

**Abstracts for EIA's Fall 2008 Meeting
with the
ASA Committee on Energy Statistics**

1. Preliminary Results of Energy Consumer Price Index Research, Janice Lent, Statistics and Methods Group (SMG)

The Energy Information Administration (EIA) is researching estimation methods with the goal of developing an experimental Energy Consumer Price Index (ECPI), based almost entirely on EIA data. For some major energy sources, EIA collects universe or large-sample price and sales data, which can be used to compute price indexes with very low sampling error. Also, EIA's model-based projections of future energy prices and consumption levels can be used to develop CPI forecasts for some energy components. Because the experimental indexes are being computed in a research environment rather than in a large-scale production environment, the process of incorporating data from new energy surveys will be streamlined. In this paper, we provide background information and preliminary results of EIA's ECPI estimation research. We also discuss some producer price indexes that could be estimated using EIA data.

Questions for the Committee:

- 1) Given that our experimental ECPI closely tracks the energy component of the BLS CPI for the period examined, should EIA move forward to produce the ECPI on a regular basis?
- 2) Which of the producer price index targets discussed would be most relevant for policy makers and the general public?

2. Estimating Monthly Ethanol Consumption in the U.S., Carol Joyce Blumberg and Michael Conner, Office of Oil and Gas (OOG)

Presently, EIA has two methods of estimating ethanol consumption in the U.S. from published data. These are:

Method 1: Consumption is estimated using a Product Supplied formula of: Consumption for Ethanol = (Net Production for ethanol + Imports of ethanol) — (Stock Change in ethanol)

Method 2: Consumption for ethanol = .09·(Monthly-from-Weekly estimate of reformulated gasoline with alcohol production volume + Monthly-from-Weekly estimate of conventional gasoline with alcohol production volume)

A third method (Method 3) is available that uses unpublished data that are at a finer level than the published data.

Method 3: Consumption for ethanol = .09·(Monthly unpublished reformulated gasoline with alcohol production volume + Monthly unpublished conventional gasoline with alcohol production volume)

Method 2 uses a sample each week and does not include corrections by respondents after the data collection date, while Methods 1 and 3 are based on a census and allow for respondent corrections.

Using multiple linear regression, it was found that Method 1 and a variation on Method 3 give nearly identical estimates and that Method 2 produces biased estimates.

3. Time Limits For Protecting Company Level Data, Jacob Bournazian, SMG

EIA protects a majority of the survey information that it collects by using Exemption (4) four under section 552 of the Freedom of Information Act. Exemption four allows the government to withhold from release to the public certain documents in its possession if the information would likely cause substantial harm to a survey respondent's competitive position. This presentation will discuss how the passage of time affects the potential that a respondent may suffer competitive harm if EIA released historical company level data that was reported on an EIA survey. There will be a discussion on the factors to consider when assessing the risk of causing competitive harm from disclosing historical company level data. Feedback will be collected during the session on the factors that affect a company's competitive position in an energy market and whether releasing historical company level survey data may cause competitive harm.

QUESTIONS FOR THE COMMITTEE

- 1) How does the age of the survey data affect the need to protect it?
- 2) Should time limits be considered for protecting company level data where EIA is not obligated by statute to protect it?
- 3) What economic factors should be considered when considering a time limit for protecting company level data?
- 4) What interrelationships between economic factors should be considered?
- 5) How may the interrelationship between economic factors that may exist in an energy market increase or decrease the risk of causing competitive harm to a survey respondent by releasing historical company level data?

4. Presentations By New Staff: Biofuel and Renewable Electricity Forecasting, Brian Murphy and Emre Yucel, Office of Integrated Analysis and Forecasting (OIAF)

A. Forecasting the Renewable Frontier, Brian Murphy, OIAF

Brian Murphy presents his work on improving our modeling work on international renewable energy sources. In the past, our long-term projections for the International Energy Outlook have aggregated hydroelectricity and all other marketed renewable energy sources. Brian is working on regional projections of individual renewable sources, including hydroelectricity, wind, solar,

and geothermal for use in our IEO2009. He presents his modeling approach and preliminary results of his effort. Brian presents the new “bottom-up” approach that is being used for renewable electricity in this year’s International Energy Outlook, and the challenges of building a model for an industry (renewables) shaped primarily by policy, not cost.

B. International Biofuels Supplies, Emre Yucel, OIAF

Emre Yucel presents his work on expanding our modeling work on international biofuels supplies. He is developing an approach for projecting long-term ethanol and biodiesel supplies based upon land resources and the costs of crops and fuels needed to produce the fuels. The model will be incorporated into the international modeling system that generates the long-term projections for liquids supplies for the International Energy Outlook 2009.

5. Subcommittee Meeting (Closed Session)

6. Sensitivity Analysis of EIA Forecasting Systems, Preston McDowney, SMG and George Lady, Consultant to SMG

This paper reports upon sensitivity analyses conducted with the National Energy Modeling System (NEMS) and the Regional Short Term Energy Model (RSTEM). Sensitivities were developed for NEMS consuming sector modules (residential, commercial, industrial, and transportation) using a regression analysis for data extracted from NEMS solutions for which energy prices and activity drivers were systematically varied. These results were reported to the ASA Committee in October 2007. For this report, sensitivities to weather were also investigated. Based upon the regressions and weather variable analyses, error decomposition was conducted for the *AEO1998-AEO2003* versions of NEMS with respect to projections for the year 2006 for residential and commercial sector electricity and natural gas consumption. A sensitivity analysis was conducted at the census region level of detail for price, driver, and weather variables for RSTEM forecasting equations for residential and commercial sector electricity and natural gas consumption. Similar sensitivities for were found for NEMS at the census region level of detail. These results are reported here for comparative purposes.

7. Assessment of the Regional Short Term Energy Model (RSTEM) Forecasts, Andrew J. Buck, Consultant to SMG

This paper reports on forecast analyses conducted with the Regional Short Term Energy Model (RSTEM). Forecasts were developed for consuming sectors (residential, commercial and industrial) using the October 2007 release of RSTEM. The forecasted fuels were natural gas, electricity, and distillate. For natural gas and electricity the forecasts were generated for the nine census regions. The commercial and industrial distillate forecasts for geographic regions were based on the set of fourteen areas created from the nine census regions. Residential distillate consumption forecasts were developed for four geographic aggregates of the nine census regions. For each fuel -- region doublet the October forecast was compared to the realized data reported in May 2008, using % error. The October model was rerun using the realized values for the

exogenous variables and the endogenous variable add factors. The % forecast error was again calculated. Finally, the October model was rerun using the realized values for the exogenous variables and no add factors for the endogenous variables. The % forecast error was again calculated.

8. Building a Useful Statistical Database From the Surface Transportation Board's Carload Waybill Sample, Vlad Dorjets, Office of Coal, Nuclear, Electric and Alternate Fuels, EIA

EIA recently obtained a database from the Surface Transportation Board with a statistical sample of all railroad waybills for movements of coal and other energy commodities throughout the country for 2000 – 2006. Vlad Dorjets will discuss the database's characteristics, the approach he and his office have taken to analyze it and the products they hope to create from it.

9. Results of 2008 EIA 30th Anniversary Energy Conference Survey, Howard Bradsher-Fredrick and Phillip Tseng, SMG and Michael Salpeter, Summer Intern

On April 7 – 8, 2008, EIA hosted an energy conference to commemorate and celebrate the thirtieth anniversary of its inception. The presenters included the current Secretary of Energy, the first secretary, representatives of Congress, former EIA administrators and other notable experts in the field of energy. A total of 1,559 persons registered for the conference and 1,150 persons attended the conference.

Shortly after the conclusion of the conference, a web-based survey was administered to all of the attendees (a total of 1,060) who provided usable e-mail addresses. This paper describes the survey methodology employed, the results and the final conclusions. A response rate of 41.5% was achieved through the use of three e-mailings (the original and two follow-ups). The survey included both closed-ended and open-ended questions. These results indicated that respondents were generally very favorable toward the conference and will be of value in planning the next EIA energy conference.