,0,12)	0.010425	0.004870	2.140719	0.0343
D(EXICP_WE,0,12)	0.013654	0.020574	0.663647	0.5082
D(EXCCP_WE,0,12)	0.037722	0.014878	2.535385	0.0125
D0506	8.167107	3.217974	2.537965	0.0124
D0507	10.23612	3.481790	2.939901	0.0039
D0508	9.042859	3.234229	2.795986	0.0060
D0607	-5.388963	2.980033	-1.808357	0.0731
D0610	7.421366	2.971108	2.497845	0.0139
D1103	-6.237492	2.981062	-2.092372	0.0385
AR(1)	0.427344	0.085429	5.002323	0.0000

R-squared	0.517375	Mean dependent var	-0.133762
Adjusted R-squared	0.460596	S.D. dependent var	4.349479
S.E. of regression	3.194437	Akaike info criterion	5.265863
Sum squared resid	1214.327	Schwarz criterion	5.590248
Log likelihood	-337.8128	Hannan-Quinn criter.	5.397683
F-statistic	9.112028	Durbin-Watson stat	1.951177
Prob(F-statistic)	0.000000		

Inverted AR Roots	.43

Table 68 – CLCH_MW, coal generation by end-use CHP sector, Midwest region

Dependent Variable: LOG(CLCH_MW/CHEO_MW)
Method: Least Squares
Date: 08/13/13 Time: 09:14
Sample (adjusted): 2001M02 2013M03
Included observations: 146 after adjustments
Convergence achieved after 8 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.869303	0.023218	-37.44066	0.0000
LOG(CLEUDUS/NGEUDUS)	-0.115903	0.018346	-6.317469	0.0000
FEB	-0.008844	0.011000	-0.803983	0.4229
MAR	-0.039454	0.013989	-2.820279	0.0056
APR	-0.053257	0.015737	-3.384135	0.0009
MAY	-0.039442	0.016588	-2.377774	0.0189
JUN	-0.046497	0.016993	-2.736258	0.0071
JUL	-0.029687	0.017136	-1.732434	0.0856
AUG	-0.036583	0.017074	-2.142616	0.0340
SEP	-0.036777	0.016797	-2.189495	0.0304
OCT	-0.016656	0.015969	-1.043032	0.2989
NOV	0.000519	0.014437	0.035938	0.9714
DEC	-0.004078	0.011501	-0.354587	0.7235
D01	-0.123277	0.025101	-4.911256	0.0000
D03	-0.087388	0.022777	-3.836636	0.0002
D04	-0.095003	0.023952	-3.966342	0.0001
D05	-0.068891	0.023481	-2.933934	0.0040
AR(1)	0.595653	0.075268	7.913799	0.0000

R-squared	0.762410	Mean dependent var	-0.794494
Adjusted R-squared	0.730855	S.D. dependent var	0.067455
S.E. of regression	0.034995	Akaike info criterion	-3.752216
Sum squared resid	0.156757	Schwarz criterion	-3.384374
Log likelihood	291.9117	Hannan-Quinn criter.	-3.602753
F-statistic	24.16135	Durbin-Watson stat	2.113030
Prob(F-statistic)	0.000000		

Inverted AR Roots	.60

Table 69 – CLCH_NE, coal generation by end-use CHP sector, Northeast region

Dependent Variable: LOG(CLCH_NE/CHEO_NE)
Method: Least Squares
Date: 08/13/13 Time: 09:14
Sample (adjusted): 2001M02 2013M03
Included observations: 146 after adjustments
Convergence achieved after 10 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-2.322325	0.066702	-34.81665	0.0000
LOG(CLEUDUS/NGEUDUS)	-0.282759	0.048891	-5.783473	0.0000
FEB	0.051722	0.026270	1.968828	0.0511
MAR	0.024382	0.034767	0.701287	0.4844
APR	0.074242	0.039428	1.882966	0.0620
MAY	0.038640	0.042218	0.915247	0.3618
JUN	0.076544	0.043634	1.754233	0.0818
JUL	0.050914	0.044120	1.153991	0.2507
AUG	0.062704	0.043807	1.431350	0.1548
SEP	0.053374	0.042687	1.250363	0.2134
OCT	0.093588	0.040564	2.307150	0.0227
NOV	0.038998	0.036167	1.078269	0.2829
DEC	-0.001981	0.028104	-0.070475	0.9439
D0903	-0.176488	0.074313	-2.374911	0.0190
D1110	-0.658844	0.088139	-7.475019	0.0000
D1111	-0.592649	0.099935	-5.930359	0.0000
D1112	-0.603686	0.087980	-6.861642	0.0000
AR(1)	0.699115	0.070629	9.898438	0.0000

R-squared	0.853372	Mean dependent var	-1.964050
Adjusted R-squared	0.833898	S.D. dependent var	0.212729
S.E. of regression	0.086699	Akaike info criterion	-1.937749
Sum squared resid	0.962141	Schwarz criterion	-1.569907
Log likelihood	159.4557	Hannan-Quinn criter.	-1.788286
F-statistic	43.82113	Durbin-Watson stat	2.196751
Prob(F-statistic)	0.000000		

Inverted AR Roots	.70

Table 70 – CLCH_SO, coal generation by end-use CHP sector, South region

Dependent Variable: LOG(CLCH_SO/CHEO_SO)
Method: Least Squares
Date: 08/13/13 Time: 09:15
Sample (adjusted): 2001M02 2013M03
Included observations: 146 after adjustments
Convergence achieved after 9 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-3.117300	0.871174	-3.578273	0.0005
LOG(CLEUDUS/NGEUDUS)	-0.112926	0.056703	-1.991539	0.0486
FEB	0.016810	0.017376	0.967395	0.3352
MAR	0.002894	0.023677	0.122219	0.9029
APR	0.002081	0.028045	0.074200	0.9410
MAY	-0.034397	0.030232	-1.137770	0.2574
JUN	-0.001043	0.031549	-0.033060	0.9737
JUL	0.024075	0.032191	0.747874	0.4559
AUG	0.026042	0.032111	0.810995	0.4189
SEP	0.008467	0.031643	0.267572	0.7895
OCT	0.058975	0.028463	2.072022	0.0403
NOV	0.026249	0.024095	1.089366	0.2781
DEC	0.021491	0.018164	1.183161	0.2390
D07	-0.379278	0.055767	-6.801140	0.0000
D08	-0.419113	0.064127	-6.535653	0.0000
D09	-0.436581	0.055753	-7.830654	0.0000
D0809	0.236211	0.047426	4.980653	0.0000
D1004	-0.425105	0.047474	-8.954496	0.0000
D1012	0.403613	0.047702	8.461168	0.0000
AR(1)	0.987249	0.021760	45.36920	0.0000

R-squared	0.960567	Mean dependent var	-2.635156
Adjusted R-squared	0.954620	S.D. dependent var	0.299055
S.E. of regression	0.063706	Akaike info criterion	-2.542420
Sum squared resid	0.511369	Schwarz criterion	-2.133707
Log likelihood	205.5967	Hannan-Quinn criter.	-2.376351
F-statistic	161.5404	Durbin-Watson stat	2.306209
Prob(F-statistic)	0.000000		

Inverted AR Roots	.99

Table 71 – CLCH_WE, coal generation by end-use CHP sector, West region

Dependent Variable: LOG(CLCH_WE/CHEO_WE)
Method: Least Squares
Date: 08/13/13 Time: 09:15
Sample: 2006M01 2013M03
Included observations: 87
Convergence achieved after 3 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-3.006416	0.064672	-46.48728	0.0000
LOG(CLEUDUS/NGEUDUS)	-0.132077	0.046290	-2.853236	0.0056
FEB	0.032273	0.047935	0.673263	0.5029
MAR	0.487019	0.056754	8.581169	0.0000
APR	0.516312	0.061525	8.391870	0.0000
MAY	0.528035	0.062824	8.404935	0.0000
JUN	0.514749	0.063261	8.136973	0.0000
JUL	0.502126	0.063424	7.916976	0.0000
AUG	0.505080	0.063454	7.959822	0.0000
SEP	0.476889	0.063399	7.522063	0.0000
OCT	0.497678	0.062092	8.015188	0.0000
NOV	0.020644	0.058597	0.352305	0.7256
DEC	-0.022296	0.049045	-0.454608	0.6507
AR(1)	0.388080	0.105013	3.695528	0.0004

R-squared	0.846108	Mean dependent var	-2.541524
Adjusted R-squared	0.818703	S.D. dependent var	0.264238
S.E. of regression	0.112510	Akaike info criterion	-1.385156
Sum squared resid	0.924073	Schwarz criterion	-0.988344
Log likelihood	74.25430	Hannan-Quinn criter.	-1.225372
F-statistic	30.87375	Durbin-Watson stat	1.595781
Prob(F-statistic)	0.000000		

Inverted AR Roots	.39

Table 72 – RFCH_MW, residual fuel oil generation by end-use CHP sector, Midwest region

Dependent Variable: LOG(RFCH_MW/CHEO_MW)
Method: Least Squares
Date: 08/13/13 Time: 09:40
Sample (adjusted): 2001M02 2013M03
Included observations: 146 after adjustments
Convergence achieved after 7 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-4.887724	0.418812	-11.67045	0.0000
LOG(RFEUDUS)	-1.299026	0.114120	-11.38300	0.0000
LOG(NGEUDUS)	1.067179	0.192664	5.539077	0.0000
FEB	0.186850	0.124255	1.503755	0.1351
MAR	-0.026023	0.154996	-0.167896	0.8669
APR	-0.054101	0.172028	-0.314491	0.7536
MAY	-0.134517	0.179415	-0.749753	0.4547
JUN	0.015038	0.182707	0.082307	0.9345
JUL	0.008582	0.183918	0.046664	0.9629
AUG	-0.023688	0.183424	-0.129141	0.8974
SEP	-0.140808	0.181438	-0.776064	0.4391
OCT	-0.093456	0.173981	-0.537162	0.5921
NOV	-0.007387	0.159013	-0.046457	0.9630
DEC	0.206318	0.127913	1.612951	0.1092
AR(1)	0.537176	0.074203	7.239287	0.0000

R-squared	0.860657	Mean dependent var	-5.835032
Adjusted R-squared	0.845766	S.D. dependent var	0.989131
S.E. of regression	0.388458	Akaike info criterion	1.043807
Sum squared resid	19.76785	Schwarz criterion	1.350342
Log likelihood	-61.19788	Hannan-Quinn criter.	1.168359
F-statistic	57.79496	Durbin-Watson stat	2.193947
Prob(F-statistic)	0.000000		

Inverted AR Roots	.54

Table 73 – RFCH_NE, residual fuel oil generation by end-use CHP sector, Northeast region

Dependent Variable: LOG(RFCH_NE/CHEO_NE)
Method: Least Squares
Date: 08/13/13 Time: 09:41
Sample (adjusted): 2001M02 2013M03
Included observations: 146 after adjustments
Convergence achieved after 7 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-2.180760	0.263337	-8.281258	0.0000
LOG(RFEUDUS)	-1.147034	0.074035	-15.49316	0.0000
LOG(NGEUDUS)	1.005237	0.122587	8.200196	0.0000
FEB	-0.083213	0.067145	-1.239301	0.2174
MAR	-0.235099	0.085653	-2.744775	0.0069
APR	-0.248478	0.096571	-2.573008	0.0112
MAY	-0.456220	0.101896	-4.477293	0.0000
JUN	-0.363962	0.104503	-3.482802	0.0007
JUL	-0.465611	0.105482	-4.414118	0.0000
AUG	-0.548708	0.105044	-5.223631	0.0000
SEP	-0.337060	0.103411	-3.259429	0.0014
OCT	-0.153106	0.097988	-1.562506	0.1206
NOV	-0.298385	0.087963	-3.392178	0.0009
DEC	-0.198299	0.069122	-2.868826	0.0048
AR(1)	0.610548	0.069090	8.837043	0.0000

R-squared	0.941075	Mean dependent var	-3.191817
Adjusted R-squared	0.934778	S.D. dependent var	0.841764
S.E. of regression	0.214974	Akaike info criterion	-0.139525
Sum squared resid	6.054036	Schwarz criterion	0.167010
Log likelihood	25.18532	Hannan-Quinn criter.	-0.014973
F-statistic	149.4416	Durbin-Watson stat	2.177544
Prob(F-statistic)	0.000000		

Inverted AR Roots	.61

Table 74 – RFCH_SO, residual fuel oil generation by end-use CHP sector, South region

Dependent Variable: LOG(RFCH_SO/CHEO_SO)
Method: Least Squares
Date: 08/13/13 Time: 09:41
Sample (adjusted): 2001M02 2013M03
Included observations: 146 after adjustments
Convergence achieved after 8 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-3.978509	0.238827	-16.65851	0.0000
LOG(RFEUDUS)	-1.404209	0.065059	-21.58361	0.0000
LOG(NGEUDUS)	1.129388	0.110603	10.21121	0.0000
FEB	-0.041597	0.066051	-0.629764	0.5299
MAR	-0.151209	0.083203	-1.817360	0.0714
APR	-0.146826	0.093025	-1.578355	0.1169
MAY	-0.178928	0.097531	-1.834581	0.0688
JUN	-0.241506	0.099601	-2.424731	0.0167
JUL	-0.260202	0.100367	-2.592501	0.0106
AUG	-0.184575	0.100026	-1.845281	0.0673
SEP	-0.095208	0.098741	-0.964213	0.3367
OCT	-0.141035	0.094185	-1.497430	0.1367
NOV	-0.127000	0.085405	-1.487032	0.1394
DEC	-0.105190	0.067992	-1.547091	0.1243
AR(1)	0.568740	0.074936	7.589632	0.0000

R-squared	0.957607	Mean dependent var	-5.175839
Adjusted R-squared	0.953077	S.D. dependent var	0.963104
S.E. of regression	0.208625	Akaike info criterion	-0.199486
Sum squared resid	5.701701	Schwarz criterion	0.107049
Log likelihood	29.56245	Hannan-Quinn criter.	-0.074933
F-statistic	211.3686	Durbin-Watson stat	2.148683
Prob(F-statistic)	0.000000		

Inverted AR Roots	.57

Table 75 – RFCH_WE, residual fuel oil generation by end-use CHP sector, West region

Dependent Variable: LOG(RFCH_WE/CHEO_WE)
Method: Least Squares
Date: 08/13/13 Time: 09:41
Sample (adjusted): 2001M02 2013M03
Included observations: 146 after adjustments
Convergence achieved after 7 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-6.080896	0.994541	-6.114273	0.0000
LOG(RFEUDUS)	-0.764547	0.270724	-2.824079	0.0055
LOG(NGEUDUS)	0.440893	0.457411	0.963890	0.3369
FEB	-0.043448	0.228397	-0.190229	0.8494
MAR	-0.206585	0.293271	-0.704414	0.4824
APR	-0.523734	0.332287	-1.576148	0.1174
MAY	-0.981588	0.351707	-2.790922	0.0061
JUN	-0.915384	0.361412	-2.532800	0.0125
JUL	-0.947019	0.365124	-2.593689	0.0106
AUG	-1.128467	0.363520	-3.104278	0.0023
SEP	-0.726312	0.357640	-2.030847	0.0443
OCT	-0.654436	0.337615	-1.938409	0.0548
NOV	-0.452699	0.301436	-1.501808	0.1356
DEC	-0.220129	0.235246	-0.935739	0.3512
D08	2.042854	0.489600	4.172493	0.0001
D09	1.926779	0.463737	4.154896	0.0001
AR(1)	0.632009	0.069822	9.051661	0.0000

R-squared	0.707123	Mean dependent var	-7.176370
Adjusted R-squared	0.670797	S.D. dependent var	1.283975
S.E. of regression	0.736696	Akaike info criterion	2.335799
Sum squared resid	70.01097	Schwarz criterion	2.683205
Log likelihood	-153.5133	Hannan-Quinn criter.	2.476958
F-statistic	19.46615	Durbin-Watson stat	2.357176
Prob(F-statistic)	0.000000		

Inverted AR Roots	.63

Table 76 – DKCH_MW, distillate fuel oil generation by end-use CHP sector, Midwest region

Dependent Variable: LOG(DKCH_MW/CHEO_MW)
Method: Least Squares
Date: 08/13/13 Time: 09:45
Sample (adjusted): 2001M02 2013M03
Included observations: 146 after adjustments
Convergence achieved after 5 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-6.143822	0.295170	-20.81449	0.0000
LOG(DKEUDUS)	-0.352516	0.083751	-4.209083	0.0000
LOG(NGEUDUS)	0.204915	0.136793	1.497996	0.1366
FEB	0.098535	0.114170	0.863048	0.3897
MAR	-0.087792	0.133604	-0.657105	0.5123
APR	-0.039785	0.142482	-0.279229	0.7805
MAY	0.067420	0.144781	0.465669	0.6422
JUN	-0.010498	0.145483	-0.072158	0.9426
JUL	-0.097247	0.145788	-0.667043	0.5059
AUG	-0.021595	0.145911	-0.148001	0.8826
SEP	-0.148669	0.145937	-1.018724	0.3102
OCT	0.089436	0.143477	0.623349	0.5342
NOV	-0.173968	0.136623	-1.273342	0.2052
DEC	-0.010516	0.117070	-0.089825	0.9286
D06	-0.712152	0.152041	-4.683938	0.0000
D07	-0.577936	0.152624	-3.786672	0.0002
AR(1)	0.356227	0.080830	4.407133	0.0000

R-squared	0.534901	Mean dependent var	-6.810183
Adjusted R-squared	0.477214	S.D. dependent var	0.461797
S.E. of regression	0.333898	Akaike info criterion	0.753118
Sum squared resid	14.38190	Schwarz criterion	1.100524
Log likelihood	-37.97758	Hannan-Quinn criter.	0.894277
F-statistic	9.272521	Durbin-Watson stat	2.032710
Prob(F-statistic)	0.000000		

Inverted AR Roots	.36

Table 77 – DKCH_NE, distillate fuel oil generation by end-use CHP sector, Northeast region

Dependent Variable: LOG(DKCH_NE/CHEO_NE)
Method: Least Squares
Date: 08/13/13 Time: 09:45
Sample (adjusted): 2001M02 2013M03
Included observations: 146 after adjustments
Convergence achieved after 10 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-2.264748	0.399102	-5.674612	0.0000
LOG(DKEUDUS)	-1.359400	0.126815	-10.71959	0.0000
LOG(NGEUDUS)	0.874973	0.181493	4.820972	0.0000
FEB	-0.149535	0.094640	-1.580048	0.1165
MAR	-0.316138	0.120597	-2.621442	0.0098
APR	-0.418595	0.136292	-3.071324	0.0026
MAY	-0.314751	0.144117	-2.183989	0.0308
JUN	-0.401606	0.148034	-2.712925	0.0076
JUL	-0.252740	0.149494	-1.690641	0.0933
AUG	-0.257879	0.148902	-1.731868	0.0857
SEP	-0.324147	0.146406	-2.214026	0.0286
OCT	-0.289758	0.138513	-2.091916	0.0384
NOV	-0.549875	0.123857	-4.439613	0.0000
DEC	-0.319573	0.097708	-3.270686	0.0014
D0401	1.082185	0.263422	4.108177	0.0001
AR(1)	0.634926	0.067916	9.348678	0.0000

R-squared	0.883054	Mean dependent var	-4.487623
Adjusted R-squared	0.869561	S.D. dependent var	0.826086
S.E. of regression	0.298352	Akaike info criterion	0.522022
Sum squared resid	11.57183	Schwarz criterion	0.848993
Log likelihood	-22.10760	Hannan-Quinn criter.	0.654878
F-statistic	65.44188	Durbin-Watson stat	2.105239
Prob(F-statistic)	0.000000		

Inverted AR Roots	.63

Table 78 – DKCH_SO, distillate fuel oil generation by end-use CHP sector, South region

Dependent Variable: LOG(DKCH_SO/CHEO_SO)
Method: Least Squares
Date: 08/13/13 Time: 09:45
Sample (adjusted): 2001M02 2013M03
Included observations: 146 after adjustments
Convergence achieved after 8 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-5.059609	0.599044	-8.446140	0.0000
LOG(DKEUDUS)	-1.209484	0.200197	-6.041472	0.0000
LOG(NGEUDUS)	1.056383	0.269242	3.923543	0.0001
FEB	-0.018308	0.120408	-0.152047	0.8794
MAR	-0.051791	0.157558	-0.328710	0.7429
APR	-0.081572	0.180721	-0.451369	0.6525
MAY	-0.029327	0.192778	-0.152130	0.8793
JUN	-0.181643	0.199106	-0.912294	0.3633
JUL	-0.007649	0.201620	-0.037938	0.9698
AUG	-0.071028	0.200811	-0.353706	0.7241
SEP	-0.048628	0.199061	-0.244287	0.8074
OCT	0.035418	0.184352	0.192121	0.8479
NOV	0.073639	0.161816	0.455077	0.6498
DEC	-0.061788	0.124068	-0.498020	0.6193
D0809	1.850248	0.341596	5.416483	0.0000
AR(1)	0.695307	0.064089	10.84914	0.0000

R-squared	0.829554	Mean dependent var	-6.330131
Adjusted R-squared	0.809888	S.D. dependent var	0.909371
S.E. of regression	0.396503	Akaike info criterion	1.090839
Sum squared resid	20.43788	Schwarz criterion	1.417809
Log likelihood	-63.63123	Hannan-Quinn criter.	1.223694
F-statistic	42.18044	Durbin-Watson stat	2.236101
Prob(F-statistic)	0.000000		

Inverted AR Roots	.70

Table 79 – DKCH_WE, distillate fuel oil generation by end-use CHP sector, West region

Dependent Variable: LOG(DKCH_WE/CHEO_WE)
Method: Least Squares
Date: 08/13/13 Time: 09:45
Sample (adjusted): 2001M02 2013M03
Included observations: 146 after adjustments
Convergence achieved after 8 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-4.395401	0.300703	-14.61706	0.0000
LOG(DKEUDUS)	-0.614159	0.095134	-6.455717	0.0000
LOG(NGEUDUS)	0.297933	0.136379	2.184589	0.0307
FEB	-0.003594	0.072707	-0.049434	0.9606
MAR	-0.036031	0.092999	-0.387440	0.6991
APR	-0.141896	0.105130	-1.349718	0.1794
MAY	-0.105547	0.110891	-0.951811	0.3429
JUN	-0.219823	0.113653	-1.934158	0.0552
JUL	-0.202712	0.114664	-1.767879	0.0794
AUG	-0.187352	0.114245	-1.639918	0.1034
SEP	-0.164922	0.112456	-1.466543	0.1449
OCT	-0.118188	0.106554	-1.109188	0.2694
NOV	-0.137587	0.095364	-1.442747	0.1515
DEC	-0.080160	0.074819	-1.071394	0.2860
AR(1)	0.615666	0.068400	9.000939	0.0000

R-squared	0.762342	Mean dependent var	-5.532959
Adjusted R-squared	0.736944	S.D. dependent var	0.454375
S.E. of regression	0.233045	Akaike info criterion	0.021896
Sum squared resid	7.114581	Schwarz criterion	0.328431
Log likelihood	13.40157	Hannan-Quinn criter.	0.146448
F-statistic	30.01524	Durbin-Watson stat	2.031619
Prob(F-statistic)	0.000000		

Inverted AR Roots	.62

Appendix D. Eviews Model Object File (fossil fuel consumption)

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' ******************************************************************************
' --------------------------- ELECTRIC POWER SECTOR ---------------------------
' -------------------------- FOSSIL FUEL CONSUMPTION --------------------------
' ******************************************************************************
'   ---------------------------------------------------------------------------------------------
'  ----- COAL CONSUMPTION

:eq_clepcon_el_mw
@ADD CLEPCON_EL_MW  CLEPCON_EL_MW_A

:eq_clepcon_el_ne
@ADD CLEPCON_EL_NE  CLEPCON_EL_NE_A

:eq_clepcon_el_so
@ADD CLEPCON_EL_SO  CLEPCON_EL_SO_A

:eq_clepcon_el_we
@ADD CLEPCON_EL_WE  CLEPCON_EL_WE_A

:eq_clepcon_uto_mw

:eq_clepcon_uto_ne

:eq_clepcon_uto_so

:eq_clepcon_uto_we

clepcon_mw  = clepcon_el_mw  + clepcon_uto_mw

clepcon_ne  = clepcon_el_ne  + clepcon_uto_ne

clepcon_so  = clepcon_el_so  + clepcon_uto_so

clepcon_we  = clepcon_el_we  + clepcon_uto_we

clepcon_us  = clepcon_mw  + clepcon_ne  + clepcon_so  + clepcon_we

clepcon  = clepcon_us  / 1000

clepcon_el_us  = clepcon_el_mw  + clepcon_el_ne  + clepcon_el_so  + clepcon_el_we

clepcon_uto_us  = clepcon_uto_mw  + clepcon_uto_ne  + clepcon_uto_so  + clepcon_uto_we

clepcon_el  = clepcon_el_us  / 1000

'   ---------------------------------------------------------------------------------------------
'  ----- NATURAL GAS CONSUMPTION

:eq_ngepcon_el_mw
@ADD NGEPCON_EL_MW  NGEPCON_EL_MW_A

:eq_ngepcon_el_ne
@ADD NGEPCON_EL_NE  NGEPCON_EL_NE_A

:eq_ngepcon_el_so
@ADD NGEPCON_EL_SO  NGEPCON_EL_SO_A

:eq_ngepcon_el_we
@ADD NGEPCON_EL_WE  NGEPCON_EL_WE_A
```

```
:eq_ngepcon_uto_mw

:eq_ngepcon_uto_ne

:eq_ngepcon_uto_so

:eq_ngepcon_uto_we

ngepcon_mw  = ngepcon_el_mw  + ngepcon_uto_mw

ngepcon_ne  = ngepcon_el_ne  + ngepcon_uto_ne

ngepcon_so  = ngepcon_el_so  + ngepcon_uto_so

ngepcon_we  = ngepcon_el_we  + ngepcon_uto_we

ngepcon_us  = ngepcon_mw  + ngepcon_ne  + ngepcon_so  + ngepcon_we

ngepcon  = ngepcon_us  / 1000

ngepcon_el_us  = ngepcon_el_mw  + ngepcon_el_ne  + ngepcon_el_so  + ngepcon_el_we

ngepcon_uto_us  = ngepcon_uto_mw  + ngepcon_uto_ne  + ngepcon_uto_so  + ngepcon_uto_we

ngepcon_el  = ngepcon_el_us  / 1000

'   ---------------------------------------------------------------------------------------------------
'  ----- RESIDUAL FUEL OIL CONSUMPTION

rfepcon_el_mw  = rfep_mw  * (@movsum(rfepcon_el_mw(-1)  , 24)  / @movsum(rfep_mw(-1)  , 24))

rfepcon_el_ne  = rfep_ne  * (@movsum(rfepcon_el_ne(-1)  , 24)  / @movsum(rfep_ne(-1)  , 24))

rfepcon_el_so  = rfep_so  * (@movsum(rfepcon_el_so(-1)  , 24)  / @movsum(rfep_so(-1)  , 24))

rfepcon_el_we  = rfep_we  * (@movsum(rfepcon_el_we(-1)  , 24)  / @movsum(rfep_we(-1)  , 24))

rfepcon_uto_mw  = rfepcon_uto_mw(-12)

rfepcon_uto_ne  = rfepcon_uto_ne(-12)

rfepcon_uto_so  = rfepcon_uto_so(-12)

rfepcon_uto_we  = rfepcon_uto_we(-12)

rfepcon_mw  = rfepcon_el_mw  + rfepcon_uto_mw

rfepcon_ne  = rfepcon_el_ne  + rfepcon_uto_ne

rfepcon_so  = rfepcon_el_so  + rfepcon_uto_so

rfepcon_we  = rfepcon_el_we  + rfepcon_uto_we

rfepcon_us  = rfepcon_mw  + rfepcon_ne  + rfepcon_so  + rfepcon_we

rfepcon  = rfepcon_us  / 1000

rfepcon_el_us  = rfepcon_el_mw  + rfepcon_el_ne  + rfepcon_el_so  + rfepcon_el_we

rfepcon_el  = rfepcon_el_us  / 1000
```

```
rfepcon_uto_us  = rfepcon_uto_mw  + rfepcon_uto_ne  + rfepcon_uto_so  + rfepcon_uto_we

'   ------------------------------------------------------------------------------------------------
'  ----- DISTILLATE FUEL OIL CONSUMPTION

:eq_dkepcon_el_mw

:eq_dkepcon_el_ne

:eq_dkepcon_el_so

:eq_dkepcon_el_we

dkepcon_uto_mw  = dkepcon_uto_mw(-12)

dkepcon_uto_ne  = dkepcon_uto_ne(-12)

dkepcon_uto_so  = dkepcon_uto_so(-12)

dkepcon_uto_we  = dkepcon_uto_we(-12)

dkepcon_mw  = dkepcon_el_mw  + dkepcon_uto_mw

dkepcon_ne  = dkepcon_el_ne  + dkepcon_uto_ne

dkepcon_so  = dkepcon_el_so  + dkepcon_uto_so

dkepcon_we  = dkepcon_el_we  + dkepcon_uto_we

dkepcon_us  = dkepcon_mw  + dkepcon_ne  + dkepcon_so  + dkepcon_we

dkepcon  = dkepcon_us  / 1000

dkepcon_el_us  = dkepcon_el_mw  + dkepcon_el_ne  + dkepcon_el_so  + dkepcon_el_we

dkepcon_el  = dkepcon_el_us  / 1000

dkepcon_uto_us  = dkepcon_uto_mw  + dkepcon_uto_ne  + dkepcon_uto_so  + dkepcon_uto_we

'   ------------------------------------------------------------------------------------------------
'  ----- PETROLEUM COKE CONSUMPTION

:eq_pcepcon_el_mw

pcepcon_el_ne  = pcepcon_el_ne(-12)

:eq_pcepcon_el_so

:eq_pcepcon_el_we

pcepcon_uto_mw  = pcepcon_uto_mw(-12)

pcepcon_uto_ne  = pcepcon_uto_ne(-12)

pcepcon_uto_so  = pcepcon_uto_so(-12)

pcepcon_uto_we  = pcepcon_uto_we(-12)

pcepcon_mw  = pcepcon_el_mw  + pcepcon_uto_mw

pcepcon_ne  = pcepcon_el_ne  + pcepcon_uto_ne
```

```
pcepcon_so  = pcepcon_el_so  + pcepcon_uto_so

pcepcon_we  = pcepcon_el_we  + pcepcon_uto_we

pcepcon_us  = pcepcon_mw  + pcepcon_ne  + pcepcon_so  + pcepcon_we

pcepcon  = pcepcon_us  / 1000

pcepcon_el_us  = pcepcon_el_mw  + pcepcon_el_ne  + pcepcon_el_so  + pcepcon_el_we

pcepcon_el  = pcepcon_el_us  / 1000

pcepcon_uto_us  = pcepcon_uto_mw  + pcepcon_uto_ne  + pcepcon_uto_so  + pcepcon_uto_we

'   -----------------------------------------------------------------------------------------------
'  ----- OTHER PETROLEUM LIQUIDS CONSUMPTION

opepcon_el_mw  = opep_mw  * (@movsum(opepcon_el_mw(-1)  , 24)  / @movsum(opep_mw(-1)  , 24))

:eq_opepcon_el_ne

:eq_opepcon_el_so

:eq_opepcon_el_we

opepcon_uto_mw  = opepcon_uto_mw(-12)

opepcon_uto_ne  = opepcon_uto_ne(-12)

opepcon_uto_so  = opepcon_uto_so(-12)

opepcon_uto_we  = opepcon_uto_we(-12)

opepcon_mw  = opepcon_el_mw  + opepcon_uto_mw

opepcon_ne  = opepcon_el_ne  + opepcon_uto_ne

opepcon_so  = opepcon_el_so  + opepcon_uto_so

opepcon_we  = opepcon_el_we  + opepcon_uto_we

opepcon_us  = opepcon_mw  + opepcon_ne  + opepcon_so  + opepcon_we

opepcon  = opepcon_us  / 1000

opepcon_el_us  = opepcon_el_mw  + opepcon_el_ne  + opepcon_el_so  + opepcon_el_we

opepcon_el  = opepcon_el_us  / 1000

opepcon_uto_us  = opepcon_uto_mw  + opepcon_uto_ne  + opepcon_uto_so  + opepcon_uto_we

'   -----------------------------------------------------------------------------------------------
'  ----- TOTAL PETROLEUM CONSUMPTION

paepcon_mw  = rfepcon_mw  + dkepcon_mw  + pcepcon_mw  + opepcon_mw

paepcon_ne  = rfepcon_ne  + dkepcon_ne  + pcepcon_ne  + opepcon_ne

paepcon_so  = rfepcon_so  + dkepcon_so  + pcepcon_so  + opepcon_so

paepcon_we  = rfepcon_we  + dkepcon_we  + pcepcon_we  + opepcon_we
```

```
paepcon_el_mw  = rfepcon_el_mw  + dkepcon_el_mw  + pcepcon_el_mw  + opepcon_el_mw

paepcon_el_ne  = rfepcon_el_ne  + dkepcon_el_ne  + pcepcon_el_ne  + opepcon_el_ne

paepcon_el_so  = rfepcon_el_so  + dkepcon_el_so  + pcepcon_el_so  + opepcon_el_so

paepcon_el_we  = rfepcon_el_we  + dkepcon_el_we  + pcepcon_el_we  + opepcon_el_we

paepcon_us  = paepcon_mw  + paepcon_ne  + paepcon_so  + paepcon_we

paepcon  = paepcon_us  / 1000

paepcon_el_us  = paepcon_el_mw  + paepcon_el_ne  + paepcon_el_so  + paepcon_el_we

paepcon_el  = paepcon_el_us  / 1000

'
' ********************************************************************************
' ----------END-USE SECTORS (COMMERCIAL AND INDUSTRIAL)------
' ---------------------- FOSSIL FUEL CONSUMPTION --------------------------
' ********************************************************************************
'   ------------------------------------------------------------------------------------------------
'  ----- COAL CONSUMPTION

clchcon_mw  = clch_mw  * (clchcon_mw(-12)  / clch_mw(-12))

clchcon_ne  = clch_ne  * (clchcon_ne(-12)  / clch_ne(-12))

clchcon_so  = clch_so  * (clchcon_so(-12)  / clch_so(-12))

clchcon_we  = clch_we  * (clchcon_we(-12)  / clch_we(-12))

clchcon_us  = clchcon_mw  + clchcon_ne  + clchcon_so  + clchcon_we

clchcon_el_mw  = clchcon_mw  * (clchcon_el_mw(-12)  / clchcon_mw(-12))

clchcon_el_ne  = clchcon_ne  * (clchcon_el_ne(-12)  / clchcon_ne(-12))

clchcon_el_so  = clchcon_so  * (clchcon_el_so(-12)  / clchcon_so(-12))

clchcon_el_we  = clchcon_we  * (clchcon_el_we(-12)  / clchcon_we(-12))

clchcon_el_us  = clchcon_el_mw  + clchcon_el_ne  + clchcon_el_so  + clchcon_el_we

clchcon  = clchcon_us  / 1000

clchcon_el  = clchcon_el_us  / 1000

'   ------------------------------------------------------------------------------------------------
'  ----- NATURAL GAS CONSUMPTION

ngchcon_mw  = ngch_mw  * (ngchcon_mw(-12)  / ngch_mw(-12))

ngchcon_ne  = ngch_ne  * (ngchcon_ne(-12)  / ngch_ne(-12))

ngchcon_so  = ngch_so  * (ngchcon_so(-12)  / ngch_so(-12))

ngchcon_we  = ngch_we  * (ngchcon_we(-12)  / ngch_we(-12))

ngchcon_us  = ngchcon_mw  + ngchcon_ne  + ngchcon_so  + ngchcon_we

ngchcon_el_mw  = ngchcon_mw  * (ngchcon_el_mw(-12)  / ngchcon_mw(-12))
```

```
ngchcon_el_ne  = ngchcon_ne  * (ngchcon_el_ne(-12)  / ngchcon_ne(-12))

ngchcon_el_so  = ngchcon_so  * (ngchcon_el_so(-12)  / ngchcon_so(-12))

ngchcon_el_we  = ngchcon_we  * (ngchcon_el_we(-12)  / ngchcon_we(-12))

ngchcon_el_us  = ngchcon_el_mw  + ngchcon_el_ne  + ngchcon_el_so  + ngchcon_el_we

ngchcon  = ngchcon_us  / 1000

ngchcon_el  = ngchcon_el_us  / 1000

'   -------------------------------------------------------------------------------------------------
'  ----- RESIDUAL FUEL OIL CONSUMPTION

rfchcon_mw  = rfch_mw  * (rfchcon_mw(-12)  / rfch_mw(-12))

rfchcon_ne  = rfch_ne  * (rfchcon_ne(-12)  / rfch_ne(-12))

rfchcon_so  = rfch_so  * (rfchcon_so(-12)  / rfch_so(-12))

rfchcon_we  = rfch_we  * (rfchcon_we(-12)  / rfch_we(-12))

rfchcon_us  = rfchcon_mw  + rfchcon_ne  + rfchcon_so  + rfchcon_we

rfchcon_el_mw  = rfchcon_mw  * (rfchcon_el_mw(-12)  / rfchcon_mw(-12))

rfchcon_el_ne  = rfchcon_ne  * (rfchcon_el_ne(-12)  / rfchcon_ne(-12))

rfchcon_el_so  = rfchcon_so  * (rfchcon_el_so(-12)  / rfchcon_so(-12))

rfchcon_el_we  = rfchcon_we  * (rfchcon_el_we(-12)  / rfchcon_we(-12))

rfchcon_el_us  = rfchcon_el_mw  + rfchcon_el_ne  + rfchcon_el_so  + rfchcon_el_we

rfchcon  = rfchcon_us  / 1000

rfchcon_el  = rfchcon_el_us  / 1000

'   -------------------------------------------------------------------------------------------------
'  ----- DISTILLATE FUEL OIL CONSUMPTION

dkchcon_mw  = dkch_mw  * (dkchcon_mw(-12)  / dkch_mw(-12))

dkchcon_ne  = dkch_ne  * (dkchcon_ne(-12)  / dkch_ne(-12))

dkchcon_so  = dkch_so  * (dkchcon_so(-12)  / dkch_so(-12))

dkchcon_we  = dkch_we  * (dkchcon_we(-12)  / dkch_we(-12))

dkchcon_us  = dkchcon_mw  + dkchcon_ne  + dkchcon_so  + dkchcon_we

dkchcon_el_mw  = dkchcon_mw  * (dkchcon_el_mw(-12)  / dkchcon_mw(-12))

dkchcon_el_ne  = dkchcon_ne  * (dkchcon_el_ne(-12)  / dkchcon_ne(-12))

dkchcon_el_so  = dkchcon_so  * (dkchcon_el_so(-12)  / dkchcon_so(-12))

dkchcon_el_we  = dkchcon_we  * (dkchcon_el_we(-12)  / dkchcon_we(-12))

dkchcon_el_us  = dkchcon_el_mw  + dkchcon_el_ne  + dkchcon_el_so  + dkchcon_el_we
```

```
dkchcon  = dkchcon_us  / 1000

dkchcon_el  = dkchcon_el_us  / 1000

'   -----------------------------------------------------------------------------------------------
'  ----- PETROLEUM COKE CONSUMPTION

pcchcon_mw  = pcch_mw  * (pcchcon_mw(-12)  / pcch_mw(-12))

pcchcon_ne  = pcch_ne  * (pcchcon_us(-12)  / pcch_us(-12))

pcchcon_so  = pcch_so  * (pcchcon_so(-12)  / pcch_so(-12))

pcchcon_we  = pcch_we  * (pcchcon_us(-12)  / pcch_us(-12))

pcchcon_us  = pcchcon_mw  + pcchcon_ne  + pcchcon_so  + pcchcon_we

pcchcon_el_mw  = pcchcon_mw  * (pcchcon_el_mw(-12)  / pcchcon_mw(-12))

pcchcon_el_ne  = pcchcon_ne  * (pcchcon_el_us(-12)  / pcchcon_us(-12))

pcchcon_el_so  = pcchcon_so  * (pcchcon_el_so(-12)  / pcchcon_so(-12))

pcchcon_el_we  = pcchcon_we  * (pcchcon_el_us(-12)  / pcchcon_us(-12))

pcchcon_el_us  = pcchcon_el_mw  + pcchcon_el_ne  + pcchcon_el_so  + pcchcon_el_we

pcchcon  = pcchcon_us  / 1000

pcchcon_el  = pcchcon_el_us  / 1000

'   -----------------------------------------------------------------------------------------------
'  ----- OTHER PETROLEUM LIQUIDS CONSUMPTION

opchcon_mw  = opch_mw  * (opchcon_mw(-12)  / opch_mw(-12))

opchcon_ne  = opch_ne  * (opchcon_ne(-12)  / opch_ne(-12))

opchcon_so  = opch_so  * (opchcon_so(-12)  / opch_so(-12))

opchcon_we  = opch_we  * (opchcon_we(-12)  / opch_we(-12))

opchcon_us  = opchcon_mw  + opchcon_ne  + opchcon_so  + opchcon_we

opchcon_el_mw  = opchcon_mw  * (opchcon_el_mw(-12)  / opchcon_mw(-12))

opchcon_el_ne  = opchcon_ne  * (opchcon_el_ne(-12)  / opchcon_ne(-12))

opchcon_el_so  = opchcon_so  * (opchcon_el_so(-12)  / opchcon_so(-12))

opchcon_el_we  = opchcon_we  * (opchcon_el_we(-12)  / opchcon_we(-12))

opchcon_el_us  = opchcon_el_mw  + opchcon_el_ne  + opchcon_el_so  + opchcon_el_we

opchcon  = opchcon_us  / 1000

opchcon_el  = opchcon_el_us  / 1000

'   -----------------------------------------------------------------------------------------------
'  ----- TOTAL PETROLEUM CONSUMPTION
```

```
pachcon_mw  = rfchcon_mw  + dkchcon_mw  + pcchcon_mw  + opchcon_mw

pachcon_ne  = rfchcon_ne  + dkchcon_ne  + pcchcon_ne  + opchcon_ne

pachcon_so  = rfchcon_so  + dkchcon_so  + pcchcon_so  + opchcon_so

pachcon_we  = rfchcon_we  + dkchcon_we  + pcchcon_we  + opchcon_we

pachcon_el_mw  = rfchcon_el_mw  + dkchcon_el_mw  + pcchcon_el_mw  + opchcon_el_mw

pachcon_el_ne  = rfchcon_el_ne  + dkchcon_el_ne  + pcchcon_el_ne  + opchcon_el_ne

pachcon_el_so  = rfchcon_el_so  + dkchcon_el_so  + pcchcon_el_so  + opchcon_el_so

pachcon_el_we  = rfchcon_el_we  + dkchcon_el_we  + pcchcon_el_we  + opchcon_el_we

pachcon_us  = pachcon_mw  + pachcon_ne  + pachcon_so  + pachcon_we

pachcon  = pachcon_us  / 1000

pachcon_el_us  = pachcon_el_mw  + pachcon_el_ne  + pachcon_el_so  + pachcon_el_we

pachcon_el  = pachcon_el_us  / 1000

'
' ********************************************************************************
' --------------------------------- INDUSTRIAL SECTOR --------------------------------
' --------------------------- FOSSIL FUEL CONSUMPTION ---------------------------
' ********************************************************************************
'   ------------------------------------------------------------------------------------------------
'  ----- COAL CONSUMPTION

clcgcon  = clchcon  * (clcgcon(-12)  / clchcon(-12))

clcgcon_el  = clcgcon  * (clcgcon_el(-12)  / clcgcon(-12))

'   ------------------------------------------------------------------------------------------------
'  ----- NATURAL GAS CONSUMPTION

ngcgcon  = ngchcon  * (ngcgcon(-12)  / ngchcon(-12))

ngcgcon_el  = ngcgcon  * (ngcgcon_el(-12)  / ngcgcon(-12))

'   ------------------------------------------------------------------------------------------------
'  ----- RESIDUAL FUEL OIL CONSUMPTION

rfcgcon  = rfchcon  * (rfcgcon(-12)  / rfchcon(-12))

rfcgcon_el  = rfcgcon  * (rfcgcon_el(-12)  / rfcgcon(-12))

'   ------------------------------------------------------------------------------------------------
'  ----- DISTILLATE FUEL OIL CONSUMPTION

dkcgcon  = dkchcon  * (dkcgcon(-12)  / dkchcon(-12))

dkcgcon_el  = dkcgcon  * (dkcgcon_el(-12)  / dkcgcon(-12))

'   ------------------------------------------------------------------------------------------------
'  ----- PETROLEUM COKE CONSUMPTION

pccgcon  = pcchcon  * (pccgcon(-12)  / pcchcon(-12))
```

```
pccgcon_el  = pccgcon  * (pccgcon_el(-12)  / pccgcon(-12))

'   ----------------------------------------------------------------------------------------------
'  ----- OTHER PETROLEUM LIQUIDS CONSUMPTION

opcgcon  = opchcon  * (opcgcon(-12)  / opchcon(-12))

opcgcon_el  = opcgcon  * (opcgcon_el(-12)  / opcgcon(-12))

'   ----------------------------------------------------------------------------------------------
'  ----- TOTAL PETROLEUM CONSUMPTION

pacgcon  = rfcgcon  + dkcgcon  + pccgcon  + opcgcon

pacgcon_el  = rfcgcon_el  + dkcgcon_el  + pccgcon_el  + opcgcon_el

' ********************************************************************************
' -------------------------------- COMMERCIAL SECTOR -------------------------------
' -------------------------- FOSSIL FUEL CONSUMPTION --------------------------
' ********************************************************************************
'   ----------------------------------------------------------------------------------------------
'  ----- COAL CONSUMPTION

clcecon  = clchcon  * (clcecon(-12)  / clchcon(-12))

clcecon_el  = clcecon  * (clcecon_el(-12)  / clcecon(-12))

'   ----------------------------------------------------------------------------------------------
'  ----- NATURAL GAS CONSUMPTION

ngcecon  = ngchcon  * (ngcecon(-12)  / ngchcon(-12))

ngcecon_el  = ngcecon  * (ngcecon_el(-12)  / ngcecon(-12))

'   ----------------------------------------------------------------------------------------------
'  ----- RESIDUAL FUEL OIL CONSUMPTION

rfcecon  = rfchcon  * (rfcecon(-12)  / rfchcon(-12))

rfcecon_el  = rfcecon  * (rfcecon_el(-12)  / rfcecon(-12))

'   ----------------------------------------------------------------------------------------------
'  ----- DISTILLATE FUEL OIL CONSUMPTION

dkcecon  = dkchcon  * (dkcecon(-12)  / dkchcon(-12))

dkcecon_el  = dkcecon  * (dkcecon_el(-12)  / dkcecon(-12))

'   ----------------------------------------------------------------------------------------------
'  ----- PETROLEUM COKE CONSUMPTION

pccecon  = pcchcon  * (pccecon(-12)  / pcchcon(-12))

pccecon_el  = pccecon  * (@movsum(pccecon_el(-1)  , 12)  / @movsum(pccecon(-1)  , 12))

'   ----------------------------------------------------------------------------------------------
'  ----- OTHER PETROLEUM LIQUIDS CONSUMPTION

opcecon  = opchcon  * (opcecon(-12)  / opchcon(-12))

opcecon_el  = opcecon  * (@movsum(opcecon_el(-1)  , 12)  / @movsum(opcecon(-1)  , 12))
```

```
'   ------------------------------------------------------------------------------------------------
'  ----- TOTAL PETROLEUM CONSUMPTION

pacecon  = rfcecon  + dkcecon  + pccecon  + opcecon

pacecon_el  = rfcecon_el  + dkcecon_el  + pccecon_el  + opcecon_el


' *******************************************************************************
' --------------------------- FOSSIL FUEL CONSUMPTION ---------------------------
' ------------------------------------- ALL SECTORS -------------------------------------
' *******************************************************************************
'   ------------------------------------------------------------------------------------------------
'  ----- TOTAL PHYSICAL CONSUMPTION (FOR GENERATION & HEATING)

cltocon  = clepcon  + clchcon

cltocon_mw  = clepcon_mw  + clchcon_mw

cltocon_ne  = clepcon_ne  + clchcon_ne

cltocon_so  = clepcon_so  + clchcon_so

cltocon_we  = clepcon_we  + clchcon_we

cltocon_us  = clepcon_us  + clchcon_us

ngtocon  = ngepcon  + ngchcon

ngtocon_mw  = ngepcon_mw  + ngchcon_mw

ngtocon_ne  = ngepcon_ne  + ngchcon_ne

ngtocon_so  = ngepcon_so  + ngchcon_so

ngtocon_we  = ngepcon_we  + ngchcon_we

ngtocon_us  = ngepcon_us  + ngchcon_us

rftocon  = rfepcon  + rfchcon

rftocon_mw  = rfepcon_mw  + rfchcon_mw

rftocon_ne  = rfepcon_ne  + rfchcon_ne

rftocon_so  = rfepcon_so  + rfchcon_so

rftocon_we  = rfepcon_we  + rfchcon_we

rftocon_us  = rfepcon_us  + rfchcon_us

dktocon  = dkepcon  + dkchcon

dktocon_mw  = dkepcon_mw  + dkchcon_mw

dktocon_ne  = dkepcon_ne  + dkchcon_ne

dktocon_so  = dkepcon_so  + dkchcon_so

dktocon_we  = dkepcon_we  + dkchcon_we

dktocon_us  = dkepcon_us  + dkchcon_us
```

```
pctocon  = pcepcon  + pcchcon

pctocon_mw  = pcepcon_mw  + pcchcon_mw

pctocon_ne  = pcepcon_ne  + pcchcon_ne

pctocon_so  = pcepcon_so  + pcchcon_so

pctocon_we  = pcepcon_we  + pcchcon_we

pctocon_us  = pcepcon_us  + pcchcon_us

optocon  = opepcon  + opchcon

optocon_mw  = opepcon_mw  + opchcon_mw

optocon_ne  = opepcon_ne  + opchcon_ne

optocon_so  = opepcon_so  + opchcon_so

optocon_we  = opepcon_we  + opchcon_we

optocon_us  = opepcon_us  + opchcon_us

patocon  = paepcon  + pachcon

patocon_mw  = paepcon_mw  + pachcon_mw

patocon_ne  = paepcon_ne  + pachcon_ne

patocon_so  = paepcon_so  + pachcon_so

patocon_we  = paepcon_we  + pachcon_we

patocon_us  = paepcon_us  + pachcon_us

'   ----------------------------------------------------------------------------------------------------
'  ----- PHYSICAL CONSUMPTION (FOR ELECTRIC GENERATION ONLY)

cltocon_el  = clepcon_el  + clchcon_el

cltocon_el_mw  = clepcon_el_mw  + clchcon_el_mw

cltocon_el_ne  = clepcon_el_ne  + clchcon_el_ne

cltocon_el_so  = clepcon_el_so  + clchcon_el_so

cltocon_el_we  = clepcon_el_we  + clchcon_el_we

cltocon_el_us  = clepcon_el_us  + clchcon_el_us

ngtocon_el  = ngepcon_el  + ngchcon_el

ngtocon_el_mw  = ngepcon_el_mw  + ngchcon_el_mw

ngtocon_el_ne  = ngepcon_el_ne  + ngchcon_el_ne

ngtocon_el_so  = ngepcon_el_so  + ngchcon_el_so

ngtocon_el_we  = ngepcon_el_we  + ngchcon_el_we
```

ngtocon_el_us = ngepcon_el_us + ngchcon_el_us

rftocon_el = rfepcon_el + rfchcon_el

rftocon_el_mw = rfepcon_el_mw + rfchcon_el_mw

rftocon_el_ne = rfepcon_el_ne + rfchcon_el_ne

rftocon_el_so = rfepcon_el_so + rfchcon_el_so

rftocon_el_we = rfepcon_el_we + rfchcon_el_we

rftocon_el_us = rfepcon_el_us + rfchcon_el_us

dktocon_el = dkepcon_el + dkchcon_el

dktocon_el_mw = dkepcon_el_mw + dkchcon_el_mw

dktocon_el_ne = dkepcon_el_ne + dkchcon_el_ne

dktocon_el_so = dkepcon_el_so + dkchcon_el_so

dktocon_el_we = dkepcon_el_we + dkchcon_el_we

dktocon_el_us = dkepcon_el_us + dkchcon_el_us

pctocon_el = pcepcon_el + pcchcon_el

pctocon_el_mw = pcepcon_el_mw + pcchcon_el_mw

pctocon_el_ne = pcepcon_el_ne + pcchcon_el_ne

pctocon_el_so = pcepcon_el_so + pcchcon_el_so

pctocon_el_we = pcepcon_el_we + pcchcon_el_we

pctocon_el_us = pcepcon_el_us + pcchcon_el_us

optocon_el = opepcon_el + opchcon_el

optocon_el_mw = opepcon_el_mw + opchcon_el_mw

optocon_el_ne = opepcon_el_ne + opchcon_el_ne

optocon_el_so = opepcon_el_so + opchcon_el_so

optocon_el_we = opepcon_el_we + opchcon_el_we

optocon_el_us = opepcon_el_us + opchcon_el_us

patocon_el = paepcon_el + pachcon_el

patocon_el_mw = paepcon_el_mw + pachcon_el_mw

patocon_el_ne = paepcon_el_ne + pachcon_el_ne

patocon_el_so = paepcon_el_so + pachcon_el_so

patocon_el_we = paepcon_el_we + pachcon_el_we

patocon_el_us = paepcon_el_us + pachcon_el_us

```
' ********************************************************************************
' ---------------------------- ELECTRIC POWER SECTOR ---------------------------
' -------------------------------- PETROLEUM STOCKS --------------------------------
' ********************************************************************************

:EQ_RFPS_EP
@ADD RFPS_EP  RFPS_EP_A

:EQ_DKPS_EP
@ADD DKPS_EP  DKPS_EP_A

:EQ_PCPS_EP
@ADD PCPS_EP  PCPS_EP_A

' ********************************************************************************
' ---------------------------- ELECTRIC POWER SECTOR ---------------------------
' ------------------------------ PETROLEUM DELIVERIES ----------------------------
' ********************************************************************************

DFEPDEL  = DKEPCON  + (DKPS_EP  - DKPS_EP(-1))  / ZSAJQUS

RFEPDEL  = RFEPCON  + (RFPS_EP  - RFPS_EP(-1))  / ZSAJQUS

PCEPDEL  = PCEPCON  + (PCPS_EP  - PCPS_EP(-1))  / ZSAJQUS
```

Appendix E. Fuel Consumption Model Regression Results

Table 80 – CLEPCON_EL_MW, coal consumption for generation by electric power sector, Midwest region

Dependent Variable: CLEPCON_EL_MW/CLEP_MW
Method: Least Squares
Date: 08/15/13 Time: 12:42
Sample: 2004M01 2013M03
Included observations: 111

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.440895	0.056122	7.856039	0.0000
CLEP_MW/EPEO_MW	-0.049286	0.010656	-4.625324	0.0000
FEB	3.64E-05	0.001453	0.025039	0.9801
MAR	0.000481	0.001476	0.325794	0.7453
APR	0.000910	0.001545	0.588947	0.5573
MAY	0.000285	0.001531	0.186208	0.8527
JUN	0.000519	0.001497	0.346816	0.7295
JUL	0.003020	0.001501	2.012251	0.0471
AUG	0.003497	0.001495	2.338895	0.0215
SEP	0.003841	0.001507	2.548344	0.0124
OCT	0.000593	0.001521	0.390057	0.6974
NOV	-0.000694	0.001487	-0.466886	0.6417
DEC	0.002858	0.001549	1.844899	0.0682
D08ON	0.004949	0.001040	4.756162	0.0000
D0712	0.010013	0.003471	2.885060	0.0049
D1204	-0.013425	0.003625	-3.703596	0.0004
CLEPCON_EL_MW(-1)/CLEP_MW(-1)	0.269178	0.093258	2.886389	0.0048

R-squared	0.795383	Mean dependent var	0.562134
Adjusted R-squared	0.760554	S.D. dependent var	0.006610
S.E. of regression	0.003234	Akaike info criterion	-8.489851
Sum squared resid	0.000983	Schwarz criterion	-8.074878
Log likelihood	488.1867	Hannan-Quinn criter.	-8.321509
F-statistic	22.83714	Durbin-Watson stat	2.038711
Prob(F-statistic)	0.000000		

Table 81 – CLEPCON_EL_NE, coal consumption for generation by electric power sector, Northeast region

Dependent Variable: CLEPCON_EL_NE/CLEP_NE
Method: Least Squares
Date: 08/15/13 Time: 12:45
Sample: 2005M01 2013M03
Included observations: 99

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.381650	0.044120	8.650360	0.0000
CLEP_NE/EPEO_NE	-0.092335	0.015742	-5.865714	0.0000
FEB	0.001941	0.002783	0.697317	0.4876
MAR	0.003929	0.002883	1.363040	0.1766
APR	0.004970	0.002777	1.789648	0.0772
MAY	0.004657	0.002813	1.655362	0.1016
JUN	0.004453	0.002757	1.615445	0.1100
JUL	0.005862	0.002784	2.105532	0.0383
AUG	0.005727	0.002777	2.062163	0.0423
SEP	0.007418	0.002814	2.635698	0.0100
OCT	0.005184	0.002748	1.886663	0.0627
NOV	0.005837	0.002751	2.121606	0.0369
DEC	0.008312	0.002740	3.033458	0.0032
D05	-0.006577	0.001939	-3.391550	0.0011
D1103	0.022212	0.006025	3.686700	0.0004
CLEPCON_EL_NE(-1)/CLEP_NE(-1)	0.209551	0.088934	2.356241	0.0208

R-squared	0.735075	Mean dependent var	0.456739
Adjusted R-squared	0.687198	S.D. dependent var	0.009997
S.E. of regression	0.005591	Akaike info criterion	-7.388388
Sum squared resid	0.002594	Schwarz criterion	-6.968975
Log likelihood	381.7252	Hannan-Quinn criter.	-7.218693
F-statistic	15.35312	Durbin-Watson stat	1.998203
Prob(F-statistic)	0.000000		

Table 82 – CLEPCON_EL_SO, coal consumption for generation by electric power sector, South region

Dependent Variable: CLEPCON_EL_SO/CLEP_SO
Method: Least Squares
Date: 08/15/13 Time: 12:45
Sample: 2001M01 2013M03
Included observations: 147

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.303522	0.044969	6.749545	0.0000
CLEP_SO/EPEO_SO	-0.120817	0.020094	-6.012613	0.0000
FEB	0.001478	0.001874	0.788850	0.4316
MAR	-0.003693	0.001925	-1.918472	0.0572
APR	0.000836	0.002219	0.376692	0.7070
MAY	0.003632	0.001998	1.817864	0.0714
JUN	-0.000964	0.001985	-0.485328	0.6282
JUL	-0.002074	0.002043	-1.015187	0.3119
AUG	-0.000261	0.002152	-0.121045	0.9038
SEP	0.004432	0.001960	2.261068	0.0254
OCT	0.001018	0.001891	0.538100	0.5914
NOV	0.004884	0.001887	2.588733	0.0107
DEC	0.004536	0.001886	2.404848	0.0176
D07ON	0.003008	0.001116	2.696761	0.0079
CLEPCON_EL_SO(-1)/CLEP_SO(-1)	0.512008	0.070859	7.225769	0.0000

R-squared	0.927267	Mean dependent var	0.504036
Adjusted R-squared	0.919553	S.D. dependent var	0.016510
S.E. of regression	0.004683	Akaike info criterion	-7.793437
Sum squared resid	0.002894	Schwarz criterion	-7.488291
Log likelihood	587.8176	Hannan-Quinn criter.	-7.669453
F-statistic	120.2038	Durbin-Watson stat	1.880282
Prob(F-statistic)	0.000000		

Table 83 – CLEPCON_EL_WE, coal consumption for generation by electric power sector, West region

Dependent Variable: CLEPCON_EL_WE/CLEP_WE
Method: Least Squares
Date: 08/15/13 Time: 12:45
Sample: 2001M01 2013M03
Included observations: 147

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.408773	0.046896	8.716635	0.0000
CLEP_WE/EPEO_WE	-0.052963	0.013401	-3.952246	0.0001
FEB	0.002608	0.001367	1.907665	0.0586
MAR	0.000453	0.001384	0.327096	0.7441
APR	-0.004525	0.001488	-3.041499	0.0028
MAY	-0.009614	0.001569	-6.126517	0.0000
JUN	-0.006440	0.001787	-3.604153	0.0004
JUL	-0.003895	0.001691	-2.302992	0.0229
AUG	-0.002461	0.001522	-1.616961	0.1083
SEP	-0.002438	0.001426	-1.709546	0.0897
OCT	0.001149	0.001408	0.815837	0.4161
NOV	0.004122	0.001401	2.942516	0.0039
DEC	0.000889	0.001414	0.628869	0.5305
D01	-0.002352	0.001217	-1.932428	0.0555
D10ON	0.003869	0.000928	4.168204	0.0001
CLEPCON_EL_WE(-1)/CLEP_WE(-1)	0.291350	0.081377	3.580229	0.0005

R-squared	0.759187	Mean dependent var	0.551739
Adjusted R-squared	0.731613	S.D. dependent var	0.006712
S.E. of regression	0.003477	Akaike info criterion	-8.382692
Sum squared resid	0.001584	Schwarz criterion	-8.057202
Log likelihood	632.1278	Hannan-Quinn criter.	-8.250442
F-statistic	27.53269	Durbin-Watson stat	2.050515
Prob(F-statistic)	0.000000		

Table 84 – CLEPCON_UTO_MW, coal consumption for useful thermal output by electric power sector, Midwest region

Dependent Variable: CLEPCON_UTO_MW
Method: Least Squares
Date: 08/15/13 Time: 12:48
Sample: 2007M01 2013M03
Included observations: 75
Convergence achieved after 4 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.408142	0.107854	13.05602	0.0000
FEB	0.006626	0.096107	0.068943	0.9453
MAR	-0.165702	0.113053	-1.465698	0.1479
APR	-0.344769	0.123485	-2.791998	0.0070
MAY	-0.493248	0.126190	-3.908784	0.0002
JUN	-0.461420	0.126995	-3.633370	0.0006
JUL	-0.407284	0.127165	-3.202807	0.0022
AUG	-0.398446	0.126947	-3.138677	0.0026
SEP	-0.280443	0.126130	-2.223443	0.0299
OCT	-0.441457	0.123850	-3.564440	0.0007
NOV	-0.304565	0.117559	-2.590747	0.0120
DEC	0.055392	0.098945	0.559828	0.5776
D09ON	1.531503	0.082740	18.50985	0.0000
AR(1)	0.377168	0.113939	3.310272	0.0016

R-squared	0.940827	Mean dependent var	2.184720
Adjusted R-squared	0.928216	S.D. dependent var	0.784224
S.E. of regression	0.210113	Akaike info criterion	-0.115623
Sum squared resid	2.692998	Schwarz criterion	0.316975
Log likelihood	18.33585	Hannan-Quinn criter.	0.057109
F-statistic	74.60581	Durbin-Watson stat	2.184043
Prob(F-statistic)	0.000000		

Inverted AR Roots	.38

Table 85 – CLEPCON_UTO_NE, coal consumption for useful thermal output by electric power sector, Northeast region

Dependent Variable: CLEPCON_UTO_NE
Method: Least Squares
Date: 08/15/13 Time: 12:48
Sample: 2005M01 2013M03
Included observations: 99
Convergence achieved after 5 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	3.983985	0.111297	35.79606	0.0000
FEB	0.017930	0.131304	0.136553	0.8917
MAR	-0.373517	0.141915	-2.631966	0.0101
APR	-0.562697	0.147954	-3.803190	0.0003
MAY	-0.680288	0.148379	-4.584813	0.0000
JUN	-0.665211	0.148437	-4.481435	0.0000
JUL	-0.467333	0.148446	-3.148174	0.0023
AUG	-0.506407	0.148440	-3.411523	0.0010
SEP	-0.864517	0.148396	-5.825737	0.0000
OCT	-1.008511	0.148122	-6.808656	0.0000
NOV	-0.405564	0.146415	-2.769963	0.0069
DEC	-0.461553	0.135390	-3.409063	0.0010
D09ON	-0.795885	0.072067	-11.04373	0.0000
AR(1)	0.161829	0.092444	1.750567	0.0836

R-squared	0.764527	Mean dependent var	3.090814
Adjusted R-squared	0.728513	S.D. dependent var	0.573277
S.E. of regression	0.298703	Akaike info criterion	0.551623
Sum squared resid	7.583978	Schwarz criterion	0.918610
Log likelihood	-13.30536	Hannan-Quinn criter.	0.700107
F-statistic	21.22888	Durbin-Watson stat	1.897992
Prob(F-statistic)	0.000000		

Inverted AR Roots	.16

Table 86 – CLEPCON_UTO_SO, coal consumption for useful thermal output by electric power sector, South region

Dependent Variable: CLEPCON_UTO_SO
Method: Least Squares
Date: 08/15/13 Time: 12:48
Sample: 2004M01 2013M03
Included observations: 111
Convergence achieved after 8 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	5.020095	0.213773	23.48324	0.0000
FEB	-0.165767	0.180330	-0.919244	0.3602
MAR	-0.358199	0.223302	-1.604104	0.1119
APR	-1.106796	0.248794	-4.448651	0.0000
MAY	-0.405077	0.259806	-1.559152	0.1222
JUN	-0.072681	0.264557	-0.274728	0.7841
JUL	-0.075041	0.265886	-0.282228	0.7784
AUG	-0.060485	0.264552	-0.228631	0.8196
SEP	-0.517717	0.259986	-1.991325	0.0493
OCT	-0.602592	0.250017	-2.410202	0.0178
NOV	-0.849727	0.229342	-3.705064	0.0004
DEC	-0.413756	0.183547	-2.254226	0.0264
D09ON	-0.960982	0.193641	-4.962697	0.0000
AR(1)	0.528409	0.078058	6.769400	0.0000

R-squared	0.685880	Mean dependent var	4.177612
Adjusted R-squared	0.643781	S.D. dependent var	0.832302
S.E. of regression	0.496751	Akaike info criterion	1.555979
Sum squared resid	23.93591	Schwarz criterion	1.897722
Log likelihood	-72.35683	Hannan-Quinn criter.	1.694614
F-statistic	16.29223	Durbin-Watson stat	1.806170
Prob(F-statistic)	0.000000		

Inverted AR Roots	.53

Table 87 – CLEPCON_UTO_WE, coal consumption for useful thermal output by electric power sector, West region

Dependent Variable: CLEPCON_UTO_WE
Method: Least Squares
Date: 08/15/13 Time: 12:49
Sample: 2004M01 2013M03
Included observations: 111
Convergence achieved after 5 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.529983	0.080465	19.01416	0.0000
FEB	-0.045253	0.078214	-0.578577	0.5642
MAR	-0.128916	0.093083	-1.384960	0.1692
APR	-0.255819	0.101179	-2.528379	0.0131
MAY	-0.166601	0.103713	-1.606373	0.1114
JUN	-0.145452	0.104556	-1.391141	0.1674
JUL	-0.114815	0.104741	-1.096174	0.2757
AUG	-0.158774	0.104490	-1.519508	0.1319
SEP	-0.173615	0.103604	-1.675762	0.0970
OCT	-0.161904	0.101311	-1.598093	0.1133
NOV	-0.101531	0.095476	-1.063414	0.2902
DEC	-0.053336	0.079553	-0.670449	0.5042
D09ON	-0.355256	0.065940	-5.387596	0.0000
AR(1)	0.412471	0.090900	4.537624	0.0000

R-squared	0.531194	Mean dependent var	1.241641
Adjusted R-squared	0.468365	S.D. dependent var	0.284259
S.E. of regression	0.207263	Akaike info criterion	-0.192227
Sum squared resid	4.166905	Schwarz criterion	0.149515
Log likelihood	24.66861	Hannan-Quinn criter.	-0.053592
F-statistic	8.454521	Durbin-Watson stat	2.082727
Prob(F-statistic)	0.000000		

Inverted AR Roots	.41

Table 88 – NGEPCON_EL_MW, natural gas consumption for generation by electric power sector, Midwest region

Dependent Variable: NGEPCON_EL_MW/NGEP_MW
Method: Least Squares
Date: 08/15/13 Time: 12:53
Sample: 2001M01 2013M03
Included observations: 147

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.242268	0.420495	2.954300	0.0037
NGEP_MW/EPEO_MW	0.581217	1.443500	0.402644	0.6879
FEB	0.008305	0.116406	0.071342	0.9432
MAR	0.088406	0.116529	0.758661	0.4494
APR	0.121931	0.118897	1.025512	0.3070
MAY	0.237815	0.119064	1.997380	0.0478
JUN	0.217457	0.122230	1.779077	0.0775
JUL	0.169323	0.135390	1.250629	0.2133
AUG	-0.045955	0.133757	-0.343567	0.7317
SEP	0.027995	0.119681	0.233916	0.8154
OCT	-0.007246	0.119089	-0.060849	0.9516
NOV	0.015964	0.119038	0.134109	0.8935
DEC	-0.110908	0.118839	-0.933267	0.3524
D10ON	-0.169322	0.075883	-2.231372	0.0273
NGEPCON_EL_MW(-1)/NGEP_MW(-1)	0.851153	0.044888	18.96176	0.0000

R-squared	0.841672	Mean dependent var	8.705445
Adjusted R-squared	0.824879	S.D. dependent var	0.708978
S.E. of regression	0.296689	Akaike info criterion	0.504187
Sum squared resid	11.61923	Schwarz criterion	0.809334
Log likelihood	-22.05777	Hannan-Quinn criter.	0.628172
F-statistic	50.12222	Durbin-Watson stat	2.461551
Prob(F-statistic)	0.000000		

Table 89 – NGEPCON_EL_NE, natural gas consumption for generation by electric power sector, Northeast region

Dependent Variable: NGEPCON_EL_NE/NGEP_NE
Method: Least Squares
Date: 08/15/13 Time: 12:53
Sample: 2001M01 2013M03
Included observations: 147

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.358890	0.394258	3.446703	0.0008
NGEP_NE/EPEO_NE	-0.554098	0.231611	-2.392365	0.0181
FEB	0.036193	0.054175	0.668088	0.5052
MAR	0.041688	0.054580	0.763783	0.4463
APR	0.115843	0.056272	2.058634	0.0415
MAY	0.208547	0.056777	3.673065	0.0003
JUN	0.243500	0.060001	4.058284	0.0001
JUL	0.223747	0.066544	3.362385	0.0010
AUG	0.112441	0.068713	1.636373	0.1041
SEP	-0.022289	0.065925	-0.338098	0.7358
OCT	-0.006254	0.060444	-0.103464	0.9178
NOV	0.019803	0.056994	0.347454	0.7288
DEC	-0.037192	0.055694	-0.667788	0.5054
NGEPCON_EL_NE(-1)/NGEP_NE(-1)	0.835011	0.046826	17.83233	0.0000

R-squared	0.863560	Mean dependent var	7.915932
Adjusted R-squared	0.850224	S.D. dependent var	0.356456
S.E. of regression	0.137952	Akaike info criterion	-1.033435
Sum squared resid	2.531076	Schwarz criterion	-0.748632
Log likelihood	89.95746	Hannan-Quinn criter.	-0.917716
F-statistic	64.75313	Durbin-Watson stat	2.296724
Prob(F-statistic)	0.000000		

Table 90 – NGEPCON_EL_SO, natural gas consumption for generation by electric power sector, South region

Dependent Variable: NGEPCON_EL_SO/NGEP_SO
Method: Least Squares
Date: 08/15/13 Time: 12:53
Sample: 2001M01 2013M03
Included observations: 147

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.608306	0.272400	2.233138	0.0272
NGEP_SO/EPEO_SO	-0.324562	0.237954	-1.363970	0.1749
FEB	0.031402	0.049889	0.629442	0.5302
MAR	0.152428	0.049941	3.052188	0.0028
APR	0.197659	0.051890	3.809165	0.0002
MAY	0.307153	0.052814	5.815690	0.0000
JUN	0.062140	0.056732	1.095314	0.2754
JUL	0.227730	0.057681	3.948075	0.0001
AUG	0.099431	0.060357	1.647378	0.1019
SEP	-0.009550	0.056139	-0.170109	0.8652
OCT	0.079739	0.053051	1.503054	0.1353
NOV	-0.090952	0.051266	-1.774131	0.0784
DEC	0.083397	0.051902	1.606804	0.1105
D0101	0.445829	0.128453	3.470749	0.0007
D0112	-0.262263	0.128931	-2.034141	0.0440
D0201	0.509636	0.127752	3.989255	0.0001
NGEPCON_EL_SO(-1)/NGEP_SO(-1)	0.922373	0.029318	31.46109	0.0000

R-squared	0.947262	Mean dependent var	8.207672
Adjusted R-squared	0.940772	S.D. dependent var	0.499727
S.E. of regression	0.121618	Akaike info criterion	-1.267469
Sum squared resid	1.922822	Schwarz criterion	-0.921637
Log likelihood	110.1590	Hannan-Quinn criter.	-1.126954
F-statistic	145.9397	Durbin-Watson stat	2.564210
Prob(F-statistic)	0.000000		

Table 91 – NGEPCON_EL_WE, natural gas consumption for generation by electric power sector, West region

Dependent Variable: NGEPCON_EL_WE/NGEP_WE
Method: Least Squares
Date: 08/15/13 Time: 12:53
Sample: 2006M01 2013M03
Included observations: 87

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	3.036756	0.670312	4.530362	0.0000
NGEP_WE/EPEO_WE	-0.904145	0.288724	-3.131517	0.0025
FEB	-0.013607	0.041583	-0.327224	0.7444
MAR	0.036426	0.041509	0.877543	0.3831
APR	0.150609	0.043208	3.485646	0.0008
MAY	0.123200	0.045944	2.681520	0.0091
JUN	0.109009	0.049010	2.224199	0.0292
JUL	0.140971	0.057378	2.456877	0.0164
AUG	0.130610	0.062363	2.094334	0.0397
SEP	0.065878	0.059951	1.098863	0.2754
OCT	0.010770	0.052361	0.205686	0.8376
NOV	0.031320	0.044878	0.697885	0.4875
DEC	-0.052753	0.044308	-1.190584	0.2377
NGEPCON_EL_WE(-1)/NGEP_WE(-1)	0.626366	0.084012	7.455646	0.0000

R-squared	0.830301	Mean dependent var	7.617305
Adjusted R-squared	0.800080	S.D. dependent var	0.184953
S.E. of regression	0.082697	Akaike info criterion	-2.000877
Sum squared resid	0.499232	Schwarz criterion	-1.604064
Log likelihood	101.0381	Hannan-Quinn criter.	-1.841092
F-statistic	27.47481	Durbin-Watson stat	1.883861
Prob(F-statistic)	0.000000		

Table 92 – NGEPCON_UTO_MW, natural gas consumption for useful thermal output by electric power sector, Midwest region

Dependent Variable: NGEPCON_UTO_MW
Method: Least Squares
Date: 08/15/13 Time: 12:58
Sample: 2005M01 2013M03
Included observations: 99
Convergence achieved after 3 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	103.0813	4.161650	24.76934	0.0000
FEB	2.696210	4.509563	0.597887	0.5515
MAR	-7.632980	5.350447	-1.426606	0.1573
APR	-18.97575	5.810755	-3.265626	0.0016
MAY	-25.97017	5.949886	-4.364817	0.0000
JUN	-6.602003	5.996531	-1.100970	0.2740
JUL	4.213803	6.007395	0.701436	0.4849
AUG	4.845859	5.994496	0.808385	0.4211
SEP	-19.15680	5.946655	-3.221441	0.0018
OCT	-20.36057	5.820171	-3.498277	0.0007
NOV	-16.70334	5.492082	-3.041350	0.0031
DEC	-4.069117	4.579421	-0.888566	0.3767
AR(1)	0.404309	0.098477	4.105641	0.0001

R-squared	0.538771	Mean dependent var	94.35548
Adjusted R-squared	0.474414	S.D. dependent var	15.58965
S.E. of regression	11.30208	Akaike info criterion	7.809704
Sum squared resid	10985.38	Schwarz criterion	8.150478
Log likelihood	-373.5804	Hannan-Quinn criter.	7.947582
F-statistic	8.371541	Durbin-Watson stat	1.869232
Prob(F-statistic)	0.000000		

Inverted AR Roots	.40

Table 93 – NGEPCON_UTO_NE, natural gas consumption for useful thermal output by electric power sector, Northeast region

Dependent Variable: NGEPCON_UTO_NE
Method: Least Squares
Date: 08/15/13 Time: 12:58
Sample: 2005M01 2013M03
Included observations: 99
Convergence achieved after 6 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	109.5283	6.306976	17.36622	0.0000
FEB	5.938560	5.921315	1.002912	0.3188
MAR	2.564773	7.070433	0.362746	0.7177
APR	0.173102	7.716033	0.022434	0.9822
MAY	-2.603192	7.924395	-0.328504	0.7433
JUN	5.278039	8.216741	0.642352	0.5224
JUL	20.38048	8.015148	2.542745	0.0128
AUG	18.63749	7.995727	2.330931	0.0222
SEP	-1.060100	7.923926	-0.133785	0.8939
OCT	-11.24824	7.739812	-1.453296	0.1499
NOV	-11.60907	7.278832	-1.594908	0.1145
DEC	-2.336188	6.041463	-0.386692	0.7000
D0806	101.3305	14.81930	6.837738	0.0000
D09ON	-9.524093	5.088015	-1.871868	0.0647
AR(1)	0.420792	0.095268	4.416921	0.0000

R-squared	0.598094	Mean dependent var	107.9714
Adjusted R-squared	0.531110	S.D. dependent var	21.79253
S.E. of regression	14.92255	Akaike info criterion	8.382351
Sum squared resid	18705.33	Schwarz criterion	8.775551
Log likelihood	-399.9264	Hannan-Quinn criter.	8.541441
F-statistic	8.928875	Durbin-Watson stat	2.053609
Prob(F-statistic)	0.000000		

Inverted AR Roots	.42

Table 94 – NGEPCON_UTO_SO, natural gas consumption for useful thermal output by electric power sector, South region

Dependent Variable: NGEPCON_UTO_SO
Method: Least Squares
Date: 08/15/13 Time: 12:58
Sample: 2006M01 2013M03
Included observations: 87
Convergence achieved after 4 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	483.5201	10.18596	47.46929	0.0000
FEB	-4.249199	11.35319	-0.374274	0.7093
MAR	-23.12374	12.40279	-1.864397	0.0663
APR	-21.52254	13.04639	-1.649693	0.1033
MAY	-8.083749	13.08396	-0.617836	0.5386
JUN	17.41166	13.08593	1.330563	0.1875
JUL	46.98856	13.08555	3.590873	0.0006
AUG	42.39617	13.08443	3.240200	0.0018
SEP	2.833528	13.07881	0.216650	0.8291
OCT	-28.73446	13.04745	-2.202305	0.0308
NOV	-21.27351	12.87028	-1.652917	0.1026
DEC	-1.057558	11.82804	-0.089411	0.9290
D09ON	-10.19752	6.541722	-1.558843	0.1234
AR(1)	0.178376	0.079968	2.230585	0.0288

R-squared	0.552893	Mean dependent var	477.9239
Adjusted R-squared	0.473271	S.D. dependent var	33.61492
S.E. of regression	24.39639	Akaike info criterion	9.373138
Sum squared resid	43448.42	Schwarz criterion	9.769951
Log likelihood	-393.7315	Hannan-Quinn criter.	9.532922
F-statistic	6.943991	Durbin-Watson stat	1.366691
Prob(F-statistic)	0.000000		

Inverted AR Roots	.18

Table 95 – NGEPCON_UTO_WE, natural gas consumption for useful thermal output by electric power sector, West region

Dependent Variable: NGEPCON_UTO_WE
Method: Least Squares
Date: 08/15/13 Time: 12:58
Sample: 2006M01 2013M03
Included observations: 87
Convergence achieved after 22 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	209.5998	10.08289	20.78768	0.0000
FEB	-6.831822	4.477869	-1.525686	0.1314
MAR	-18.20322	5.935281	-3.066952	0.0030
APR	-12.28778	6.976931	-1.761201	0.0824
MAY	-22.67327	7.587164	-2.988373	0.0038
JUN	-11.85198	7.915947	-1.497228	0.1386
JUL	15.23022	8.026332	1.897532	0.0617
AUG	26.47639	7.939367	3.334824	0.0013
SEP	13.89234	7.645310	1.817106	0.0733
OCT	3.569010	7.099248	0.502731	0.6167
NOV	-6.536484	6.193947	-1.055302	0.2948
DEC	5.270742	4.643645	1.135044	0.2601
D09ON	-17.13341	10.04193	-1.706187	0.0922
AR(1)	0.773805	0.081260	9.522625	0.0000

R-squared	0.832775	Mean dependent var	198.4262
Adjusted R-squared	0.802995	S.D. dependent var	26.90832
S.E. of regression	11.94331	Akaike info criterion	7.944610
Sum squared resid	10412.92	Schwarz criterion	8.341423
Log likelihood	-331.5905	Hannan-Quinn criter.	8.104395
F-statistic	27.96446	Durbin-Watson stat	2.377474
Prob(F-statistic)	0.000000		

Inverted AR Roots	.77

Table 96 – DKEPCON_EL_MW, distillate fuel oil consumption for generation by electric power sector, Midwest region

Dependent Variable: DKEPCON_EL_MW/DKEP_MW
Method: Least Squares
Date: 08/22/13 Time: 15:57
Sample: 2001M01 2013M03
Included observations: 147

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.174552	0.149349	7.864467	0.0000
FEB	-0.049983	0.034841	-1.434600	0.1538
MAR	-0.081107	0.034803	-2.330448	0.0213
APR	-0.044316	0.035857	-1.235890	0.2187
MAY	-0.110001	0.035687	-3.082388	0.0025
JUN	-0.029597	0.037191	-0.795798	0.4276
JUL	-0.028800	0.035529	-0.810599	0.4191
AUG	-0.021159	0.036344	-0.582181	0.5614
SEP	-0.105165	0.035524	-2.960409	0.0036
OCT	-0.070373	0.036000	-1.954816	0.0527
NOV	-0.067021	0.035978	-1.862810	0.0647
DEC	-0.006626	0.035932	-0.184406	0.8540
D1206	0.434438	0.092823	4.680291	0.0000
D1208	-0.169209	0.092686	-1.825608	0.0702
DKEPCON_EL_MW(-1)/DKEP_MW(-1)	0.459376	0.069351	6.623939	0.0000

R-squared	0.437102	Mean dependent var	2.082260
Adjusted R-squared	0.377401	S.D. dependent var	0.112422
S.E. of regression	0.088707	Akaike info criterion	-1.910511
Sum squared resid	1.038693	Schwarz criterion	-1.605365
Log likelihood	155.4226	Hannan-Quinn criter.	-1.786527
F-statistic	7.321484	Durbin-Watson stat	1.851188
Prob(F-statistic)	0.000000		

Table 97 – DKEPCON_EL_NE, distillate fuel oil consumption for generation by electric power sector, Northeast region

Dependent Variable: DKEPCON_EL_NE/DKEP_NE
Method: Least Squares
Date: 08/22/13 Time: 15:57
Sample: 2001M01 2013M03
Included observations: 147

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.008260	0.134028	7.522780	0.0000
FEB	0.169268	0.076124	2.223571	0.0279
MAR	0.119077	0.075527	1.576610	0.1173
APR	0.074980	0.078865	0.950744	0.3435
MAY	0.168649	0.077192	2.184813	0.0307
JUN	0.145584	0.077076	1.888835	0.0611
JUL	0.181415	0.077215	2.349471	0.0203
AUG	0.214470	0.077524	2.766492	0.0065
SEP	0.111284	0.078008	1.426575	0.1561
OCT	0.032399	0.077415	0.418513	0.6763
NOV	0.189838	0.077022	2.464728	0.0150
DEC	-0.056223	0.078964	-0.712009	0.4777
D0601	-0.937954	0.197103	-4.758698	0.0000
D0604	-1.216809	0.198793	-6.120999	0.0000
D1112	0.598071	0.197736	3.024592	0.0030
DKEPCON_EL_NE(-1)/DKEP_NE(-1)	0.467836	0.060051	7.790612	0.0000

R-squared	0.600856	Mean dependent var	2.084484
Adjusted R-squared	0.555153	S.D. dependent var	0.282844
S.E. of regression	0.188648	Akaike info criterion	-0.395414
Sum squared resid	4.662048	Schwarz criterion	-0.069924
Log likelihood	45.06290	Hannan-Quinn criter.	-0.263164
F-statistic	13.14684	Durbin-Watson stat	2.328204
Prob(F-statistic)	0.000000		

Table 98 – DKEPCON_EL_SO, distillate fuel oil consumption for generation by electric power sector, South region

Dependent Variable: DKEPCON_EL_SO/DKEP_SO
Method: Least Squares
Date: 08/22/13 Time: 15:57
Sample: 2001M01 2013M03
Included observations: 147

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.101604	0.156442	7.041599	0.0000
FEB	0.027595	0.036364	0.758851	0.4493
MAR	-0.013579	0.036301	-0.374064	0.7089
APR	0.015682	0.037288	0.420567	0.6747
MAY	0.081330	0.037180	2.187504	0.0304
JUN	0.084799	0.037027	2.290212	0.0236
JUL	0.052009	0.037241	1.396553	0.1649
AUG	0.143400	0.037099	3.865363	0.0002
SEP	-0.004804	0.038166	-0.125864	0.9000
OCT	0.085987	0.036991	2.324564	0.0216
NOV	0.015284	0.037197	0.410888	0.6818
DEC	0.044921	0.036986	1.214544	0.2267
DKEPCON_EL_SO(-1)/DKEP_SO(-1)	0.422376	0.078186	5.402198	0.0000

R-squared	0.348892	Mean dependent var	1.982733
Adjusted R-squared	0.290584	S.D. dependent var	0.109693
S.E. of regression	0.092391	Akaike info criterion	-1.841305
Sum squared resid	1.143827	Schwarz criterion	-1.576845
Log likelihood	148.3359	Hannan-Quinn criter.	-1.733852
F-statistic	5.983588	Durbin-Watson stat	1.903874
Prob(F-statistic)	0.000000		

Table 99 – DKEPCON_EL_WE, distillate fuel oil consumption for generation by electric power sector, West region

Dependent Variable: DKEPCON_EL_WE/DKEP_WE
Method: Least Squares
Date: 08/22/13 Time: 15:57
Sample: 2001M01 2013M03
Included observations: 147

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.491600	0.103077	4.769271	0.0000
FEB	-0.024579	0.019189	-1.280903	0.2024
MAR	-0.005559	0.019163	-0.290080	0.7722
APR	-0.011029	0.019626	-0.561987	0.5751
MAY	0.002166	0.019627	0.110338	0.9123
JUN	-0.019713	0.019711	-1.000130	0.3191
JUL	-0.029831	0.019635	-1.519309	0.1310
AUG	-0.016771	0.019565	-0.857212	0.3929
SEP	-0.004963	0.019563	-0.253683	0.8001
OCT	-0.030223	0.019596	-1.542316	0.1254
NOV	-0.017453	0.019554	-0.892555	0.3737
DEC	-0.036498	0.019555	-1.866469	0.0642
DKEPCON_EL_WE(-1)/DKEP_WE(-1)	0.733511	0.057649	12.72370	0.0000

R-squared	0.564703	Mean dependent var	1.789017
Adjusted R-squared	0.525721	S.D. dependent var	0.070918
S.E. of regression	0.048840	Akaike info criterion	-3.116260
Sum squared resid	0.319635	Schwarz criterion	-2.851800
Log likelihood	242.0451	Hannan-Quinn criter.	-3.008807
F-statistic	14.48633	Durbin-Watson stat	2.204500
Prob(F-statistic)	0.000000		

Table 100 – PCEPCON_EL_MW, petroleum coke consumption for generation by electric power sector, Midwest region

Dependent Variable: PCEPCON_EL_MW/PCEP_MW
Method: Least Squares
Date: 08/22/13 Time: 16:02
Sample: 2011M01 2013M03
Included observations: 27

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.065995	0.529682	2.012518	0.0638
FEB	0.014057	0.170206	0.082585	0.9354
MAR	0.164953	0.181343	0.909619	0.3784
APR	0.220722	0.177114	1.246216	0.2331
MAY	0.056021	0.172892	0.324021	0.7507
JUN	0.044422	0.185364	0.239647	0.8141
JUL	0.321266	0.192121	1.672213	0.1167
AUG	-0.015287	0.170129	-0.089857	0.9297
SEP	-0.029205	0.191649	-0.152389	0.8811
OCT	0.245691	0.204481	1.201536	0.2495
NOV	0.283924	0.176307	1.610397	0.1296
DEC	0.340380	0.169697	2.005812	0.0646
PCEPCON_EL_MW(-1)/PCEP_MW(-1)	0.316133	0.258024	1.225208	0.2407

R-squared	0.512681	Mean dependent var	1.753164
Adjusted R-squared	0.094979	S.D. dependent var	0.193541
S.E. of regression	0.184121	Akaike info criterion	-0.240266
Sum squared resid	0.474607	Schwarz criterion	0.383656
Log likelihood	16.24359	Hannan-Quinn criter.	-0.054741
F-statistic	1.227385	Durbin-Watson stat	1.844200
Prob(F-statistic)	0.353350		

Table 101 – PCEPCON_EL_SO, petroleum coke consumption for generation by electric power sector, South region

Dependent Variable: PCEPCON_EL_SO/PCEP_SO
Method: Least Squares
Date: 08/22/13 Time: 16:02
Sample: 2002M01 2013M03
Included observations: 135

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.175012	0.128705	9.129505	0.0000
FEB	0.007606	0.020961	0.362878	0.7173
MAR	0.048065	0.020954	2.293800	0.0236
APR	0.014873	0.021512	0.691370	0.4907
MAY	0.018081	0.021424	0.843967	0.4004
JUN	0.027025	0.021984	1.229300	0.2214
JUL	-0.003287	0.021669	-0.151706	0.8797
AUG	0.018766	0.021409	0.876546	0.3825
SEP	0.026469	0.021411	1.236239	0.2188
OCT	0.032055	0.022022	1.455596	0.1481
NOV	0.048009	0.021409	2.242514	0.0268
DEC	0.016995	0.021530	0.789383	0.4315
D0206	0.373662	0.054039	6.914621	0.0000
D0810	-0.245797	0.056179	-4.375219	0.0000
D08	0.056427	0.016587	3.401851	0.0009
PCEPCON_EL_SO(-1)/PCEP_SO(-1)	0.370469	0.067543	5.484932	0.0000

R-squared	0.498999	Mean dependent var	1.908839
Adjusted R-squared	0.435847	S.D. dependent var	0.068282
S.E. of regression	0.051287	Akaike info criterion	-2.991881
Sum squared resid	0.313010	Schwarz criterion	-2.647552
Log likelihood	217.9520	Hannan-Quinn criter.	-2.851955
F-statistic	7.901624	Durbin-Watson stat	1.944829
Prob(F-statistic)	0.000000		

Table 102 – PCEPCON_EL_WE, petroleum coke consumption for generation by electric power sector, West region

Dependent Variable: PCEPCON_EL_WE/PCEP_WE
Method: Least Squares
Date: 08/22/13 Time: 16:03
Sample: 2001M01 2013M03
Included observations: 147

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.310058	0.090701	3.418459	0.0008
FEB	-0.025748	0.015355	-1.676854	0.0960
MAR	-0.016924	0.015335	-1.103560	0.2718
APR	-0.020127	0.015355	-1.310756	0.1922
MAY	-0.011772	0.015345	-0.767154	0.4444
JUN	-0.020501	0.015357	-1.334962	0.1842
JUL	-0.016868	0.015346	-1.099196	0.2737
AUG	-0.000528	0.015345	-0.034378	0.9726
SEP	-0.035382	0.015397	-2.297945	0.0231
OCT	-0.021814	0.015336	-1.422424	0.1573
NOV	-0.025358	0.015331	-1.654009	0.1005
DEC	-0.012654	0.015330	-0.825455	0.4106
D0201	0.081606	0.039083	2.088037	0.0387
D0202	0.207722	0.039262	5.290628	0.0000
D0203	-0.211549	0.041167	-5.138802	0.0000
PCEPCON_EL_WE(-1)/PCEP_WE(-1)	0.848190	0.046945	18.06783	0.0000

R-squared	0.748882	Mean dependent var	1.933244
Adjusted R-squared	0.720128	S.D. dependent var	0.070978
S.E. of regression	0.037549	Akaike info criterion	-3.623864
Sum squared resid	0.184705	Schwarz criterion	-3.298375
Log likelihood	282.3540	Hannan-Quinn criter.	-3.491615
F-statistic	26.04453	Durbin-Watson stat	2.368236
Prob(F-statistic)	0.000000		

Table 103 – OPEPCON_EL_NE, other petroleum liquids consumption for generation by electric power sector, Northeast generation

Dependent Variable: OPEPCON_EL_NE/OPEP_NE
Method: Least Squares
Date: 08/22/13 Time: 16:06
Sample: 2003M01 2013M03
Included observations: 123

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.202783	0.180105	6.678238	0.0000
FEB	0.144432	0.110028	1.312679	0.1920
MAR	0.150875	0.110215	1.368914	0.1738
APR	0.152873	0.113548	1.346336	0.1810
MAY	0.092003	0.114185	0.805741	0.4221
JUN	0.226043	0.113646	1.989019	0.0492
JUL	0.146804	0.113104	1.297954	0.1970
AUG	0.221971	0.112798	1.967869	0.0516
SEP	0.311583	0.112987	2.757678	0.0068
OCT	0.298613	0.113864	2.622541	0.0100
NOV	0.169805	0.113850	1.491478	0.1387
DEC	0.052697	0.116087	0.453942	0.6508
D11ON	0.244632	0.057202	4.276648	0.0000
OPEPCON_NE(-1)/OPEP_NE(-1)	0.317870	0.077963	4.077174	0.0001

R-squared	0.344515	Mean dependent var	2.132192
Adjusted R-squared	0.266338	S.D. dependent var	0.300856
S.E. of regression	0.257696	Akaike info criterion	0.232730
Sum squared resid	7.238364	Schwarz criterion	0.552816
Log likelihood	-0.312906	Hannan-Quinn criter.	0.362748
F-statistic	4.406852	Durbin-Watson stat	1.864395
Prob(F-statistic)	0.000006		

Table 104 – OPEPCON_EL_SO, other petroleum liquids consumption for generation by electric power sector, South region

Dependent Variable: OPEPCON_EL_SO/OPEP_SO
Method: Least Squares
Date: 08/22/13 Time: 16:07
Sample: 2001M01 2013M03
Included observations: 147

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.851053	0.214028	8.648664	0.0000
FEB	-0.048059	0.296039	-0.162341	0.8713
MAR	-0.059294	0.296041	-0.200291	0.8416
APR	0.256521	0.309480	0.828878	0.4087
MAY	0.341193	0.302860	1.126571	0.2620
JUN	0.146593	0.302506	0.484595	0.6288
JUL	0.111651	0.302494	0.369101	0.7127
AUG	0.362226	0.302493	1.197469	0.2333
SEP	0.140568	0.302507	0.464676	0.6429
OCT	0.723235	0.309481	2.336930	0.0210
NOV	0.224282	0.310507	0.722310	0.4714
DEC	0.285679	0.302495	0.944411	0.3467
OPEPCON_EL_SO(-1)/OPEP_SO(-1)	-0.006222	0.011553	-0.538531	0.5911
D0810	65.45397	0.788866	82.97228	0.0000
D0904	-17.20947	0.788865	-21.81548	0.0000
D11	0.734887	0.228719	3.213054	0.0017
D12ON	2.499854	0.209467	11.93435	0.0000

R-squared	0.984453	Mean dependent var	2.679744
Adjusted R-squared	0.982539	S.D. dependent var	5.711787
S.E. of regression	0.754749	Akaike info criterion	2.383532
Sum squared resid	74.05402	Schwarz criterion	2.729364
Log likelihood	-158.1896	Hannan-Quinn criter.	2.524047
F-statistic	514.4777	Durbin-Watson stat	1.233909
Prob(F-statistic)	0.000000		

Table 105 – OPEPCON_EL_WE, other petroleum liquids consumption for generation by electric power sector, West region

Dependent Variable: OPEPCON_EL_WE/OPEP_WE
Method: Least Squares
Date: 08/22/13 Time: 16:07
Sample: 2002M01 2013M03
Included observations: 135

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.487004	0.088984	16.71097	0.0000
FEB	0.023023	0.029506	0.780291	0.4368
MAR	0.002512	0.029309	0.085706	0.9318
APR	0.009184	0.029069	0.315929	0.7526
MAY	0.014723	0.029228	0.503714	0.6154
JUN	0.048143	0.029203	1.648543	0.1019
JUL	0.016511	0.028969	0.569933	0.5698
AUG	0.006145	0.029153	0.210792	0.8334
SEP	0.005523	0.029266	0.188698	0.8506
OCT	0.014533	0.029287	0.496213	0.6207
NOV	0.022428	0.029212	0.767784	0.4441
DEC	0.035944	0.029140	1.233480	0.2198
D0203	0.354405	0.070752	5.009104	0.0000
D1201	-0.906828	0.071199	-12.73653	0.0000
OPEPCON_EL_WE(-1)/OPEP_WE(-1)	0.122476	0.047692	2.568032	0.0115

R-squared	0.658628	Mean dependent var	1.709359
Adjusted R-squared	0.618801	S.D. dependent var	0.109269
S.E. of regression	0.067464	Akaike info criterion	-2.450008
Sum squared resid	0.546166	Schwarz criterion	-2.127199
Log likelihood	180.3755	Hannan-Quinn criter.	-2.318827
F-statistic	16.53731	Durbin-Watson stat	1.341219
Prob(F-statistic)	0.000000		