Working Memorandum

Subject: NEMS Price Elasticities of Demand For Residential and Commercial Energy Use

From: George Lady

Date: February 25, 2007

1. **Background.** This memo reports on work in process to assess the differences between NEMS forecast values and the eventual historical values of the projected series. The point of the assessment is to identify the important reasons for the differences found. The underlying method proposed is reported on in *Methodology_1_22_07* available on the website established in support of the project.

http://optima-com.com/NEM_Evaluation/Evaluation_Method.htm

The results presented here are a first effort to estimate the price elasticities of demand for the consumption of electricity, distillate, natural gas, and delivered energy in the residential and commercial sectors. The results presented are initial and in some cases problematical. A considerable portion of the effort reported on here was devoted to assembling the associated data and automating the analysis process. As reported below, although the majority of the results are entirely consistent with the "theoretical" expectations for the estimated demand relationships, there nevertheless remain issues that, presumably, will be successfully addressed through a reconsideration of some of the specifications reported on here.

2. **Sources.** Price elasticities were estimated, based upon the AEO1998-AEO2007 solution series for the base case and high/low world oil price cases. The choice of these cases reflects the issue of "identification" of demand, versus supply, relationships within NEMS. In the tables below, results based upon these solutions are labeled "SIM##," where "##" indicates the AEO year.

In addition, results based upon the AEO1999 and AEO2003 NEMS solutions are also provided based upon "Price Responsiveness in the AEO2003 NEMS Residential and Commercial Buildings Sector Models," by Seven H. Wade (of OIAF). The AEO2003 results included measures for one-year, two-year, and long run elasticities. This format was followed for the SIM## results cited above. Additionally, over seventy especially constructed NEMS solutions were run for the AEO2006 version of NEMS (the runs were provided for project use by Steven Wade). These solutions were designed to identify via comparative statics the effects of isolated price increases for a number of fuels. The strategy for each fuel was to configure the price series, *ceteris paribus*, with increases of

10%, 25%, 50%, and 100%. Results were presented for the first year of price increase (2010), i.e., one-year and the last year (2030), i.e., long run. All of these results are identified in the table below by "AEO##," where "##" indicates the AEO year.

For the three fuels reported on here, the AEO comparative statics runs were pooled with the AEO2006 base case and high/low world oil price cases. These reports are reported on below as "SIM06:pooled."

A small number of the elasticities presented here were also estimated for the Regional Short Term Energy Model as reported in **Reduced Form Energy Model Elasticities from EIA's Regional Energy Model (RSTEM)** , by Dave Costello released by EIA on 5/9/2006. It is hoped that additional values for the short term model will be estimated. Accordingly, in the table below, the rows for "RSTEM" are at present mostly pace-holders for future estimates.

3. **Specification.** The specification for the ten versions of the AEO, plus the pooled data for the AEO2006 were very austere. For each regression the specification used was:

$$Q_t = a + b(Price_t) + c(Driver_t) + dQ_{t-1}.$$

The driver for the residential sector is the total number of households and for the commercial sector total commercial floorspace.

For this specification, the one-year elasticity was computed as: $E\_1 = b(P/Q)$, where P and Q were the averages of price and quantity.

The two-year elasticity was computed as $E\_2 = (1 + d)E\_1$ and the long run elasticity as $E\_LR = E\_1/(1-d)$.

The two-year and long run values reflect the feed-forward of the effect of a given year price change through the lagged endogenous variable.

The outcome of the estimation may be termed "consistent" if: $b < 0$, $c > 0$, and $0 < d < 1$. In the eighty-eight regression results, sixty-eight were consistent in this way, sixteen were not, i.e., indicated as "issues: in the table below, and four could not be estimated due to lack of data, e.g., there are no average prices for sectoral delivered energy consumption reported for the AEO2007. For the inconsistent results, the specification used will be reconsidered in an effort to derive a consistent functional expression of the associated energy demand. A summary of the regression outcomes is provided in Table 1 below. Note that there are eleven total

regressions for each sector/fuel combination. The elasticities are reported in Tables 2 and 3 below. The detailed regression results are then presented in an appendix.

Table 1: Consistency of Regression Results

Fuel: / Sector:	Electricity	Distillate Fuel	Natural Gas	Delivered Energy
Residential	Consistent = 11	Consistent = 5 Issues = 6	Consistent = 11	Consistent = 8 Issue = 1 N/A = 2
Commercial	Consistent = 11	Consistent = 6 Issues = 5	Consistent = 7 Issues = 4	Consistent = 9 N/A = 2

In the elasticity tables below, the following explanatory notes are indicated for each value, as appropriate.:

A: Driver elasticity has the wrong sign.
B: Long run elasticity does not converge.
C: Negative lag term.
D: Price elasticity has the wrong sign.
E: Results not reported (for the AEO2006 elasticities the two-year results are provided in the data, but not reported).
F: Average sector price not reported for the AEO2007.

Table 2: Residential Sector												
Fuel	**Electricity**			**Distillate**			**Natural Gas**			**Delivered Energy**		
Horizon	**1 year**	**2 year**	**Long Run**	**1 year**	**2 year**	**Long Run**	**1 year**	**2 year**	**Long Run**	**1 year**	**2 year**	**Long Run**
Sim98	-.036	-.041	-.042	-.277A	-.305	-.308	-.133	-.178	-.201	-.3C	-.288	-.288
Sim99	-.187	-.313	-.573	-.221A	-.338	-.467	-.075	-.132	-.324	-.306	-.378	-.4
AEO99	-.23	E	-.31	-.28	E	-.53	-.26	E	-.43	E	E	E
Sim00	-.118	-.134	-.136	-.108A	-.192	-.49	-.032	-.046	-.056	-.241	-.32	-.358
Sim01	-.081	-.144	-.351	-.045	-.087	-.633	-.022	-.036	-.06	-.235	-.337	-.414
Sim02	-.02	-.039	-.308	-.061	-.116	-.601	-.061	-.104	-.202	-.066	-.122	-.439
Sim03	-.066	-.129	-1.449	-.135A	-.226	-.422	-.132	-.249	-1.163	-.087	-.161	-.587
AEO03	-.20	-.29	-.49	-.15	-.27	-.60	-.236	-.426	-1.22	E	E	E
Sim04	-.024	-.158	-.218	-.084A	-.15	-.384	-.119	-.166	-.197	-.209	-.281	-.318
Sim05	-.221	-.246	-.249	-.046A	-.089	-1.041	-.113	-.166	-.211	-.203	-.31	-.431
Sim06	-.03	-.048	-.08	-.056A	-.102	-.33	-.071	-.108	-.149	-.101	-.147	-.183
Sim06:pooled	-.044	-.076	-.16	-.061	-.11	-.35	-.072	-.12	-.211	E	E	E
AEO06	-.07	E	-.15	-.11	E	-.43	-.09	E	-.25	-.08	E	-.17
RSTEM06	E	E	E	E	E	E	E	-.042	E	E	E	E
Sim07	-.07	-.097	-.114	-.092A	-.159	-.336	-.083	-.127	-.176	F	F	F

Table 3: Commercial Sector												
Fuel	**Electricity**			**Distillate**			**Natural Gas**			**Delivered Energy**		
Horizon	**1 year**	**2 year**	**Long Run**	**1 year**	**2 year**	**Long Run**	**1 year**	**2 year**	**Long Run**	**1 year**	**2 year**	**Long Run**
Sim98	-.038	-.063	-.109	.002D	A & B	A&B	-.069	A& B	A&B	-.08	-.098	-.103
Sim99	-.144	-.24	-.431	-.007	B	B	-.0278	A&B	A&B	-.211	-.307	-.389
AEO99	-.23	E	-.24	-.47	E	-.87	-.28	E	-.34	E	E	E
Sim00	-.094	-.153	-.245	-.037A	-.074	-4.111	-.001	-.002	-.004	-.129	-.203	-.299
Sim01	-.038	-.07	-.224	-.027	A&B	A&B	-.007	A&B	A&B	-.057	-.106	-.377
Sim02	-.055	-.089	-.144	-.048	-.093	-1.025	-.017	-.031	-.122	-.067	-.118	-.275
Sim03	-.042	-.081	-.775	-.05	-.099	-2.329	-.065	-.128	-2.71	-.086	-.147	-.293
AEO03	-.1	-.17	-.45	-.13	-.23	-.39	-.14	-.24	-.4	E	E	E
Sim04	-.047	-.073	-.106	-.039	-.078	-3.532	-.0314	A&B	A&B	-.128	-.184	-.226
Sim05	-.086	-.123	-.149	-.036	-.073	-4.219	-.103	B	B	-.112	-.17	-.236
Sim06	-.034	-.063	-.209	-.015	-.029	-.924	-.12	-.189	-.283	-.085	-.145	-.281
Sim06:pooled	-.046	-.083	-.34	-.055	-.1	-.33	-.09	-.154	-.32	E	E	E
AEO06	-.09	E	-.24	-.12	E	-.17	-.13	E	-.28	-.11	E	-.24
RSTEM06	E	E	E	E	E	E	E	-.055	E	E	E	E
Sim07	-.042	-.074	-.174	-.02A	-.039	-4.758	-.127	-.193	-.264	F	F	F

Appendix: Regression Results

SIM 1998

Endogenous Variable:
Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
Sector and Source: Residential: Electricity.....

Exogenous Variables:
1) Table #3 Energy Prices by Sector and Source (1996 Dollars per Million Btu)
Sector and Source: Residential.....: Electricity.....

2) Table #4 Residential Sector Key Indicators and Consumption (Quadrillion Btu per year, Unless otherwise noted)
Key Indicators and Consumption: Households (millions): Total.....

3) Lagged Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
Sector and Source: Residential: Electricity.....

Exogenous Variable	Mean	Coefficient	Elasticity	t-statistic
Variable# 1	20.95588	-.008213	-.036006	-.963964
Variable# 2	120.0041	.046867	1.176614	6.389364
Variable# 3	4.714939	.143188	.141239	1.06441
Constant		-1.347228		

Endogenous Variable	Mean	SER	R-sq	LR-Multiplier
	4.780017	.007498	.999443	1.16711717389579

Data pooled for the years 2005 to 2020 for the solutions given below:

aeo98b.ran
hwop98.ran
lwop98.ran

Endogenous Variable:
Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
Sector and Source: Residential: Distillate Fuel.....

Exogenous Variables:
1) Table #3 Energy Prices by Sector and Source (1996 Dollars per Million Btu)
Sector and Source: Residential.....: Distillate Fuel.....

2) Table #4 Residential Sector Key Indicators and Consumption (Quadrillion Btu per year, Unless otherwise noted)
Key Indicators and Consumption: Households (millions): Total.....

3) Lagged Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
Sector and Source: Residential: Distillate Fuel.....

Exogenous Variable	Mean	Coefficient	Elasticity	t-statistic
Variable# 1	7.529692	-.027884	-.276989	-15.706174
Variable# 2	120.0041	-.003266	-.517062	-14.19813
Variable# 3	.7632976	.099365	.100059	1.704587
Constant		1.284048		

Endogenous Variable	Mean	SER	R-sq	LR-Multiplier
	.7580014	.001097	.999106	1.11032771322456

Data pooled for the years 2005 to 2020 for the solutions given below:

aeo98b.ran
hwop98.ran
lwop98.ran

Endogenous Variable:
Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
Sector and Source: Residential: Natural Gas.....

Exogenous Variables:
1) Table #3 Energy Prices by Sector and Source (1996 Dollars per Million Btu)
Sector and Source: Residential.....: Natural Gas.....

2) Table #4 Residential Sector Key Indicators and Consumption (Quadrillion Btu per year, Unless otherwise noted)
Key Indicators and Consumption: Households (millions): Total.....

3) Lagged Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
Sector and Source: Residential: Natural Gas.....

Exogenous Variable	Mean	Coefficient	Elasticity	t-statistic
Variable# 1	5.433125	-.139805	-.132855	-5.762761
Variable# 2	120.0041	.017637	.370191	6.67501
Variable# 3	5.684838	.339615	.337684	3.470731
Constant		2.429755		

Endogenous Variable	Mean	SER	R-sq	LR-Multiplier
	5.717346	.009321	.996887	1.51426819203949

Data pooled for the years 2005 to 2020 for the solutions given below:

aeo98b.ran
hwop98.ran
lwop98.ran

Endogenous Variable:
Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
   Sector and Source: Residential: Delivered Energy..........

Exogenous Variables:
1) Table #3 Energy Prices by Sector and Source (1996 Dollars per Million Btu)
     Sector and Source: Residential...................:

2) Table #4 Residential Sector Key Indicators and Consumption (Quadrillion Btu per year, Unless otherwise noted)
     Key Indicators and Consumption: Households (millions):   Total.....................

3) Lagged Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
     Sector and Source: Residential: Delivered Energy..........

Exogenous Variable	Mean	Coefficient	Elasticity	t-statistic
Variable# 1	12.08812	-.310829	-.299508	-7.505819
Variable# 2	120.0041	.082405	.788275	8.224621
Variable# 3	12.44635	-.039917	-.039603	-.312198
Constant		6.910264		

Endogenous Variable	Mean	SER	R-sq	LR-Multiplier
	12.54504	.02418	.997699	.961615205828927

Data pooled for the years 2005 to 2020 for the solutions given below:

aeo98b.ran
hwop98.ran
lwop98.ran

Endogenous Variable:
Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
Sector and Source: Commercial: Electricity.....

Exogenous Variables:
1) Table #3 Energy Prices by Sector and Source (1996 Dollars per Million Btu)
Sector and Source: Commercial.....: Electricity.....

2) Table #5 Commercial Sector Key Indicators and Consumption (Quadrillion Btu per year, Unless otherwise noted)
Key Indicators and Consumption: Total Floorspace(bill. sq. ft.): Total.....

3) Lagged Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
Sector and Source: Commercial: Electricity.....

Exogenous Variable	Mean	Coefficient	Elasticity	t-statistic
Variable# 1	18.62128	-.008538	-.037944	-6.447781
Variable# 2	83.89153	.021789	.436252	34.627161
Variable# 3	4.148534	.65065	.644204	63.43241
Constant		-.178126		

Endogenous Variable	Mean	SER	R-sq	LR-Multiplier
	4.190042	.00125	.999963	2.862458852154

Data pooled for the years 2005 to 2020 for the solutions given below:

aeo98b.ran
hwop98.ran
lwop98.ran

Endogenous Variable:
Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
Sector and Source: Commercial: Distillate Fuel.....

Exogenous Variables:
1) Table #3 Energy Prices by Sector and Source (1996 Dollars per Million Btu)
Sector and Source: Commercial.....: Distillate Fuel.....

2) Table #5 Commercial Sector Key Indicators and Consumption (Quadrillion Btu per year, Unless otherwise noted)
Key Indicators and Consumption: Total Floorspace(bill. sq. ft.): Total.....

3) Lagged Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
Sector and Source: Commercial: Distillate Fuel.....

Exogenous Variable	Mean	Coefficient	Elasticity	t-statistic
Variable# 1	5.636477	.000097	.001351	.27353
Variable# 2	83.89153	-.000103	-.021353	-2.310316
Variable# 3	.4058964	1.043431	1.046585	84.135077
Constant		-.010758		

Endogenous Variable	Mean	SER	R-sq	LR-Multiplier
	.4046733	.000773	.999237	-23.0250282056596

Data pooled for the years 2005 to 2020 for the solutions given below:

aeo98b.ran
hwop98.ran
lwop98.ran

Endogenous Variable:
Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
Sector and Source: Commercial: Natural Gas.....

Exogenous Variables:
1) Table #3 Energy Prices by Sector and Source (1996 Dollars per Million Btu)
Sector and Source: Commercial.....: Natural Gas .....

2) Table #5 Commercial Sector Key Indicators and Consumption (Quadrillion Btu per year, Unless otherwise noted)
Key Indicators and Consumption: Total Floorspace(bill. sq. ft.): Total.....

3) Lagged Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
Sector and Source: Commercial: Natural Gas.....

Exogenous Variable	Mean	Coefficient	Elasticity	t-statistic
Variable# 1	4.695888	-.054928	-.068504	-4.70247
Variable# 2	83.89153	-.00904	-.201415	-5.738788
Variable# 3	3.749291	1.142393	1.137546	25.935908
Constant		.498417		

Endogenous Variable	Mean	SER	R-sq	LR-Multiplier
	3.765265	.004894	.996664	-7.02281713286468

Data pooled for the years 2005 to 2020 for the solutions given below:

aeo98b.ran
hwop98.ran
lwop98.ran

Endogenous Variable:
Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
Sector and Source: Commercial: Delivered Energy.....

Exogenous Variables:
1) Table #3 Energy Prices by Sector and Source (1996 Dollars per Million Btu)
Sector and Source: Commercial.....:

2) Table #5 Commercial Sector Key Indicators and Consumption (Quadrillion Btu per year, Unless otherwise noted)
Key Indicators and Consumption: Total Floorspace(bill. sq. ft.): Total.....

3) Lagged Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
Sector and Source: Commercial: Delivered Energy.....

Exogenous Variable	Mean	Coefficient	Elasticity	t-statistic
Variable# 1	11.44349	-.06127	-.080432	-34.591934
Variable# 2	83.89153	.076231	.733622	56.726758
Variable# 3	8.65972	.218384	.216944	17.450273
Constant		1.132071		

Endogenous Variable	Mean	SER	R-sq	LR-Multiplier
	8.717208	.001539	.999972	1.27940062639455

Data pooled for the years 2005 to 2020 for the solutions given below:

aeo98b.ran
hwop98.ran
lwop98.ran

SIM 1999

Endogenous Variable:
Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
Sector and Source: Residential: Electricity.....

Exogenous Variables:
1) Table #3 Energy Prices by Sector and Source (1997 Dollars per Million Btu)
Sector and Source: Residential.....: Electricity.....

2) Table #4 Residential Sector Key Indicators and Consumption (Quadrillion Btu per year, Unless otherwise noted)
Key Indicators and Consumption: Households (millions): Total.....

3) Lagged Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
Sector and Source: Residential: Electricity.....

Exogenous Variable	Mean	Coefficient	Elasticity	t-statistic
Variable# 1	21.80419	-.040977	-.187024	-2.572604
Variable# 2	120.6431	.013771	.347765	4.311752
Variable# 3	4.712081	.673767	.664569	8.406119
Constant		.834546		

Endogenous Variable	Mean	SER	R-sq	LR-Multiplier
	4.777297	.010409	.99897	3.06529382373947

Data pooled for the years 2005 to 2020 for the solutions given below:

aeo99b.ran
hwop99.ran
lwop99.ran

Endogenous Variable:
Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
Sector and Source: Residential: Distillate Fuel.....

Exogenous Variables:
1) Table #3 Energy Prices by Sector and Source (1997 Dollars per Million Btu)
Sector and Source: Residential.....: Distillate Fuel.....

2) Table #4 Residential Sector Key Indicators and Consumption (Quadrillion Btu per year, Unless otherwise noted)
Key Indicators and Consumption: Households (millions): Total.....

3) Lagged Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
Sector and Source: Residential: Distillate Fuel.....

Exogenous Variable	Mean	Coefficient	Elasticity	t-statistic
Variable# 1	7.707847	-.020627	-.221248	-5.985797
Variable# 2	120.6431	-.00261	-.438181	-5.039129
Variable# 3	.7275242	.526672	.533209	6.368907
Constant		.809306		

Endogenous Variable	Mean	SER	R-sq	LR-Multiplier
	.7186045	.001918	.998857	2.11269986140689

Data pooled for the years 2005 to 2020 for the solutions given below:

aeo99b.ran
hwop99.ran
lwop99.ran

Endogenous Variable:
Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
Sector and Source: Residential: Natural Gas.....

Exogenous Variables:
1) Table #3 Energy Prices by Sector and Source (1997 Dollars per Million Btu)
Sector and Source: Residential.....: Natural Gas.....

2) Table #4 Residential Sector Key Indicators and Consumption (Quadrillion Btu per year, Unless otherwise noted)
Key Indicators and Consumption: Households (millions): Total.....

3) Lagged Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
Sector and Source: Residential: Natural Gas.....

Exogenous Variable	Mean	Coefficient	Elasticity	t-statistic
Variable# 1	5.920345	-.071294	-.074859	-1.958997
Variable# 2	120.6431	.005927	.126818	1.893172
Variable# 3	5.598494	.769234	.763787	8.74495
Constant		1.038903		

Endogenous Variable	Mean	SER	R-sq	LR-Multiplier
	5.638422	.014466	.995241	4.33339400084934

Data pooled for the years 2005 to 2020 for the solutions given below:

aeo99b.ran
hwop99.ran
lwop99.ran

Endogenous Variable:
Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
Sector and Source: Residential: Delivered Energy.....

Exogenous Variables:
1) Table #3 Energy Prices by Sector and Source (1997 Dollars per Million Btu)
Sector and Source: Residential.....:

2) Table #4 Residential Sector Key Indicators and Consumption (Quadrillion Btu per year, Unless otherwise noted)
Key Indicators and Consumption: Households (millions): Total.....

3) Lagged Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
Sector and Source: Residential: Delivered Energy.....

Exogenous Variable	Mean	Coefficient	Elasticity	t-statistic
Variable# 1	12.73754	-.295876	-.306132	-8.462724
Variable# 2	120.6431	.052171	.511264	9.910442
Variable# 3	12.21467	.234222	.232393	2.924699
Constant		6.924531		

Endogenous Variable	Mean	SER	R-sq	LR-Multiplier
	12.31082	.017896	.998707	1.30586148988349

Data pooled for the years 2005 to 2020 for the solutions given below:

aeo99b.ran
hwop99.ran
lwop99.ran

Endogenous Variable:
Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
Sector and Source: Commercial: Electricity.....

Exogenous Variables:
1) Table #3 Energy Prices by Sector and Source (1997 Dollars per Million Btu)
Sector and Source: Commercial.....: Electricity.....

2) Table #5 Commercial Sector Key Indicators and Consumption (Quadrillion Btu per year, Unless otherwise noted)
Key Indicators and Consumption: Total Floorspace(bill. sq. ft.): Total.....

3) Lagged Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
Sector and Source: Commercial: Electricity.....

Exogenous Variable	Mean	Coefficient	Elasticity	t-statistic
Variable# 1	18.71884	-.033842	-.144421	-6.839422
Variable# 2	70.39127	.022265	.357303	13.533609
Variable# 3	4.335765	.664848	.657179	33.772489
Constant		.569957		

Endogenous Variable	Mean	SER	R-sq	LR-Multiplier
	4.38636	.003235	.999836	2.98372081921039

Data pooled for the years 2005 to 2020 for the solutions given below:

aeo99b.ran
hwop99.ran
lwop99.ran

Endogenous Variable:
Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
Sector and Source: Commercial: Distillate Fuel.....

Exogenous Variables:
1) Table #3 Energy Prices by Sector and Source (1997 Dollars per Million Btu)
Sector and Source: Commercial.....: Distillate Fuel.....

2) Table #5 Commercial Sector Key Indicators and Consumption (Quadrillion Btu per year, Unless otherwise noted)
Key Indicators and Consumption: Total Floorspace(bill. sq. ft.): Total.....

3) Lagged Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
Sector and Source: Commercial: Distillate Fuel.....

Exogenous Variable	Mean	Coefficient	Elasticity	t-statistic
Variable# 1	5.48976	-.000469	-.007375	-.250741
Variable# 2	70.39127	.00011	.022179	.802064
Variable# 3	.3510037	1.018307	1.023827	29.508504
Constant		-.013487		

Endogenous Variable	Mean	SER	R-sq	LR-Multiplier
	.3491113	.00204	.998581	-54.6239143497021

Data pooled for the years 2005 to 2020 for the solutions given below:

aeo99b.ran
hwop99.ran
lwop99.ran

Endogenous Variable:
Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
Sector and Source: Commercial: Natural Gas.....

Exogenous Variables:
1) Table #3 Energy Prices by Sector and Source (1997 Dollars per Million Btu)
Sector and Source: Commercial.....: Natural Gas .....

2) Table #5 Commercial Sector Key Indicators and Consumption (Quadrillion Btu per year, Unless otherwise noted)
Key Indicators and Consumption: Total Floorspace(bill. sq. ft.): Total.....

3) Lagged Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
Sector and Source: Commercial: Natural Gas.....

Exogenous Variable	Mean	Coefficient	Elasticity	t-statistic
Variable# 1	5.138494	-.020172	-.026748	-.597943
Variable# 2	70.39127	-.004802	-.087225	-1.004467
Variable# 3	3.854832	1.005444	1.000143	12.686419
Constant		.44112		

Endogenous Variable	Mean	SER	R-sq	LR-Multiplier
	3.875265	.007949	.994726	-183.688464364438

Data pooled for the years 2005 to 2020 for the solutions given below:

aeo99b.ran
hwop99.ran
lwop99.ran

Endogenous Variable:
Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
Sector and Source: Commercial: Delivered Energy.....

Exogenous Variables:
1) Table #3 Energy Prices by Sector and Source (1997 Dollars per Million Btu)
Sector and Source: Commercial.....:

2) Table #5 Commercial Sector Key Indicators and Consumption (Quadrillion Btu per year, Unless otherwise noted)
Key Indicators and Consumption: Total Floorspace(bill. sq. ft.): Total.....

3) Lagged Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
Sector and Source: Commercial: Delivered Energy.....

Exogenous Variable	Mean	Coefficient	Elasticity	t-statistic
Variable# 1	11.80873	-.159523	-.210698	-15.00283
Variable# 2	70.39127	.059885	.471488	17.478109
Variable# 3	8.870234	.457687	.454086	17.033554
Constant		2.549174		

Endogenous Variable	Mean	SER	R-sq	LR-Multiplier
	8.940581	.005632	.999756	1.84395358400038

Data pooled for the years 2005 to 2020 for the solutions given below:

aeo99b.ran
hwop99.ran
lwop99.ran

SIM 2000

Endogenous Variable:
Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
Sector and Source: Residential: Electricity.....

Exogenous Variables:
1) Table #3 Energy Prices by Sector and Source (1998 Dollars per Million Btu)
Sector and Source: Residential.....: Electricity.....

2) Table #4 Residential Sector Key Indicators and Consumption (Quadrillion Btu per year, Unless otherwise noted)
Key Indicators and Consumption: Households (millions): Total.....

3) Lagged Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
Sector and Source: Residential: Electricity.....

Exogenous Variable	Mean	Coefficient	Elasticity	t-statistic
Variable# 1	21.58276	-.026535	-.118286	-2.981664
Variable# 2	119.6886	.047768	1.180857	5.083033
Variable# 3	4.780196	.129272	.127631	.756917
Constant		-.920893		

Endogenous Variable	Mean	SER	R-sq	LR-Multiplier
	4.841639	.007906	.999264	1.14846427357338

Data pooled for the years 2005 to 2020 for the solutions given below:

aeo2k.ran
hwop2k.ran
lwop2k.ran

Endogenous Variable:
Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
Sector and Source: Residential: Distillate Fuel.....

Exogenous Variables:
1) Table #3 Energy Prices by Sector and Source (1998 Dollars per Million Btu)
Sector and Source: Residential.....: Distillate Fuel.....

2) Table #4 Residential Sector Key Indicators and Consumption (Quadrillion Btu per year, Unless otherwise noted)
Key Indicators and Consumption: Households (millions): Total.....

3) Lagged Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
Sector and Source: Residential: Distillate Fuel.....

Exogenous Variable	Mean	Coefficient	Elasticity	t-statistic
Variable# 1	7.716734	-.010001	-.107987	-3.735057
Variable# 2	119.6886	-.001276	-.213696	-2.505504
Variable# 3	.7240198	.779419	.789614	11.834602
Constant		.380255		

Endogenous Variable	Mean	SER	R-sq	LR-Multiplier
	.714672	.001485	.999323	4.53348203154397

Data pooled for the years 2005 to 2020 for the solutions given below:

aeo2k.ran
hwop2k.ran
lwop2k.ran

Endogenous Variable:
Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
Sector and Source: Residential: Natural Gas.....

Exogenous Variables:
1) Table #3 Energy Prices by Sector and Source (1998 Dollars per Million Btu)
Sector and Source: Residential.....: Natural Gas.....

2) Table #4 Residential Sector Key Indicators and Consumption (Quadrillion Btu per year, Unless otherwise noted)

Key Indicators and Consumption: Households (millions): Total.....

3) Lagged Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
Sector and Source: Residential: Natural Gas.....

Exogenous Variable	Mean	Coefficient	Elasticity	t-statistic
Variable# 1	6.482791	-.027527	-.032183	-1.668942
Variable# 2	119.6886	.021819	.470968	4.204596
Variable# 3	5.503479	.422119	.418963	2.997868
Constant		.788775		

Endogenous Variable	Mean	SER	R-sq	LR-Multiplier
	5.544932	.009866	.99761	1.73046007742078

Data pooled for the years 2005 to 2020 for the solutions given below:

aeo2k.ran
hwop2k.ran
lwop2k.ran

Endogenous Variable:
Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
Sector and Source: Residential: Delivered Energy.....

Exogenous Variables:
1) Table #3 Energy Prices by Sector and Source (1998 Dollars per Million Btu)
Sector and Source: Residential.....:

2) Table #4 Residential Sector Key Indicators and Consumption (Quadrillion Btu per year, Unless otherwise noted)
Key Indicators and Consumption: Households (millions): Total.....

3) Lagged Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
Sector and Source: Residential: Delivered Energy.....

Exogenous Variable	Mean	Coefficient	Elasticity	t-statistic
Variable# 1	13.05115	-.224213	-.241384	-3.467812
Variable# 2	119.6886	.058033	.572962	3.547747
Variable# 3	12.03003	.32489	.322405	1.698318
Constant		4.194676		

Endogenous Variable	Mean	SER	R-sq	LR-Multiplier
	12.12276	.02141	.997764	1.48124009420687

Data pooled for the years 2005 to 2020 for the solutions given below:

aeo2k.ran
hwop2k.ran
lwop2k.ran

Endogenous Variable:
Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
Sector and Source: Commercial: Electricity.....

Exogenous Variables:
1) Table #3 Energy Prices by Sector and Source (1998 Dollars per Million Btu)
Sector and Source: Commercial.....: Electricity.....

2) Table #5 Commercial Sector Key Indicators and Consumption (Quadrillion Btu per year, Unless otherwise noted)
Key Indicators and Consumption: Total Floorspace(bill. sq. ft.): Total.....

3) Lagged Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
Sector and Source: Commercial: Electricity.....

Exogenous Variable	Mean	Coefficient	Elasticity	t-statistic
Variable# 1	18.55321	-.022599	-.09446	-11.81492
Variable# 2	71.5889	.026545	.428123	15.886424
Variable# 3	4.396117	.614967	.609061	34.861497
Constant		.254235		

Endogenous Variable	Mean	SER	R-sq	LR-Multiplier
	4.438745	.003176	.999771	2.59717998197557

Data pooled for the years 2005 to 2020 for the solutions given below:

aeo2k.ran
hwop2k.ran
lwop2k.ran

Endogenous Variable:
Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
Sector and Source: Commercial: Distillate Fuel.....

Exogenous Variables:
1) Table #3 Energy Prices by Sector and Source (1998 Dollars per Million Btu)
Sector and Source: Commercial.....: Distillate Fuel.....

2) Table #5 Commercial Sector Key Indicators and Consumption (Quadrillion Btu per year, Unless otherwise noted)
Key Indicators and Consumption: Total Floorspace(bill. sq. ft.): Total.....

3) Lagged Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
Sector and Source: Commercial: Distillate Fuel.....

Exogenous Variable	Mean	Coefficient	Elasticity	t-statistic
Variable# 1	5.525886	-.002556	-.037053	-2.599771
Variable# 2	71.5889	-.000219	-.041129	-2.179833
Variable# 3	.3817065	.990986	.992334	45.443368
Constant		.032724		

Endogenous Variable	Mean	SER	R-sq	LR-Multiplier
	.3811878	.001352	.998958	110.938540048813

Data pooled for the years 2005 to 2020 for the solutions given below:

aeo2k.ran
hwop2k.ran
lwop2k.ran

Endogenous Variable:
Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
Sector and Source: Commercial: Natural Gas.....

Exogenous Variables:
1) Table #3 Energy Prices by Sector and Source (1998 Dollars per Million Btu)
Sector and Source: Commercial.....: Natural Gas .....

2) Table #5 Commercial Sector Key Indicators and Consumption (Quadrillion Btu per year, Unless otherwise noted)
Key Indicators and Consumption: Total Floorspace(bill. sq. ft.): Total.....

3) Lagged Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
Sector and Source: Commercial: Natural Gas.....

Exogenous Variable	Mean	Coefficient	Elasticity	t-statistic
Variable# 1	5.485376	-.000933	-.001411	-.160463
Variable# 2	71.5889	.015287	.301785	9.058056
Variable# 3	3.605408	.642786	.639074	19.377416
Constant		.219584		

Endogenous Variable	Mean	SER	R-sq	LR-Multiplier
	3.626352	.004512	.998387	2.79944235108366

Data pooled for the years 2005 to 2020 for the solutions given below:

aeo2k.ran
hwop2k.ran
lwop2k.ran

Endogenous Variable:
Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
Sector and Source: Commercial: Delivered Energy.....

Exogenous Variables:
1) Table #3 Energy Prices by Sector and Source (1998 Dollars per Million Btu)
Sector and Source: Commercial.....:

2) Table #5 Commercial Sector Key Indicators and Consumption (Quadrillion Btu per year, Unless otherwise noted)
Key Indicators and Consumption: Total Floorspace(bill. sq. ft.): Total.....

3) Lagged Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
Sector and Source: Commercial: Delivered Energy.....

Exogenous Variable	Mean	Coefficient	Elasticity	t-statistic
Variable# 1	12.08021	-.095032	-.129394	-34.939342
Variable# 2	71.5889	.049367	.398338	33.825154
Variable# 3	8.807958	.567612	.563502	55.473332
Constant		1.486568		

Endogenous Variable	Mean	SER	R-sq	LR-Multiplier
	8.872193	.003172	.999908	2.31273763379187

Data pooled for the years 2005 to 2020 for the solutions given below:

aeo2k.ran
hwop2k.ran
lwop2k.ran

SIM 2001

Endogenous Variable:
Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
Sector and Source: Residential: Electricity.....

Exogenous Variables:
1) Table #3 Energy Prices by Sector and Source (1999 Dollars per Million Btu, Unless Otherwise Noted)
Sector and Source: Residential.....: Electricity.....

2) Table #4 Residential Sector Key Indicators and Consumption (Quadrillion Btu per year, Unless otherwise noted)
Key Indicators and Consumption: Households (millions): Total.....

3) Lagged Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
Sector and Source: Residential: Electricity.....

Exogenous Variable	Mean	Coefficient	Elasticity	t-statistic
Variable# 1	22.06596	-.018997	-.081454	-1.878397
Variable# 2	120.2273	.016571	.387132	3.058911
Variable# 3	5.058544	.767853	.754763	10.230525
Constant		-.311041		

Endogenous Variable	Mean	SER	R-sq	LR-Multiplier
	5.146276	.011255	.999263	4.30761543332457

Data pooled for the years 2005 to 2020 for the solutions given below:

aeo2001.ran
hw2001.ran
lw2001.ran

Endogenous Variable:
Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
   Sector and Source: Residential: Distillate Fuel.............

Exogenous Variables:
1) Table #3 Energy Prices by Sector and Source (1999 Dollars per Million Btu, Unless Otherwise Noted)
     Sector and Source: Residential.....................:   Distillate Fuel.........

2) Table #4 Residential Sector Key Indicators and Consumption (Quadrillion Btu per year, Unless otherwise noted)
     Key Indicators and Consumption: Households (millions):   Total.....................

3) Lagged Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
     Sector and Source: Residential: Distillate Fuel.............

Exogenous Variable	Mean	Coefficient	Elasticity	t-statistic
Variable# 1	7.556284	-.004775	-.044854	-2.871274
Variable# 2	120.2273	.000503	.075178	2.265688
Variable# 3	.8134442	.929092	.939523	27.05713
Constant		.024255		

Endogenous Variable	Mean	SER	R-sq	LR-Multiplier
	.8044129	.003056	.997518	14.1027810684267

Data pooled for the years 2005 to 2020 for the solutions given below:

aeo2001.ran
hw2001.ran
lw2001.ran

Endogenous Variable:
Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
Sector and Source: Residential: Natural Gas.....

Exogenous Variables:
1) Table #3 Energy Prices by Sector and Source (1999 Dollars per Million Btu, Unless Otherwise Noted)
Sector and Source: Residential.....: Natural Gas.....

2) Table #4 Residential Sector Key Indicators and Consumption (Quadrillion Btu per year, Unless otherwise noted)
Key Indicators and Consumption: Households (millions): Total.....

3) Lagged Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
Sector and Source: Residential: Natural Gas.....

Exogenous Variable	Mean	Coefficient	Elasticity	t-statistic
Variable# 1	6.533878	-.019772	-.022099	-1.712774
Variable# 2	120.2273	.017862	.367348	4.035864
Variable# 3	5.792097	.630585	.624775	6.338099
Constant		.175237		

Endogenous Variable	Mean	SER	R-sq	LR-Multiplier
	5.845958	.010343	.998521	2.70698266177605

Data pooled for the years 2005 to 2020 for the solutions given below:

aeo2001.ran
hw2001.ran
lw2001.ran

Endogenous Variable:
Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
Sector and Source: Residential: Delivered Energy.....

Exogenous Variables:
1) Table #3 Energy Prices by Sector and Source (1999 Dollars per Million Btu, Unless Otherwise Noted)
Sector and Source: Residential.....:

2) Table #4 Residential Sector Key Indicators and Consumption (Quadrillion Btu per year, Unless otherwise noted)
Key Indicators and Consumption: Households (millions): Total.....

3) Lagged Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
Sector and Source: Residential: Delivered Energy.....

Exogenous Variable	Mean	Coefficient	Elasticity	t-statistic
Variable# 1	13.26874	-.226562	-.235303	-3.65491
Variable# 2	120.2273	.06974	.65629	3.632594
Variable# 3	12.64755	.432129	.42779	2.63076
Constant		1.931999		

Endogenous Variable	Mean	SER	R-sq	LR-Multiplier
	12.77583	.021611	.998837	1.76096331737314

Data pooled for the years 2005 to 2020 for the solutions given below:

aeo2001.ran
hw2001.ran
lw2001.ran

Endogenous Variable:
Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
Sector and Source: Commercial: Electricity.....

Exogenous Variables:
1) Table #3 Energy Prices by Sector and Source (1999 Dollars per Million Btu, Unless Otherwise Noted)
Sector and Source: Commercial.....: Electricity.....

2) Table #5 Commercial Sector Key Indicators and Consumption (Quadrillion Btu per year, Unless otherwise noted)
Key Indicators and Consumption: Total Floorspace(bill. sq. ft.): Total.....

3) Lagged Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
Sector and Source: Commercial: Electricity.....

Exogenous Variable	Mean	Coefficient	Elasticity	t-statistic
Variable# 1	18.11595	-.010733	-.038449	-12.50245
Variable# 2	77.29922	.013535	.206888	5.016288
Variable# 3	4.971498	.828491	.814475	36.895324
Constant		.086403		

Endogenous Variable	Mean	SER	R-sq	LR-Multiplier
	5.057051	.002324	.999968	5.83059781119358

Data pooled for the years 2005 to 2020 for the solutions given below:

aeo2001.ran
hw2001.ran
lw2001.ran

Endogenous Variable:
Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
Sector and Source: Commercial: Distillate Fuel.....

Exogenous Variables:
1) Table #3 Energy Prices by Sector and Source (1999 Dollars per Million Btu, Unless Otherwise Noted)
Sector and Source: Commercial.....: Distillate Fuel.....

2) Table #5 Commercial Sector Key Indicators and Consumption (Quadrillion Btu per year, Unless otherwise noted)
Key Indicators and Consumption: Total Floorspace(bill. sq. ft.): Total.....

3) Lagged Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
Sector and Source: Commercial: Distillate Fuel.....

Exogenous Variable	Mean	Coefficient	Elasticity	t-statistic
Variable# 1	5.325486	-.002221	-.027098	-2.012247
Variable# 2	77.29922	-.000353	-.062514	-2.657299
Variable# 3	.4349398	1.02387	1.020239	68.902073
Constant		.03028		

Endogenous Variable	Mean	SER	R-sq	LR-Multiplier
	.4364876	.002218	.999143	-41.893590280687

Data pooled for the years 2005 to 2020 for the solutions given below:

aeo2001.ran
hw2001.ran
lw2001.ran

Endogenous Variable:
Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
Sector and Source: Commercial: Natural Gas.....

Exogenous Variables:
1) Table #3 Energy Prices by Sector and Source (1999 Dollars per Million Btu, Unless Otherwise Noted)
Sector and Source: Commercial.....: Natural Gas .....

2) Table #5 Commercial Sector Key Indicators and Consumption (Quadrillion Btu per year, Unless otherwise noted)
Key Indicators and Consumption: Total Floorspace(bill. sq. ft.): Total.....

3) Lagged Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
Sector and Source: Commercial: Natural Gas.....

Exogenous Variable	Mean	Coefficient	Elasticity	t-statistic
Variable# 1	5.516591	-.004777	-.006713	-.520508
Variable# 2	77.29922	-.002521	-.049644	-1.781186
Variable# 3	3.899467	1.015814	1.009107	26.134363
Constant		.185474		

Endogenous Variable	Mean	SER	R-sq	LR-Multiplier
	3.925382	.007145	.997243	-63.2351081320349

Data pooled for the years 2005 to 2020 for the solutions given below:

aeo2001.ran
hw2001.ran
lw2001.ran

Endogenous Variable:
Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
Sector and Source: Commercial: Delivered Energy.....

Exogenous Variables:
1) Table #3 Energy Prices by Sector and Source (1999 Dollars per Million Btu, Unless Otherwise Noted)
Sector and Source: Commercial.....:

2) Table #5 Commercial Sector Key Indicators and Consumption (Quadrillion Btu per year, Unless otherwise noted)
Key Indicators and Consumption: Total Floorspace(bill. sq. ft.): Total.....

3) Lagged Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
Sector and Source: Commercial: Delivered Energy.....

Exogenous Variable	Mean	Coefficient	Elasticity	t-statistic
Variable# 1	12.0439	-.046886	-.057421	-17.609788
Variable# 2	77.29922	.016661	.130959	6.968238
Variable# 3	9.719701	.847649	.837775	57.764389
Constant		.872167		

Endogenous Variable	Mean	SER	R-sq	LR-Multiplier
	9.834253	.005053	.999919	6.56379019501021

Data pooled for the years 2005 to 2020 for the solutions given below:

aeo2001.ran
hw2001.ran
lw2001.ran

SIM 2002

Endogenous Variable:
Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
Sector and Source: Residential: Electricity.....

Exogenous Variables:
1) Table #3 Energy Prices by Sector and Source (2000 Dollars per Million Btu, Unless Otherwise Noted)
Sector and Source: Residential.....: Electricity.....

2) Table #4 Residential Sector Key Indicators and Consumption (Quadrillion Btu per Year, Unless Otherwise Noted)
Key Indicators and Consumption: Households (millions): Total.....

3) Lagged Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
Sector and Source: Residential: Electricity.....

Exogenous Variable	Mean	Coefficient	Elasticity	t-statistic
Variable# 1	22.37988	-.004601	-.020096	-.58543
Variable# 2	118.7187	.005793	.134219	1.15589
Variable# 3	5.051901	.934784	.921631	11.83505
Constant		-.183206		

Endogenous Variable	Mean	SER	R-sq	LR-Multiplier
	5.123999	.010922	.999012	15.333660451423

Data pooled for the years 2005 to 2020 for the solutions given below:

aeo2002.ran
hw2002.ran
lw2002.ran

Endogenous Variable:
Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
Sector and Source: Residential: Distillate Fuel.....

Exogenous Variables:
1) Table #3 Energy Prices by Sector and Source (2000 Dollars per Million Btu, Unless Otherwise Noted)
Sector and Source: Residential.....: Distillate Fuel.....

2) Table #4 Residential Sector Key Indicators and Consumption (Quadrillion Btu per Year, Unless Otherwise Noted)
Key Indicators and Consumption: Households (millions): Total.....

3) Lagged Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
Sector and Source: Residential: Distillate Fuel.....

Exogenous Variable	Mean	Coefficient	Elasticity	t-statistic
Variable# 1	8.130342	-.005817	-.060964	-3.604103
Variable# 2	118.7187	.000179	.027393	.746702
Variable# 3	.7837595	.898518	.907773	22.710218
Constant		.097591		

Endogenous Variable	Mean	SER	R-sq	LR-Multiplier
	.7757692	.002572	.997945	9.85396424981771

Data pooled for the years 2005 to 2020 for the solutions given below:

aeo2002.ran
hw2002.ran
lw2002.ran

Endogenous Variable:
Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
Sector and Source: Residential: Natural Gas.....

Exogenous Variables:
1) Table #3 Energy Prices by Sector and Source (2000 Dollars per Million Btu, Unless Otherwise Noted)
Sector and Source: Residential.....: Natural Gas.....

2) Table #4 Residential Sector Key Indicators and Consumption (Quadrillion Btu per Year, Unless Otherwise Noted)
Key Indicators and Consumption: Households (millions): Total.....

3) Lagged Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
Sector and Source: Residential: Natural Gas.....

Exogenous Variable	Mean	Coefficient	Elasticity	t-statistic
Variable# 1	6.836926	-.052141	-.061443	-3.523338
Variable# 2	118.7187	.01344	.275011	5.335908
Variable# 3	5.764387	.695084	.690592	9.686584
Constant		.556051		

Endogenous Variable	Mean	SER	R-sq	LR-Multiplier
	5.801879	.013403	.995349	3.27959175641816

Data pooled for the years 2005 to 2020 for the solutions given below:

aeo2002.ran
hw2002.ran
lw2002.ran

Endogenous Variable:
Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
Sector and Source: Residential: Delivered Energy.....

Exogenous Variables:
1) Table #3 Energy Prices by Sector and Source (2000 Dollars per Million Btu, Unless Otherwise Noted)
Sector and Source: Residential.....:

2) Table #4 Residential Sector Key Indicators and Consumption (Quadrillion Btu per Year, Unless Otherwise Noted)
Key Indicators and Consumption: Households (millions): Total.....

3) Lagged Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
Sector and Source: Residential: Delivered Energy.....

Exogenous Variable	Mean	Coefficient	Elasticity	t-statistic
Variable# 1	13.63488	-.06115	-.065698	-2.318254
Variable# 2	118.7187	.02053	.19205	2.740098
Variable# 3	12.59112	.850182	.843493	11.430225
Constant		.382703		

Endogenous Variable	Mean	SER	R-sq	LR-Multiplier
	12.69097	.025864	.997391	6.67476538199682

Data pooled for the years 2005 to 2020 for the solutions given below:

aeo2002.ran
hw2002.ran
lw2002.ran

Endogenous Variable:
Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
Sector and Source: Commercial: Electricity.....

Exogenous Variables:
1) Table #3 Energy Prices by Sector and Source (2000 Dollars per Million Btu, Unless Otherwise Noted)
Sector and Source: Commercial.....: Electricity.....

2) Table #5 Commercial Sector Key Indicators and Consumption (Quadrillion Btu per Year, Unless Otherwise Noted)
Key Indicators and Consumption: Total Floorspace(bill. sq. ft.): Total.....

3) Lagged Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
Sector and Source: Commercial: Electricity.....

Exogenous Variable	Mean	Coefficient	Elasticity	t-statistic
Variable# 1	20.00858	-.014587	-.054912	-4.056096
Variable# 2	80.66354	.035461	.53816	3.845301
Variable# 3	5.202803	.618164	.605096	6.348971
Constant		-.469568		

Endogenous Variable	Mean	SER	R-sq	LR-Multiplier
	5.315162	.003862	.999949	2.61892540252883

Data pooled for the years 2005 to 2020 for the solutions given below:

aeo2002.ran
hw2002.ran
lw2002.ran

Endogenous Variable:
Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
Sector and Source: Commercial: Distillate Fuel.....

Exogenous Variables:
1) Table #3 Energy Prices by Sector and Source (2000 Dollars per Million Btu, Unless Otherwise Noted)
Sector and Source: Commercial.....: Distillate Fuel.....

2) Table #5 Commercial Sector Key Indicators and Consumption (Quadrillion Btu per Year, Unless Otherwise Noted)
Key Indicators and Consumption: Total Floorspace(bill. sq. ft.): Total.....

3) Lagged Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
Sector and Source: Commercial: Distillate Fuel.....

Exogenous Variable	Mean	Coefficient	Elasticity	t-statistic
Variable# 1	5.924942	-.003445	-.047536	-4.05724
Variable# 2	80.66354	.000084	.01578	1.083514
Variable# 3	.4280151	.953627	.950581	39.256325
Constant		.034856		

Endogenous Variable	Mean	SER	R-sq	LR-Multiplier
	.4293868	.001545	.998409	21.5642723136308

Data pooled for the years 2005 to 2020 for the solutions given below:

aeo2002.ran
hw2002.ran
lw2002.ran

Endogenous Variable:
Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
Sector and Source: Commercial: Natural Gas.....

Exogenous Variables:
1) Table #3 Energy Prices by Sector and Source (2000 Dollars per Million Btu, Unless Otherwise Noted)
Sector and Source: Commercial.....: Natural Gas .....

2) Table #5 Commercial Sector Key Indicators and Consumption (Quadrillion Btu per Year, Unless Otherwise Noted)
Key Indicators and Consumption: Total Floorspace(bill. sq. ft.): Total.....

3) Lagged Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
Sector and Source: Commercial: Natural Gas.....

Exogenous Variable	Mean	Coefficient	Elasticity	t-statistic
Variable# 1	5.645689	-.012344	-.016663	-2.415835
Variable# 2	80.66354	.007771	.149876	4.238905
Variable# 3	4.127263	.863678	.852298	22.313504
Constant		.0606		

Endogenous Variable	Mean	SER	R-sq	LR-Multiplier
	4.182372	.004843	.999688	7.33557312832851

Data pooled for the years 2005 to 2020 for the solutions given below:

aeo2002.ran
hw2002.ran
lw2002.ran

Endogenous Variable:
Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
Sector and Source: Commercial: Delivered Energy.....

Exogenous Variables:
1) Table #3 Energy Prices by Sector and Source (2000 Dollars per Million Btu, Unless Otherwise Noted)
Sector and Source: Commercial.....:

2) Table #5 Commercial Sector Key Indicators and Consumption (Quadrillion Btu per Year, Unless Otherwise Noted)
Key Indicators and Consumption: Total Floorspace(bill. sq. ft.): Total.....

3) Lagged Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
Sector and Source: Commercial: Delivered Energy.....

Exogenous Variable	Mean	Coefficient	Elasticity	t-statistic
Variable# 1	13.09364	-.052917	-.066927	-8.358418
Variable# 2	80.66354	.037582	.292822	7.579526
Variable# 3	10.18047	.756958	.744366	23.181707
Constant		.307872		

Endogenous Variable	Mean	SER	R-sq	LR-Multiplier
	10.35268	.004904	.999966	4.11451518667555

Data pooled for the years 2005 to 2020 for the solutions given below:

aeo2002.ran
hw2002.ran
lw2002.ran

SIM 2003

Endogenous Variable:
Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
Sector and Source: Residential: Electricity

Exogenous Variables:
1) Table #3 Energy Prices by Sector and Source (2001 Dollars per Million Btu, Unless Otherwise Noted)
Sector and Source: Residential: Electricity

2) Table #4 Residential Sector Key Indicators and Consumption (Quadrillion Btu per Year, Unless Otherwise Noted)
Key Indicators and Consumption: Households (millions): Total

3) Lagged Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
Sector and Source: Residential: Electricity

Exogenous Variable	Mean	Coefficient	Elasticity	t-statistic
Variable# 1	22.74567	-.015692	-.065799	-.745753
Variable# 2	126.0266	.003696	.085869	.562606
Variable# 3	5.355868	.95459	.942519	9.024617
Constant		.202936		

Endogenous Variable	Mean	SER	R-sq	LR-Multiplier
	5.424463	.012138	.998603	22.0215811495266

Data pooled for the years 2010 to 2025 for the solutions given below:

aeo2003.1105c.ran
hw2003.1105c.ran
lw2003.1105c.ran

Endogenous Variable:
Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
Sector and Source: Residential: Distillate Fuel

Exogenous Variables:
1) Table #3 Energy Prices by Sector and Source (2001 Dollars per Million Btu, Unless Otherwise Noted)
Sector and Source: Residential: Distillate Fuel

2) Table #4 Residential Sector Key Indicators and Consumption (Quadrillion Btu per Year, Unless Otherwise Noted)
Key Indicators and Consumption: Households (millions): Total

3) Lagged Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
Sector and Source: Residential: Distillate Fuel

Exogenous Variable	Mean	Coefficient	Elasticity	t-statistic
Variable# 1	8.642146	-.013196	-.134757	-4.822299
Variable# 2	126.0266	-.001137	-.16932	-3.383772
Variable# 3	.8528451	.680466	.685745	9.349976
Constant		.523281		

Endogenous Variable	Mean	SER	R-sq	LR-Multiplier
	.8462791	.00189	.998679	3.12955741798995

Data pooled for the years 2010 to 2025 for the solutions given below:

aeo2003.1105c.ran
hw2003.1105c.ran
lw2003.1105c.ran

Endogenous Variable:
Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
Sector and Source: Residential: Natural Gas

Exogenous Variables:
1) Table #3 Energy Prices by Sector and Source (2001 Dollars per Million Btu, Unless Otherwise Noted)
Sector and Source: Residential: Natural Gas

2) Table #4 Residential Sector Key Indicators and Consumption (Quadrillion Btu per Year, Unless Otherwise Noted)
Key Indicators and Consumption: Households (millions): Total

3) Lagged Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
Sector and Source: Residential: Natural Gas

Exogenous Variable	Mean	Coefficient	Elasticity	t-statistic
Variable# 1	7.677718	-.10314	-.131874	-4.299907
Variable# 2	126.0266	.008643	.181396	3.493068
Variable# 3	5.955038	.886612	.879263	16.439654
Constant		.427638		

Endogenous Variable	Mean	SER	R-sq	LR-Multiplier
	6.004814	.012549	.997488	8.81927540833245

Data pooled for the years 2010 to 2025 for the solutions given below:

aeo2003.1105c.ran
hw2003.1105c.ran
lw2003.1105c.ran

Endogenous Variable:
Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
   Sector and Source: Residential: Delivered Energy

Exogenous Variables:
1) Table #3 Energy Prices by Sector and Source (2001 Dollars per Million Btu, Unless Otherwise Noted)
     Sector and Source: Residential:

2) Table #4 Residential Sector Key Indicators and Consumption (Quadrillion Btu per Year, Unless Otherwise Noted)
     Key Indicators and Consumption: Households (millions):   Total

3) Lagged Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
     Sector and Source: Residential: Delivered Energy

Exogenous Variable	Mean	Coefficient	Elasticity	t-statistic
Variable# 1	14.35213	-.079905	-.086667	-2.204266
Variable# 2	126.0266	.020564	.195855	2.326246
Variable# 3	13.12178	.852455	.845337	11.004657
Constant		.601733		

Endogenous Variable	Mean	SER	R-sq	LR-Multiplier
	13.23226	.028354	.997258	6.77759327662747

Data pooled for the years 2010 to 2025 for the solutions given below:

aeo2003.1105c.ran
hw2003.1105c.ran
lw2003.1105c.ran

Endogenous Variable:
Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
Sector and Source: Commercial: Electricity

Exogenous Variables:
1) Table #3 Energy Prices by Sector and Source (2001 Dollars per Million Btu, Unless Otherwise Noted)
Sector and Source: Commercial: Electricity

2) Table #5 Commercial Sector Key Indicators and Consumption (Quadrillion Btu per Year, Unless Otherwise Noted)
Key Indicators and Consumption: Total Floorspace (billion squar: Total

3) Lagged Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
Sector and Source: Commercial: Electricity

Exogenous Variable	Mean	Coefficient	Elasticity	t-statistic
Variable# 1	20.52562	-.011978	-.041628	-3.582279
Variable# 2	91.41891	.007004	.108414	2.034158
Variable# 3	5.784889	.946289	.926874	26.189328
Constant		.037444		

Endogenous Variable	Mean	SER	R-sq	LR-Multiplier
	5.906064	.003075	.999973	18.6181601534137

Data pooled for the years 2010 to 2025 for the solutions given below:

aeo2003.1105c.ran
hw2003.1105c.ran
lw2003.1105c.ran

Endogenous Variable:
Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
Sector and Source: Commercial: Distillate Fuel

Exogenous Variables:
1) Table #3 Energy Prices by Sector and Source (2001 Dollars per Million Btu, Unless Otherwise Noted)
Sector and Source: Commercial: Distillate Fuel

2) Table #5 Commercial Sector Key Indicators and Consumption (Quadrillion Btu per Year, Unless Otherwise Noted)
Key Indicators and Consumption: Total Floorspace (billion squar: Total

3) Lagged Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
Sector and Source: Commercial: Distillate Fuel

Exogenous Variable	Mean	Coefficient	Elasticity	t-statistic
Variable# 1	6.387117	-.003843	-.049927	-3.832847
Variable# 2	91.41891	.000155	.028822	1.784021
Variable# 3	.4895346	.978561	.974379	47.761476
Constant		.022972		

Endogenous Variable	Mean	SER	R-sq	LR-Multiplier
	.4916354	.001607	.999197	46.6439666029199

Data pooled for the years 2010 to 2025 for the solutions given below:

aeo2003.1105c.ran
hw2003.1105c.ran
lw2003.1105c.ran

Endogenous Variable:
Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
Sector and Source: Commercial: Natural Gas

Exogenous Variables:
1) Table #3 Energy Prices by Sector and Source (2001 Dollars per Million Btu, Unless Otherwise Noted)
Sector and Source: Commercial: Natural Gas 3/

2) Table #5 Commercial Sector Key Indicators and Consumption (Quadrillion Btu per Year, Unless Otherwise Noted)
Key Indicators and Consumption: Total Floorspace (billion squar: Total

3) Lagged Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
Sector and Source: Commercial: Natural Gas

Exogenous Variable	Mean	Coefficient	Elasticity	t-statistic
Variable# 1	6.660522	-.040356	-.064691	-2.484945
Variable# 2	91.41891	.003063	.067392	2.225908
Variable# 3	4.10543	.976128	.964475	28.235647
Constant		.136381		

Endogenous Variable	Mean	SER	R-sq	LR-Multiplier
	4.155031	.008168	.998992	41.8900804289544

Data pooled for the years 2010 to 2025 for the solutions given below:

aeo2003.1105c.ran
hw2003.1105c.ran
lw2003.1105c.ran

Endogenous Variable:
Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
Sector and Source: Commercial: Delivered Energy

Exogenous Variables:
1) Table #3 Energy Prices by Sector and Source (2001 Dollars per Million Btu, Unless Otherwise Noted)
Sector and Source: Commercial:

2) Table #5 Commercial Sector Key Indicators and Consumption (Quadrillion Btu per Year, Unless Otherwise Noted)

Key Indicators and Consumption: Total Floorspace (billion squar: Total

3) Lagged Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
Sector and Source: Commercial: Delivered Energy

Exogenous Variable	Mean	Coefficient	Elasticity	t-statistic
Variable# 1	14.19268	-.066711	-.086404	-7.933514
Variable# 2	91.41891	.047226	.393995	9.492378
Variable# 3	10.78319	.705383	.694138	21.37572
Constant		-.018943		

Endogenous Variable	Mean	SER	R-sq	LR-Multiplier
	10.95788	.006205	.999948	3.39423726397323

Data pooled for the years 2010 to 2025 for the solutions given below:

aeo2003.1105c.ran
hw2003.1105c.ran
lw2003.1105c.ran

SIM 2004

Endogenous Variable:
Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
Sector and Source: Residential: Electricity

Exogenous Variables:
1) Table #3 Energy Prices by Sector and Source (2002 Dollars per Million Btu, Unless Otherwise Noted)
Sector and Source: Residential: Electricity

2) Table #4 Residential Sector Key Indicators and Consumption (Quadrillion Btu per Year, Unless Otherwise Noted)
Key Indicators and Consumption: Households (millions): Total

3) Lagged Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
Sector and Source: Residential: Electricity

Exogenous Variable	Mean	Coefficient	Elasticity	t-statistic
Variable# 1	23.51095	-.023956	-.103927	-3.398875
Variable# 2	129.0124	.029568	.703881	4.040232
Variable# 3	5.346181	.522888	.51582	4.422703
Constant		-.627428		

Endogenous Variable	Mean	SER	R-sq	LR-Multiplier
	5.419438	.009832	.999223	2.095943929308

Data pooled for the years 2010 to 2025 for the solutions given below:

aeo2004.1017e.ran
hw2004.1017b.ran
lw2004.1017b.ran

Endogenous Variable:
Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
Sector and Source: Residential: Distillate Fuel

Exogenous Variables:
1) Table #3 Energy Prices by Sector and Source (2002 Dollars per Million Btu, Unless Otherwise Noted)
Sector and Source: Residential: Distillate Fuel

2) Table #4 Residential Sector Key Indicators and Consumption (Quadrillion Btu per Year, Unless Otherwise Noted)
Key Indicators and Consumption: Households (millions): Total

3) Lagged Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
Sector and Source: Residential: Distillate Fuel

Exogenous Variable	Mean	Coefficient	Elasticity	t-statistic
Variable# 1	8.24441	-.008841	-.083955	-3.639155
Variable# 2	129.0124	-.001347	-.200163	-3.628075
Variable# 3	.876401	.781464	.788855	12.106694
Constant		.429982		

Endogenous Variable	Mean	SER	R-sq	LR-Multiplier
	.8681893	.001724	.999136	4.57590511403156

Data pooled for the years 2010 to 2025 for the solutions given below:

aeo2004.1017e.ran
hw2004.1017b.ran
lw2004.1017b.ran

Endogenous Variable:
Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
Sector and Source: Residential: Natural Gas

Exogenous Variables:
1) Table #3 Energy Prices by Sector and Source (2002 Dollars per Million Btu, Unless Otherwise Noted)
Sector and Source: Residential: Natural Gas

2) Table #4 Residential Sector Key Indicators and Consumption (Quadrillion Btu per Year, Unless Otherwise Noted)
Key Indicators and Consumption: Households (millions): Total

3) Lagged Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
Sector and Source: Residential: Natural Gas

Exogenous Variable	Mean	Coefficient	Elasticity	t-statistic
Variable# 1	8.11161	-.087804	-.119099	-7.175445
Variable# 2	129.0124	.022533	.486112	7.131728
Variable# 3	5.939222	.396011	.393299	4.619589
Constant		1.433377		

Endogenous Variable	Mean	SER	R-sq	LR-Multiplier
	5.980179	.012291	.996088	1.65565929180829

Data pooled for the years 2010 to 2025 for the solutions given below:

aeo2004.1017e.ran
hw2004.1017b.ran
lw2004.1017b.ran

Endogenous Variable:
Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
Sector and Source: Residential: Delivered Energy

Exogenous Variables:
1) Table #3 Energy Prices by Sector and Source (2002 Dollars per Million Btu, Unless Otherwise Noted)
Sector and Source: Residential:

2) Table #4 Residential Sector Key Indicators and Consumption (Quadrillion Btu per Year, Unless Otherwise Noted)
Key Indicators and Consumption: Households (millions): Total

3) Lagged Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
Sector and Source: Residential: Delivered Energy

Exogenous Variable	Mean	Coefficient	Elasticity	t-statistic
Variable# 1	14.82582	-.188492	-.208752	-7.125022
Variable# 2	129.0124	.069172	.666623	6.934464
Variable# 3	13.27687	.344482	.341649	3.645305
Constant		2.683814		

Endogenous Variable	Mean	SER	R-sq	LR-Multiplier
	13.38696	.022193	.998307	1.52551112250159

Data pooled for the years 2010 to 2025 for the solutions given below:

aeo2004.1017e.ran
hw2004.1017b.ran
lw2004.1017b.ran

Endogenous Variable:
Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
Sector and Source: Commercial: Electricity

Exogenous Variables:
1) Table #3 Energy Prices by Sector and Source (2002 Dollars per Million Btu, Unless Otherwise Noted)
Sector and Source: Commercial: Electricity

2) Table #5 Commercial Sector Key Indicators and Consumption (Quadrillion Btu per Year, Unless Otherwise Noted)
Key Indicators and Consumption: Total Floorspace (billion squar: Total

3) Lagged Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
Sector and Source: Commercial: Electricity

Exogenous Variable	Mean	Coefficient	Elasticity	t-statistic
Variable# 1	20.83341	-.01342	-.047	-4.472095
Variable# 2	92.87354	.0448	.699452	4.600791
Variable# 3	5.828291	.55835	.547061	5.792464
Constant		-1.186811		

Endogenous Variable	Mean	SER	R-sq	LR-Multiplier
	5.948566	.005931	.999894	2.26423638627873

Data pooled for the years 2010 to 2025 for the solutions given below:

aeo2004.1017e.ran
hw2004.1017b.ran
lw2004.1017b.ran

Endogenous Variable:
Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
Sector and Source: Commercial: Distillate Fuel

Exogenous Variables:
1) Table #3 Energy Prices by Sector and Source (2002 Dollars per Million Btu, Unless Otherwise Noted)
Sector and Source: Commercial: Distillate Fuel

2) Table #5 Commercial Sector Key Indicators and Consumption (Quadrillion Btu per Year, Unless Otherwise Noted)
Key Indicators and Consumption: Total Floorspace (billion squar: Total

3) Lagged Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
Sector and Source: Commercial: Distillate Fuel

Exogenous Variable	Mean	Coefficient	Elasticity	t-statistic
Variable# 1	5.847913	-.004418	-.039073	-7.567993
Variable# 2	92.87354	.000131	.0184	2.20219
Variable# 3	.655867	.988937	.980913	117.879287
Constant		.026291		

Endogenous Variable	Mean	SER	R-sq	LR-Multiplier
	.6612324	.001007	.99987	90.3913947392205

Data pooled for the years 2010 to 2025 for the solutions given below:

aeo2004.1017e.ran
hw2004.1017b.ran
lw2004.1017b.ran

Endogenous Variable:
Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
   Sector and Source: Commercial: Natural Gas

Exogenous Variables:
1) Table #3 Energy Prices by Sector and Source (2002 Dollars per Million Btu, Unless Otherwise Noted)
     Sector and Source: Commercial: Natural Gas

2) Table #5 Commercial Sector Key Indicators and Consumption (Quadrillion Btu per Year, Unless Otherwise Noted)
     Key Indicators and Consumption: Total Floorspace (billion squar: Total

3) Lagged Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
     Sector and Source: Commercial: Natural Gas

Exogenous Variable	Mean	Coefficient	Elasticity	t-statistic
Variable# 1	7.155451	-.01679	-.031134	-1.814278
Variable# 2	92.87354	-.001089	-.02621	-.562377
Variable# 3	3.817539	1.054199	1.04293	17.478021
Constant		.05562		

Endogenous Variable	Mean	SER	R-sq	LR-Multiplier
	3.858786	.012232	.996006	-18.4505249174339

Data pooled for the years 2010 to 2025 for the solutions given below:

aeo2004.1017e.ran
hw2004.1017b.ran
lw2004.1017b.ran

Endogenous Variable:
Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
Sector and Source: Commercial: Delivered Energy

Exogenous Variables:
1) Table #3 Energy Prices by Sector and Source (2002 Dollars per Million Btu, Unless Otherwise Noted)
Sector and Source: Commercial:

2) Table #5 Commercial Sector Key Indicators and Consumption (Quadrillion Btu per Year, Unless Otherwise Noted)

Key Indicators and Consumption: Total Floorspace (billion squar: Total

3) Lagged Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
Sector and Source: Commercial: Delivered Energy

Exogenous Variable	Mean	Coefficient	Elasticity	t-statistic
Variable# 1	14.53458	-.096924	-.128464	-7.901317
Variable# 2	92.87354	.085144	.721098	7.469882
Variable# 3	10.79853	.432373	.425767	5.638684
Constant		-.201783		

Endogenous Variable	Mean	SER	R-sq	LR-Multiplier
	10.96608	.010767	.999819	1.76172028462353

Data pooled for the years 2010 to 2025 for the solutions given below:

aeo2004.1017e.ran
hw2004.1017b.ran
lw2004.1017b.ran

SIM 2005

Endogenous Variable:
Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
Sector and Source: Residential: Electricity

Exogenous Variables:
1) Table #3 Energy Prices by Sector and Source (2003 Dollars per Million Btu, Unless Otherwise Noted)
Sector and Source: Residential: Electricity

2) Table #4 Residential Sector Key Indicators and Consumption (Quadrillion Btu per Year, Unless Otherwise Noted)
Key Indicators and Consumption: Households (millions): Total

3) Lagged Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
Sector and Source: Residential: Electricity

Exogenous Variable	Mean	Coefficient	Elasticity	t-statistic
Variable# 1	23.68877	-.052139	-.220706	-6.760593
Variable# 2	132.3753	.05323	1.259134	7.159108
Variable# 3	5.518173	.113159	.111582	.900728
Constant		-.839484		

Endogenous Variable	Mean	SER	R-sq	LR-Multiplier
	5.596174	.00735	.999603	1.12759784448396

Data pooled for the years 2010 to 2025 for the solutions given below:

aeo2005.1020a.ran
hw2005.1020a.ran
lw2005.1020a.ran

Endogenous Variable:
Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
Sector and Source: Residential: Distillate Fuel

Exogenous Variables:
1) Table #3 Energy Prices by Sector and Source (2003 Dollars per Million Btu, Unless Otherwise Noted)
Sector and Source: Residential: Distillate Fuel

2) Table #4 Residential Sector Key Indicators and Consumption (Quadrillion Btu per Year, Unless Otherwise Noted)
Key Indicators and Consumption: Households (millions): Total

3) Lagged Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
Sector and Source: Residential: Distillate Fuel

Exogenous Variable	Mean	Coefficient	Elasticity	t-statistic
Variable# 1	8.848448	-.004285	-.045663	-2.776468
Variable# 2	132.3753	-.000768	-.122438	-5.19776
Variable# 3	.8387908	.956133	.96587	30.978624
Constant		.167919		

Endogenous Variable	Mean	SER	R-sq	LR-Multiplier
	.8303348	.002414	.99869	22.7961793603392

Data pooled for the years 2010 to 2025 for the solutions given below:

aeo2005.1020a.ran
hw2005.1020a.ran
lw2005.1020a.ran

Endogenous Variable:
Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
Sector and Source: Residential: Natural Gas

Exogenous Variables:
1) Table #3 Energy Prices by Sector and Source (2003 Dollars per Million Btu, Unless Otherwise Noted)
Sector and Source: Residential: Natural Gas

2) Table #4 Residential Sector Key Indicators and Consumption (Quadrillion Btu per Year, Unless Otherwise Noted)
Key Indicators and Consumption: Households (millions): Total

3) Lagged Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
Sector and Source: Residential: Natural Gas

Exogenous Variable	Mean	Coefficient	Elasticity	t-statistic
Variable# 1	8.357146	-.08092	-.113273	-4.123961
Variable# 2	132.3753	.015693	.347956	7.672975
Variable# 3	5.933815	.46417	.461342	10.253798
Constant		1.814785		

Endogenous Variable	Mean	SER	R-sq	LR-Multiplier
	5.970189	.010554	.994363	1.86626355373906

Data pooled for the years 2010 to 2025 for the solutions given below:

aeo2005.1020a.ran
hw2005.1020a.ran
lw2005.1020a.ran

Endogenous Variable:
Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
Sector and Source: Residential: Delivered Energy

Exogenous Variables:
1) Table #3 Energy Prices by Sector and Source (2003 Dollars per Million Btu, Unless Otherwise Noted)
Sector and Source: Residential:

2) Table #4 Residential Sector Key Indicators and Consumption (Quadrillion Btu per Year, Unless Otherwise Noted)
Key Indicators and Consumption: Households (millions): Total

3) Lagged Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
Sector and Source: Residential: Delivered Energy

Exogenous Variable	Mean	Coefficient	Elasticity	t-statistic
Variable# 1	15.23075	-.17981	-.202845	-7.46033
Variable# 2	132.3753	.049467	.48501	7.464195
Variable# 3	13.39005	.529137	.524782	8.853291
Constant		2.606441		

Endogenous Variable	Mean	SER	R-sq	LR-Multiplier
	13.50118	.022216	.997987	2.12375998963605

Data pooled for the years 2010 to 2025 for the solutions given below:

aeo2005.1020a.ran
hw2005.1020a.ran
lw2005.1020a.ran

Endogenous Variable:
Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
Sector and Source: Commercial: Electricity

Exogenous Variables:
1) Table #3 Energy Prices by Sector and Source (2003 Dollars per Million Btu, Unless Otherwise Noted)
Sector and Source: Commercial: Electricity

2) Table #5 Commercial Sector Key Indicators and Consumption (Quadrillion Btu per Year, Unless Otherwise Noted)
Key Indicators and Consumption: Total Floorspace (billion squar: Total

3) Lagged Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
Sector and Source: Commercial: Electricity

Exogenous Variable	Mean	Coefficient	Elasticity	t-statistic
Variable# 1	21.38879	-.024277	-.086415	-19.830526
Variable# 2	92.4819	.055359	.852024	14.226833
Variable# 3	5.86759	.420898	.411001	9.747988
Constant		-1.06123		

Endogenous Variable	Mean	SER	R-sq	LR-Multiplier
	6.008877	.002046	.999991	1.72681151161626

Data pooled for the years 2010 to 2025 for the solutions given below:

aeo2005.1020a.ran
hw2005.1020a.ran
lw2005.1020a.ran

Endogenous Variable:
Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
Sector and Source: Commercial: Distillate Fuel

Exogenous Variables:
1) Table #3 Energy Prices by Sector and Source (2003 Dollars per Million Btu, Unless Otherwise Noted)
Sector and Source: Commercial: Distillate Fuel

2) Table #5 Commercial Sector Key Indicators and Consumption (Quadrillion Btu per Year, Unless Otherwise Noted)
Key Indicators and Consumption: Total Floorspace (billion squar: Total

3) Lagged Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
Sector and Source: Commercial: Distillate Fuel

Exogenous Variable	Mean	Coefficient	Elasticity	t-statistic
Variable# 1	6.857437	-.003577	-.036482	-6.019866
Variable# 2	92.4819	.000176	.024208	2.031103
Variable# 3	.6628673	.991352	.977354	83.165146
Constant		.023479		

Endogenous Variable	Mean	SER	R-sq	LR-Multiplier
	.6723611	.00096	.999812	115.63367252544

Data pooled for the years 2010 to 2025 for the solutions given below:

aeo2005.1020a.ran
hw2005.1020a.ran
lw2005.1020a.ran

Endogenous Variable:
Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
Sector and Source: Commercial: Natural Gas

Exogenous Variables:
1) Table #3 Energy Prices by Sector and Source (2003 Dollars per Million Btu, Unless Otherwise Noted)
Sector and Source: Commercial: Natural Gas

2) Table #5 Commercial Sector Key Indicators and Consumption (Quadrillion Btu per Year, Unless Otherwise Noted)
Key Indicators and Consumption: Total Floorspace (billion squar: Total

3) Lagged Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
Sector and Source: Commercial: Natural Gas

Exogenous Variable	Mean	Coefficient	Elasticity	t-statistic
Variable# 1	7.411898	-.052953	-.102625	-3.073019
Variable# 2	92.4819	.002731	.066041	1.870836
Variable# 3	3.776856	1.00209	.989625	19.035342
Constant		.179591		

Endogenous Variable	Mean	SER	R-sq	LR-Multiplier
	3.824427	.008071	.998641	-478.468899521548

Data pooled for the years 2010 to 2025 for the solutions given below:

aeo2005.1020a.ran
hw2005.1020a.ran
lw2005.1020a.ran

Endogenous Variable:
Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
Sector and Source: Commercial: Delivered Energy

Exogenous Variables:
1) Table #3 Energy Prices by Sector and Source (2003 Dollars per Million Btu, Unless Otherwise Noted)
Sector and Source: Commercial:

2) Table #5 Commercial Sector Key Indicators and Consumption (Quadrillion Btu per Year, Unless Otherwise Noted)

Key Indicators and Consumption: Total Floorspace (billion squar: Total

3) Lagged Table #2 Energy Consumption by Sector and Source (Quadrillion Btu per Year, Unless Otherwise Noted)
Sector and Source: Commercial: Delivered Energy

Exogenous Variable	Mean	Coefficient	Elasticity	t-statistic
Variable# 1	15.11089	-.080856	-.111741	-24.872186
Variable# 2	92.4819	.068863	.582443	22.090886
Variable# 3	10.73524	.526733	.517146	22.817446
Constant		.132877		

Endogenous Variable	Mean	SER	R-sq	LR-Multiplier
	10.93426	.003947	.999983	2.11297217004355

Data pooled for the years 2010 to 2025 for the solutions given below:

aeo2005.1020a.ran
hw2005.1020a.ran
lw2005.1020a.ran

SIM 2005

Endogenous Variable:
Table #2 Energy Consumption by Sector and Source (quadrillion Btu, unless otherwise noted)
  Sector and Source: Residential: Electricity

Exogenous Variables:
1) Table #3 Energy Prices by Sector and Source (2004 dollars per million Btu, unless otherwise noted)
    Sector and Source: Residential: Electricity

2) Table #4 Residential Sector Key Indicators and Consumption (quadrillion Btu, unless otherwise noted)
    Key Indicators and Consumption: Households (millions): Total

3) Lagged Table #2 Energy Consumption by Sector and Source (quadrillion Btu, unless otherwise noted)
    Sector and Source: Residential: Electricity

Exogenous Variable	Mean	Coefficient	Elasticity	t-statistic
Variable# 1	24.60478	-.006958	-.029819	-2.694657
Variable# 2	136.7825	.020325	.484221	3.446059
Variable# 3	5.66647	.626343	.618169	5.901536
Constant		-.416664		

Endogenous Variable	Mean	SER	R-sq	LR-Multiplier
	5.741395	.01037	.9995	2.67625121434899

Data pooled for the years 2010 to 2030 for the solutions given below:

aeo2006.1119a.ran
lp2006.1201a.ran
hp2006.1130a.ran

Endogenous Variable:
Table #2 Energy Consumption by Sector and Source (quadrillion Btu, unless otherwise noted)
  Sector and Source: Residential: Distillate Fuel

Exogenous Variables:
1) Table #3 Energy Prices by Sector and Source (2004 dollars per million Btu, unless otherwise noted)
    Sector and Source: Residential: Distillate Fuel

2) Table #4 Residential Sector Key Indicators and Consumption (quadrillion Btu, unless otherwise noted)
    Key Indicators and Consumption: Households (millions):   Total

3) Lagged Table #2 Energy Consumption by Sector and Source (quadrillion Btu, unless otherwise noted)
    Sector and Source: Residential: Distillate Fuel

Exogenous Variable	Mean	Coefficient	Elasticity	t-statistic
Variable# 1	14.65914	-.002743	-.055598	-6.925687
Variable# 2	136.7825	-.001398	-.264402	-6.473533
Variable# 3	.7341087	.831474	.843987	28.634632
Constant		.344265		

Endogenous Variable	Mean	SER	R-sq	LR-Multiplier
	.7232248	.002704	.999233	5.93380249931761

Data pooled for the years 2010 to 2030 for the solutions given below:

aeo2006.1119a.ran
lp2006.1201a.ran
hp2006.1130a.ran

Endogenous Variable:
Table #2 Energy Consumption by Sector and Source (quadrillion Btu, unless otherwise noted)
  Sector and Source: Residential: Natural Gas

Exogenous Variables:
1) Table #3 Energy Prices by Sector and Source (2004 dollars per million Btu, unless otherwise noted)
    Sector and Source: Residential: Natural Gas

2) Table #4 Residential Sector Key Indicators and Consumption (quadrillion Btu, unless otherwise noted)
    Key Indicators and Consumption: Households (millions):   Total

3) Lagged Table #2 Energy Consumption by Sector and Source (quadrillion Btu, unless otherwise noted)
    Sector and Source: Residential: Natural Gas

Exogenous Variable	Mean	Coefficient	Elasticity	t-statistic
Variable# 1	10.48804	-.038206	-.071172	-6.65557
Variable# 2	136.7825	.0095	.230802	5.535348
Variable# 3	5.604403	.521683	.519304	7.013688
Constant		1.807629		

Endogenous Variable	Mean	SER	R-sq	LR-Multiplier
	5.630079	.010706	.996102	2.09066372301214

Data pooled for the years 2010 to 2030 for the solutions given below:

aeo2006.1119a.ran
lp2006.1201a.ran
hp2006.1130a.ran

Endogenous Variable:
Table #2 Energy Consumption by Sector and Source (quadrillion Btu, unless otherwise noted)
  Sector and Source: Residential: Delivered Energy

Exogenous Variables:
1) Table #3 Energy Prices by Sector and Source (2004 dollars per million Btu, unless otherwise noted)
    Sector and Source: Residential:

2) Table #4 Residential Sector Key Indicators and Consumption (quadrillion Btu, unless otherwise noted)
    Key Indicators and Consumption: Households (millions):   Total

3) Lagged Table #2 Energy Consumption by Sector and Source (quadrillion Btu, unless otherwise noted)
    Sector and Source: Residential: Delivered Energy

Exogenous Variable	Mean	Coefficient	Elasticity	t-statistic
Variable# 1	17.53981	-.076488	-.101498	-7.444601
Variable# 2	136.7825	.040215	.416156	6.718717
Variable# 3	13.1261	.44458	.441493	5.65673
Constant		3.223168		

Endogenous Variable	Mean	SER	R-sq	LR-Multiplier
	13.2179	.02126	.998701	1.80043930719095

Data pooled for the years 2010 to 2030 for the solutions given below:

aeo2006.1119a.ran
lp2006.1201a.ran
hp2006.1130a.ran

Endogenous Variable:
Table #2 Energy Consumption by Sector and Source (quadrillion Btu, unless otherwise noted)
  Sector and Source: Commercial: Electricity

Exogenous Variables:
1) Table #3 Energy Prices by Sector and Source (2004 dollars per million Btu, unless otherwise noted)

    Sector and Source: Commercial: Electricity

2) Table #5 Commercial Sector Key Indicators and Consumption (quadrillion Btu, unless otherwise noted)
    Key Indicators and Consumption: Total Floorspace (billion squar: Total

3) Lagged Table #2 Energy Consumption by Sector and Source (quadrillion Btu, unless otherwise noted)
    Sector and Source: Commercial: Electricity

Exogenous Variable	Mean	Coefficient	Elasticity	t-statistic
Variable# 1	22.22391	-.009262	-.034084	-4.872706
Variable# 2	96.36313	.014725	.234957	3.623999
Variable# 3	5.917107	.837158	.820237	16.940547
Constant		-.127491		

Endogenous Variable	Mean	SER	R-sq	LR-Multiplier
	6.039172	.005435	.99995	6.1409218751919

Data pooled for the years 2010 to 2030 for the solutions given below:

aeo2006.1119a.ran
lp2006.1201a.ran
hp2006.1130a.ran

Endogenous Variable:
Table #2 Energy Consumption by Sector and Source (quadrillion Btu, unless otherwise noted)
  Sector and Source: Commercial: Distillate Fuel

Exogenous Variables:
1) Table #3 Energy Prices by Sector and Source (2004 dollars per million Btu, unless otherwise noted)
    Sector and Source: Commercial: Distillate Fuel

2) Table #5 Commercial Sector Key Indicators and Consumption (quadrillion Btu, unless otherwise noted)
    Key Indicators and Consumption: Total Floorspace (billion squar: Total

3) Lagged Table #2 Energy Consumption by Sector and Source (quadrillion Btu, unless otherwise noted)
    Sector and Source: Commercial: Distillate Fuel

Exogenous Variable	Mean	Coefficient	Elasticity	t-statistic
Variable# 1	11.78651	-.000623	-.014691	-1.960889
Variable# 2	96.36313	.000068	.01311	1.001436
Variable# 3	.497329	.984093	.979195	36.436526
Constant		.011189		

Endogenous Variable	Mean	SER	R-sq	LR-Multiplier
	.4998165	.001914	.998388	62.8654051675363

Data pooled for the years 2010 to 2030 for the solutions given below:

aeo2006.1119a.ran
lp2006.1201a.ran
hp2006.1130a.ran

Endogenous Variable:
Table #2 Energy Consumption by Sector and Source (quadrillion Btu, unless otherwise noted)
  Sector and Source: Commercial: Natural Gas

Exogenous Variables:
1) Table #3 Energy Prices by Sector and Source (2004 dollars per million Btu, unless otherwise noted)

    Sector and Source: Commercial: Natural Gas

2) Table #5 Commercial Sector Key Indicators and Consumption (quadrillion Btu, unless otherwise noted)
    Key Indicators and Consumption: Total Floorspace (billion squar: Total

3) Lagged Table #2 Energy Consumption by Sector and Source (quadrillion Btu, unless otherwise noted)
    Sector and Source: Commercial: Natural Gas

Exogenous Variable	Mean	Coefficient	Elasticity	t-statistic
Variable# 1	8.681615	-.050507	-.119741	-26.351684
Variable# 2	96.36313	.013844	.364304	22.891948
Variable# 3	3.615881	.577576	.570315	32.473105
Constant		.6779		

Endogenous Variable	Mean	SER	R-sq	LR-Multiplier
	3.661915	.002521	.999932	2.36728973732553

Data pooled for the years 2010 to 2030 for the solutions given below:

aeo2006.1119a.ran
lp2006.1201a.ran
hp2006.1130a.ran

Endogenous Variable:
Table #2 Energy Consumption by Sector and Source (quadrillion Btu, unless otherwise noted)
  Sector and Source: Commercial: Delivered Energy

Exogenous Variables:
1) Table #3 Energy Prices by Sector and Source (2004 dollars per million Btu, unless otherwise noted)
    Sector and Source: Commercial:

2) Table #5 Commercial Sector Key Indicators and Consumption (quadrillion Btu, unless otherwise noted)
    Key Indicators and Consumption: Total Floorspace (billion squar: Total

3) Lagged Table #2 Energy Consumption by Sector and Source (quadrillion Btu, unless otherwise noted)
    Sector and Source: Commercial: Delivered Energy

Exogenous Variable	Mean	Coefficient	Elasticity	t-statistic
Variable# 1	16.59582	-.054832	-.085302	-11.9072
Variable# 2	96.36313	.038048	.343691	10.494575
Variable# 3	10.49646	.696533	.685347	23.460296
Constant		.600212		

Endogenous Variable	Mean	SER	R-sq	LR-Multiplier
	10.66778	.00868	.999937	3.29525121347626

Data pooled for the years 2010 to 2030 for the solutions given below:

aeo2006.1119a.ran
lp2006.1201a.ran
hp2006.1130a.ran

SIM 2006 (pooled)

Endogenous Variable:
Table #2 Energy Consumption by Sector and Source (quadrillion Btu, unless otherwise noted)
  Sector and Source: Residential: Electricity

Exogenous Variables:
1) Table #3 Energy Prices by Sector and Source (2004 dollars per million Btu, unless otherwise noted)
    Sector and Source: Residential: Electricity

2) Table #4 Residential Sector Key Indicators and Consumption (quadrillion Btu, unless otherwise noted)
    Key Indicators and Consumption: Households (millions):   Total

3) Lagged Table #2 Energy Consumption by Sector and Source (quadrillion Btu, unless otherwise noted)
    Sector and Source: Residential: Electricity

Exogenous Variable	Mean	Coefficient	Elasticity	t-statistic
Variable# 1	31.07409	-.007849	-.043773	-18.356023
Variable# 2	136.7967	.01434	.352063	16.070923
Variable# 3	5.507634	.728676	.72027	41.635068
Constant		-.159136		

Endogenous Variable	Mean	SER	R-sq	LR-Multiplier
	5.571908	.014935	.998995	3.68563046394716

Data pooled for the years 2010 to 2030 for the solutions given below:

aeo2006.1119a.ran
hp2006.1130a.ran
lp2006.1201a.ran
dmdelec10.0214a.ran
dmdelec25.0214a.ran
dmdelec50.0214a.ran
dmdelec100.0214a.ran

Endogenous Variable:
Table #2 Energy Consumption by Sector and Source (quadrillion Btu, unless otherwise noted)
  Sector and Source: Residential: Distillate Fuel

Exogenous Variables:
1) Table #3 Energy Prices by Sector and Source (2004 dollars per million Btu, unless otherwise noted)
    Sector and Source: Residential: Distillate Fuel

2) Table #4 Residential Sector Key Indicators and Consumption (quadrillion Btu, unless otherwise noted)
    Key Indicators and Consumption: Households (millions):   Total

3) Lagged Table #2 Energy Consumption by Sector and Source (quadrillion Btu, unless otherwise noted)
    Sector and Source: Residential: Distillate Fuel

Exogenous Variable	Mean	Coefficient	Elasticity	t-statistic
Variable# 1	17.627	-.002374	-.060922	-9.950748
Variable# 2	136.7967	-.001315	-.26189	-7.052353
Variable# 3	.7000027	.825697	.84147	38.778208
Constant		.330625		

Endogenous Variable	Mean	SER	R-sq	LR-Multiplier
	.6868814	.004888	.997565	5.7371359070125

Data pooled for the years 2010 to 2030 for the solutions given below:

aeo2006.1119a.ran
hp2006.1130a.ran
lp2006.1201a.ran
dmddist10.0214a.ran
dmddist25.0214a.ran
dmddist50.0214a.ran
dmddist100.0214a.ran

Endogenous Variable:
Table #2 Energy Consumption by Sector and Source (quadrillion Btu, unless otherwise noted)
  Sector and Source: Residential: Natural Gas

Exogenous Variables:
1) Table #3 Energy Prices by Sector and Source (2004 dollars per million Btu, unless otherwise noted)
    Sector and Source: Residential: Natural Gas

2) Table #4 Residential Sector Key Indicators and Consumption (quadrillion Btu, unless otherwise noted)
    Key Indicators and Consumption: Households (millions):   Total

3) Lagged Table #2 Energy Consumption by Sector and Source (quadrillion Btu, unless otherwise noted)
    Sector and Source: Residential: Natural Gas

Exogenous Variable	Mean	Coefficient	Elasticity	t-statistic
Variable# 1	13.17709	-.029514	-.072036	-23.302918
Variable# 2	136.7967	.006288	.159328	19.043741
Variable# 3	5.386413	.659161	.65765	39.950062
Constant		1.377007		

Endogenous Variable	Mean	SER	R-sq	LR-Multiplier
	5.398789	.017292	.996891	2.93393655068815

Data pooled for the years 2010 to 2030 for the solutions given below:

aeo2006.1119a.ran
hp2006.1130a.ran
lp2006.1201a.ran
dmdngas10.0214a.ran
dmdngas25.0214a.ran
dmdngas50.0214a.ran
dmdngas100.0214a.ran

Endogenous Variable:
Table #2 Energy Consumption by Sector and Source (quadrillion Btu, unless otherwise noted)
  Sector and Source: Commercial: Electricity

Exogenous Variables:
1) Table #3 Energy Prices by Sector and Source (2004 dollars per million Btu, unless otherwise noted)
    Sector and Source: Commercial: Electricity

2) Table #5 Commercial Sector Key Indicators and Consumption (quadrillion Btu, unless otherwise noted)
    Key Indicators and Consumption: Total Floorspace (billion squar: Total

3) Lagged Table #2 Energy Consumption by Sector and Source (quadrillion Btu, unless otherwise noted)
    Sector and Source: Commercial: Electricity

Exogenous Variable	Mean	Coefficient	Elasticity	t-statistic
Variable# 1	28.04365	-.009441	-.045974	-17.916465
Variable# 2	96.39468	.012055	.201782	14.71582
Variable# 3	5.657222	.865934	.850647	77.700884
Constant		-.037173		

Endogenous Variable	Mean	SER	R-sq	LR-Multiplier
	5.758886	.018409	.999419	7.45901272507571

Data pooled for the years 2010 to 2030 for the solutions given below:

aeo2006.1119a.ran
hp2006.1130a.ran
lp2006.1201a.ran
dmdelec10.0214a.ran
dmdelec25.0214a.ran
dmdelec50.0214a.ran
dmdelec100.0214a.ran

Endogenous Variable:
Table #2 Energy Consumption by Sector and Source (quadrillion Btu, unless otherwise noted)
  Sector and Source: Commercial: Distillate Fuel

Exogenous Variables:
1) Table #3 Energy Prices by Sector and Source (2004 dollars per million Btu, unless otherwise noted)
    Sector and Source: Commercial: Distillate Fuel

2) Table #5 Commercial Sector Key Indicators and Consumption (quadrillion Btu, unless otherwise noted)
    Key Indicators and Consumption: Total Floorspace (billion squar: Total

3) Lagged Table #2 Energy Consumption by Sector and Source (quadrillion Btu, unless otherwise noted)
    Sector and Source: Commercial: Distillate Fuel

Exogenous Variable	Mean	Coefficient	Elasticity	t-statistic
Variable# 1	14.16885	-.001858	-.055081	-8.958078
Variable# 2	96.39468	.000484	.097616	9.336487
Variable# 3	.4768042	.83325	.831266	36.749283
Constant		.060316		

Endogenous Variable	Mean	SER	R-sq	LR-Multiplier
	.4779422	.003607	.992588	5.99700149925038

Data pooled for the years 2010 to 2030 for the solutions given below:

aeo2006.1119a.ran
hp2006.1130a.ran
lp2006.1201a.ran
dmddist10.0214a.ran
dmddist25.0214a.ran
dmddist50.0214a.ran
dmddist100.0214a.ran

Endogenous Variable:
Table #2 Energy Consumption by Sector and Source (quadrillion Btu, unless otherwise noted)
  Sector and Source: Commercial: Natural Gas

Exogenous Variables:
1) Table #3 Energy Prices by Sector and Source (2004 dollars per million Btu, unless otherwise noted)
    Sector and Source: Commercial: Natural Gas

2) Table #5 Commercial Sector Key Indicators and Consumption (quadrillion Btu, unless otherwise noted)
    Key Indicators and Consumption: Total Floorspace (billion squar: Total

3) Lagged Table #2 Energy Consumption by Sector and Source (quadrillion Btu, unless otherwise noted)
    Sector and Source: Commercial: Natural Gas

Exogenous Variable	Mean	Coefficient	Elasticity	t-statistic
Variable# 1	10.89905	-.028888	-.091263	-21.876783
Variable# 2	96.39468	.008777	.245237	19.590914
Variable# 3	3.416619	.718925	.711979	47.636551
Constant		.462455		

Endogenous Variable	Mean	SER	R-sq	LR-Multiplier
	3.449952	.016039	.998057	3.55776927866228

Data pooled for the years 2010 to 2030 for the solutions given below:

aeo2006.1119a.ran
hp2006.1130a.ran
lp2006.1201a.ran
dmdngas10.0214a.ran
dmdngas25.0214a.ran
dmdngas50.0214a.ran
dmdngas100.0214a.ran

SIM 2007

Endogenous Variable:
Table #2 Energy Consumption by Sector and Source (quadrillion Btu, unless otherwise noted)
  Sector and Source: Residential: Electricity

Exogenous Variables:
1) Table #3 Energy Prices by Sector and Source (2005 dollars per million Btu, unless otherwise noted)
    Sector and Source: Liquefied Petroleum Gases: Electricity

2) Table #4 Residential Sector Key Indicators and Consumption (quadrillion Btu, unless otherwise noted)
    Key Indicators and Consumption: Households (millions):   Total

3) Lagged Table #2 Energy Consumption by Sector and Source (quadrillion Btu, unless otherwise noted)
    Sector and Source: Residential: Electricity

Exogenous Variable	Mean	Coefficient	Elasticity	t-statistic
Variable# 1	26.38	-.015411	-.07028	-4.485495
Variable# 2	134.432	.032478	.754771	5.055295
Variable# 3	5.712966	.382446	.377707	3.183083
Constant		-.359795		

Endogenous Variable	Mean	SER	R-sq	LR-Multiplier
	5.784645	.010001	.99949	1.61929159231419

Data pooled for the years 2010 to 2030 for the solutions given below:

aeo2007.1121a.ran
hp2007.1121a.ran
lp2007.1121a.ran

Endogenous Variable:
Table #2 Energy Consumption by Sector and Source (quadrillion Btu, unless otherwise noted)
  Sector and Source: Residential: Distillate Fuel Oil

Exogenous Variables:
1) Table #3 Energy Prices by Sector and Source (2005 dollars per million Btu, unless otherwise noted)
    Sector and Source: Liquefied Petroleum Gases: Distillate Fuel Oil

2) Table #4 Residential Sector Key Indicators and Consumption (quadrillion Btu, unless otherwise noted)
    Key Indicators and Consumption: Households (millions):   Total

3) Lagged Table #2 Energy Consumption by Sector and Source (quadrillion Btu, unless otherwise noted)
    Sector and Source: Residential: Distillate Fuel Oil

Exogenous Variable	Mean	Coefficient	Elasticity	t-statistic
Variable# 1	13.76795	-.00565	-.092118	-13.610465
Variable# 2	134.432	-.001716	-.273177	-14.367002
Variable# 3	.851097	.726158	.731872	31.563184
Constant		.534896		

Endogenous Variable	Mean	SER	R-sq	LR-Multiplier
	.8444524	.002652	.999055	3.65174078483213

Data pooled for the years 2010 to 2030 for the solutions given below:

aeo2007.1121a.ran
hp2007.1121a.ran
lp2007.1121a.ran

Endogenous Variable:
Table #2 Energy Consumption by Sector and Source (quadrillion Btu, unless otherwise noted)
  Sector and Source: Residential: Natural Gas

Exogenous Variables:
1) Table #3 Energy Prices by Sector and Source (2005 dollars per million Btu, unless otherwise noted)
    Sector and Source: Liquefied Petroleum Gases: Natural Gas

2) Table #4 Residential Sector Key Indicators and Consumption (quadrillion Btu, unless otherwise noted)
    Key Indicators and Consumption: Households (millions):   Total

3) Lagged Table #2 Energy Consumption by Sector and Source (quadrillion Btu, unless otherwise noted)
    Sector and Source: Residential: Natural Gas

Exogenous Variable	Mean	Coefficient	Elasticity	t-statistic
Variable# 1	10.75439	-.041723	-.083212	-8.002029
Variable# 2	134.432	.005164	.12874	5.901539
Variable# 3	5.377107	.528158	.526668	8.842681
Constant		2.306859		

Endogenous Variable	Mean	SER	R-sq	LR-Multiplier
	5.392323	.009361	.992835	2.11935351240458

Data pooled for the years 2010 to 2030 for the solutions given below:

aeo2007.1121a.ran
hp2007.1121a.ran
lp2007.1121a.ran

Endogenous Variable:
Table #2 Energy Consumption by Sector and Source (quadrillion Btu, unless otherwise noted)
  Sector and Source: Residential: Delivered Energy

Exogenous Variables:
1) Table #1 Total Energy Supply and Disposition Summary (quadrillion Btu, unless otherwise noted)
    Supply, Disposition, and Prices: Prices (2005 dollars per unit): Imported Crude Oil Price ($ per

2) Table #4 Residential Sector Key Indicators and Consumption (quadrillion Btu, unless otherwise noted)
    Key Indicators and Consumption: Households (millions):   Total

3) Lagged Table #2 Energy Consumption by Sector and Source (quadrillion Btu, unless otherwise noted)
    Sector and Source: Residential: Delivered Energy

Exogenous Variable	Mean	Coefficient	Elasticity	t-statistic
Variable# 1	52.98807	-.001805	-.007298	-4.105232
Variable# 2	134.432	.01212	.12432	3.163721
Variable# 3	13.02371	.763397	.758613	12.453543
Constant		1.629914		

Endogenous Variable	Mean	SER	R-sq	LR-Multiplier
	13.10585	.026259	.997349	4.22648909777137

Data pooled for the years 2010 to 2030 for the solutions given below:

aeo2007.1121a.ran
hp2007.1121a.ran
lp2007.1121a.ran

Endogenous Variable:
Table #2 Energy Consumption by Sector and Source (quadrillion Btu, unless otherwise noted)
  Sector and Source: Commercial: Electricity

Exogenous Variables:
1) Table #3 Energy Prices by Sector and Source (2005 dollars per million Btu, unless otherwise noted)
    Sector and Source: Distillate Fuel Oil: Electricity

2) Table #5 Commercial Sector Key Indicators and Consumption (quadrillion Btu, unless otherwise noted)
    Key Indicators and Consumption: Total Floorspace (billion squar: Total

3) Lagged Table #2 Energy Consumption by Sector and Source (quadrillion Btu, unless otherwise noted)
    Sector and Source: Commercial: Electricity

Exogenous Variable	Mean	Coefficient	Elasticity	t-statistic
Variable# 1	23.87357	-.010262	-.041997	-4.557163
Variable# 2	93.38322	.020996	.336104	4.14442
Variable# 3	5.721487	.759277	.744692	12.039618
Constant		-.226336		

Endogenous Variable	Mean	SER	R-sq	LR-Multiplier
	5.833541	.006442	.999915	4.15415228291439

Data pooled for the years 2010 to 2030 for the solutions given below:

aeo2007.1121a.ran
hp2007.1121a.ran
lp2007.1121a.ran

Endogenous Variable:
Table #2 Energy Consumption by Sector and Source (quadrillion Btu, unless otherwise noted)
  Sector and Source: Commercial: Distillate Fuel Oil

Exogenous Variables:
1) Table #3 Energy Prices by Sector and Source (2005 dollars per million Btu, unless otherwise noted)
    Sector and Source: Distillate Fuel Oil:

2) Table #5 Commercial Sector Key Indicators and Consumption (quadrillion Btu, unless otherwise noted)
    Key Indicators and Consumption: Total Floorspace (billion squar: Total

3) Lagged Table #2 Energy Consumption by Sector and Source (quadrillion Btu, unless otherwise noted)
    Sector and Source: Commercial: Distillate Fuel Oil

Exogenous Variable	Mean	Coefficient	Elasticity	t-statistic
Variable# 1	11.90756	-.000816	-.019637	-2.872986
Variable# 2	93.38322	-.000121	-.022835	-1.490085
Variable# 3	.4907975	.995873	.987775	49.006485
Constant		.027065		

Endogenous Variable	Mean	SER	R-sq	LR-Multiplier
	.494821	.003239	.997079	242.306760358614

Data pooled for the years 2010 to 2030 for the solutions given below:

aeo2007.1121a.ran
hp2007.1121a.ran
lp2007.1121a.ran

Endogenous Variable:
Table #2 Energy Consumption by Sector and Source (quadrillion Btu, unless otherwise noted)
  Sector and Source: Commercial: Natural Gas

Exogenous Variables:
1) Table #3 Energy Prices by Sector and Source (2005 dollars per million Btu, unless otherwise noted)
    Sector and Source: Distillate Fuel Oil: Natural Gas

2) Table #5 Commercial Sector Key Indicators and Consumption (quadrillion Btu, unless otherwise noted)
    Key Indicators and Consumption: Total Floorspace (billion squar: Total

3) Lagged Table #2 Energy Consumption by Sector and Source (quadrillion Btu, unless otherwise noted)
    Sector and Source: Commercial: Natural Gas

Exogenous Variable	Mean	Coefficient	Elasticity	t-statistic
Variable# 1	8.873294	-.054974	-.126794	-12.440242
Variable# 2	93.38322	.01755	.425991	11.381937
Variable# 3	3.796798	.51886	.512062	12.709685
Constant		.726122		

Endogenous Variable	Mean	SER	R-sq	LR-Multiplier
	3.847203	.006569	.999561	2.07839714012554

Data pooled for the years 2010 to 2030 for the solutions given below:

aeo2007.1121a.ran
hp2007.1121a.ran
lp2007.1121a.ran

Endogenous Variable:
Table #2 Energy Consumption by Sector and Source (quadrillion Btu, unless otherwise noted)
  Sector and Source: Commercial: Delivered Energy

Exogenous Variables:
1) Table #1 Total Energy Supply and Disposition Summary (quadrillion Btu, unless otherwise noted)
    Supply, Disposition, and Prices: Prices (2005 dollars per unit): Imported Crude Oil Price ($ per

2) Table #5 Commercial Sector Key Indicators and Consumption (quadrillion Btu, unless otherwise noted)
    Key Indicators and Consumption: Total Floorspace (billion squar: Total

3) Lagged Table #2 Energy Consumption by Sector and Source (quadrillion Btu, unless otherwise noted)
    Sector and Source: Commercial: Delivered Energy

Exogenous Variable	Mean	Coefficient	Elasticity	t-statistic
Variable# 1	52.98807	-.001832	-.009063	-5.265023
Variable# 2	93.38322	.021759	.189711	4.472976
Variable# 3	10.54343	.82605	.813153	20.437713
Constant		.066403		

Endogenous Variable	Mean	SER	R-sq	LR-Multiplier
	10.71066	.019392	.999654	5.74877838459327

Data pooled for the years 2010 to 2030 for the solutions given below:

aeo2007.1121a.ran
hp2007.1121a.ran
lp2007.1121a.ran