

March 22, 2011

## Equipment Price Forecasting: Notes and Errata

This document contains information providing clarification of and correcting errors to documents posted on the Supplemental Information and Data website ([http://www1.eere.energy.gov/buildings/appliance\\_standards/supplemental\\_info\\_equipment\\_price\\_forecasting.html](http://www1.eere.energy.gov/buildings/appliance_standards/supplemental_info_equipment_price_forecasting.html))

1. Correction to originally posted data: the original version of “Using the Experience Curve Approach for Appliance Price Forecasting” has been replaced with a new version that corrects an error in Figure 2 (p. 4). Specifically, the original figure erroneously showed the learning rate for computers as less than 0.1. This has been corrected to show the calculated value of 0.51.
2. Update to originally posted data: the original version of the “Producer Price Index Data for Relevant Products” Excel sheet has been replaced with a new version that includes data for computers and compact fluorescent lamps (CFLs).
3. Example of calculation results from the National Impact Analysis spreadsheets before and after application of the Equipment Price Forecasting method:

Based upon initial feedback received by DOE, some users have experienced difficulty in enabling the macros in the National Impact Analysis spreadsheets. In order to ensure that all users have an opportunity to observe and compare the results from the two models, DOE is providing an example from one case. Listed below are the results for Product Class 3 (Refrigerator-Freezers) at Trial Standard Level (TSL) 5, with and without application of Equipment Price Forecasting.

National Impact Summary	With EPF	Without EPF
Refrigerator/Freezer (Product Class 3) (Reference, 7% discount rate)		
Energy Savings Undiscounted (Cumulative to 2043)	3.066	3.066
Discounted Incremental Equipment Cost	18.243	23.085
Discounted Operating Cost Savings	13.700	13.700
Net Present Value	-4.543	-9.385

As is demonstrated in the table, the Energy Savings and Operating Cost Savings do not change with application of Equipment Price Forecasting, but the Equipment Cost does.

4. Clarification on data in posted documents:
  - a. DOE has received questions indicating that there may be confusion about differences between the historical data series in the Federal Register notice (Table 1) and the regression results in the “Using the Experience Curve Approach for Appliance Price Forecasting” paper (Figure B-2 for Refrigerators, and Figure B-3 for Freezers). As a point of clarification, the data in the documents were derived from different sources. The regression lines in the paper were based solely on PPI data. The data in the Federal Register notice were derived from a combination of Consumer Price Index (CPI) data and Producer Price Index (PPI) data to obtain a longer data series for the rulemaking than was possible using PPI alone. The National Impact Analysis (NIA) spreadsheets posted on the website use the CPI/PPI data from the Federal Register notice.
  - b. DOE has received questions indicating that it may be unclear as to why the paper “Using the Experience Curve Approach for Appliance Price Forecasting” has separate analysis for refrigerators and freezers, while the NODA has only a single analysis for both classes of products. This difference is due to the lack of product-specific data in the Consumer Price Index (CPI) data set used for the analysis in the NODA. As explained in item 4(a) above, the NODA used both CPI and PPI data in order to evaluate over a longer time period. Because the CPI data were only available in aggregate, DOE was unable to perform individual analysis for refrigerators and for freezers in the NODA analysis.
  - c. DOE has received questions indicating that there may be a lack of clarity as to how the price forecast is derived. The price forecast is based on the forecasted shipments produced as part of the regulatory analysis for a given product, which yields forecasted cumulative shipments. The shipment forecast is used directly in the experience curve equation, using the fitted “ $P_0$ ” and “ $b$ ” parameters from the historical data. Because the price trend is relative, it can be re-normalized to be 1.0 in the year of the analysis, or at the time the engineering costs were determined as part of the standards analysis.