

**REGULATORY IMPACT ANALYSIS FOR REFRIGERATED
BEVERAGE VENDING MACHINES**

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RIA.1 INTRODUCTION

Under the Process Rule, the U.S. Department of Energy (DOE) is committed to exploring non-regulatory alternatives to energy conservation standards. DOE will prepare a draft regulatory analysis under Executive Order 12866, "Regulatory Planning and Review," signed on September 30, 1993, which will be subject to review by the Office of Information and Regulatory Affairs. 58 FR 51735 (October 4, 1993).

DOE identified six major alternatives to energy conservation standards as feasible policy options to achieve commercial equipment energy efficiency. It will evaluate each alternative in terms of its ability to achieve significant energy savings at a reasonable cost, and will compare the effectiveness of each alternative to the effectiveness of the standard.

The non-regulatory means of achieving energy savings that DOE proposes to analyze are listed below. The Technical Support Document (TSD) in support of DOE's Notice of Proposed Rulemaking will include a complete quantitative analysis of each alternative, the methodology for which is discussed briefly below.

- no new regulatory action
- consumer tax credits
- manufacturer tax credits
- performance standards
- rebates
- voluntary energy efficiency targets
- early replacement
- bulk government purchases

RIA.2 METHODOLOGY

DOE will use the national energy savings (NES) spreadsheet model to calculate the NES and the net present value (NPV) corresponding to each alternative to the proposed standards. The NES spreadsheet model is discussed extensively in chapter 10 of the TSD. To compare each alternative quantitatively to proposed energy conservation standards, it will be necessary to quantify the effect of each alternative on the purchase and use of energy-efficient commercial equipment. Once each alternative is properly quantified, DOE will make the appropriate revisions to the inputs in the NES spreadsheet model. Key inputs that DOE may revise in the NES spreadsheet model are:

- energy prices and escalation factors;
- implicit market discount rates for trading off purchase price against operating expense when choosing equipment efficiency;
- customer purchase price, operating cost, and income elasticities;
- customer price versus efficiency relationships; and
- equipment stock data (purchase of new equipment or turnover rates for inventories).

The key measures of the impact of each alternative will be as listed below.

- Commercial energy use ($EJ = 10^{18}$ joule) is the cumulative energy use of the equipment from the effective date of the new standard to the year 2042. DOE will report electricity consumption as primary energy.
- National energy savings is the cumulative national energy use from the base case projection less the alternative policy case projection.
- Net present value is the value of future operating cost savings from refrigerated beverage vending machines bought in the period from the effective date of the new standard to the year 2042. DOE calculates the NPV as the difference between the present value of equipment and operating expenditures (including energy) in the base case, and the present value of expenditures in each alternative policy case. DOE discounts future operating and equipment expenditures to 2007 using a seven percent real discount rate. It calculates operating expenses (including energy consumption) for the life of the equipment.