

CHAPTER 14. EMPLOYMENT IMPACT ANALYSIS

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CHAPTER 14. EMPLOYMENT IMPACT ANALYSIS

14.1 INTRODUCTION

The Department intends the net national employment impact analysis to estimate national job creation or elimination resulting from possible standards, due to reallocation of the associated commercial expenditures for purchasing and operating equipment. The Department will estimate national impacts on major sectors of the U.S. economy, using publicly available data and incorporating different energy price scenarios to be conducted as part of the analysis for the Notice of Proposed Rulemaking (NOPR) analysis. The Department will make all methods and documentation available for review.

14.2 ASSUMPTIONS

The Department expects new commercial equipment standards to decrease energy consumption, and therefore to reduce commercial expenditures for energy. The savings in energy expenditures may be spent on new commercial investment and other items. The standards may increase the purchase price of commercial equipment, including the retail price plus sales tax, and increase installation costs.

Using an input/output model of the U.S. economy, this analysis seeks to estimate the year-to-year effect of these expenditure impacts on net economic output and employment. A simple model might involve reduced expenditures for energy and reallocation of that money toward other sectors in the economy. The Department intends this analysis to quantify the indirect employment impacts of these expenditure changes. It will evaluate direct employment impacts in the manufacturer impact analysis.

14.3 METHODOLOGY

The Department developed a spreadsheet model of the U.S. economy (IMBUILD) focusing on 35 sectors most relevant to industrial, commercial, and residential building energy use.¹ IMBUILD is a special-purpose version of the Impact Analysis for Planning (IMPLAN) national input-output model, which specifically estimates the employment and income effects of building energy technologies.² The IMPLAN model was developed originally by the U.S. Forest Service, in cooperation with the Federal Emergency Management Agency (FEMA) and the Bureau of Land Management (BLM), to assist the Forest Service in land and resource management planning. The IMBUILD software includes a PC-based input-output model with structural coefficients to characterize economic flows among the 35 sectors. The Department may use the IMBUILD model to estimate changes in employment, industry output, and wage income in the overall U.S. economy resulting from changes in expenditures in the various sectors of the economy.

For example, commercial air-conditioning standards may reduce energy expenditures and increase equipment prices in the commercial sector. These expenditure changes are likely to reduce commercial and energy sector employment. At the same time, equipment standards may increase commercial sector investment, and increase employment in other sectors of the economy. The Department designed the net national employment impact analysis to estimate the year-to-year net employment effect of these different expenditure flows.

REFERENCES

1. Pacific Northwest National Laboratory, *ImBuild: Impact of Building Energy Efficiency Programs*, 1998. Richland, WA. Prepared for the U.S. Department of Energy under Contract DE-AC06-76RLO 1830.
2. Minnesota IMPLAN Group, Inc., *IMPLAN Professional: User's Guide, Analysis Guide, Data Guide*, 1997. Stillwater, MN.