Dollars from Sense

The Economic Benefits of Renewable Energy

Introduction

What is Renewable Energy?

Renewable energy sources are either continuously resupplied by the sun or tap inexhaustible resources, such as geothermal energy. In contrast, fossil fuels — oil, coal, and natural gas — form so slowly in comparison to our rate of energy use that we are essentially mining finite, nonrenewable resources and will eventually exhaust quality supplies.

The use of modern renewable energy technologies produces less pollution than burning fossil fuels — especially with respect to net emissions of greenhouse gases. Indigenous renewable energy resources also represent a secure and stable source of energy for our country and a potential source of jobs and economic development.

Renewable energy can be used in a variety of ways. This document focuses on the use of renewables (except hydropower) to generate electricity. Renewable transportation fuels and "direct use" applications — such as water and space heating with biomass, solar, or geothermal energy; and the mechanical pumping of water with wind energy — are not addressed in this document.

In some cases, the cost of electricity produced from renewable sources is approaching the cost of generating power from conventional sources, and each renewable energy technology is economically feasible in certain applications.

The Purpose of This Document

For decades, proponents of renewable energy technologies have focused on their *indirect* economic benefits, such as the reduced health and environmental restoration costs stemming from their lower environmental impact. These arguments have been acknowledged as legitimate, but have had little real effect on energy resource and policy decisions, partly because they are difficult to quantify.

This document illustrates the *direct* economic benefits, including job creation, of investing in renewable energy technologies. Examples are drawn from across the nation, showing the value of generating electricity from indigenous renewable resources in several regions. Each of the most promising renewable energy technologies is examined in turn, emphasizing the impact that individual projects have had on the state and the local community.

This document quotes actual employment numbers at existing facilities. Where available, total national employment for that sector of the renewables industry is also cited. There are few estimates of the potential for future job creation within any particular sector, due to the difficulty in making accurate projections.

Contents

"The fate of people on Earth depends on whether we can employ efficient and renewable energies. We need to lay big plans for small technologies."

— David Freeman, former head of the New York Power Authority, Tennessee Valley Authority, Sacramento Municipal Utility District, and the Lower Colorado River Authority, speaking at the World Renewable Energy Congress in June 1996

Importing Energy, Exporting Jobs 2

Electricity From Biomass 4

Wind Power 8

Photovoltaics: Electricity from Sunlight 12

Solar Thermal Electricity:
Power from the Sun's Heat 16

Geothermal Energy: Power from the Earth 18

For More Information 20

Glossary 21