

# Scenarios for a Clean Energy Future

Prepared by the Interlaboratory Working Group on Energy-Efficient and Clean Energy Technologies:

Oak Ridge National Laboratory\*  
Lawrence Berkeley National Laboratory\*  
National Renewable Energy Laboratory\*  
Argonne National Laboratory  
Pacific Northwest National Laboratory

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\*Coordinating laboratories



For more information contact:

Dr. Marilyn A. Brown, brownma@ornl.gov, 865-576-8150 (phone), 865-241-0112 (fax)

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## Recommended Citation:

Interlaboratory Working Group. 2000. *Scenarios for a Clean Energy Future* (Oak Ridge, TN: Oak Ridge National Laboratory and Berkeley, CA: Lawrence Berkeley National Laboratory), ORNL/CON-476 and LBNL-44029, November.

## PREFACE

This report, *Scenarios for a Clean Energy Future*, was commissioned by the U.S. Department of Energy's Office of Energy Efficiency and Renewable Energy. It was produced by the Interlaboratory Working Group, composed of scientists from Argonne National Laboratory, Lawrence Berkeley National Laboratory, the National Renewable Energy Laboratory, Oak Ridge National Laboratory, and Pacific Northwest National Laboratory. The report seeks to develop a better understanding of the potential for R&D programs and public policies to foster clean energy technology solutions to the energy and environmental challenges facing the nation. These challenges include global climate change, air pollution, oil dependence, and inefficiencies in the production and use of energy.

The study uses a scenario-based approach to examine alternative portfolios of public policies and technologies. The policies were selected by the authors through a dialogue with numerous representatives from the private sector, non-profit organizations, universities, and government. These policies range from expansions of long-existing programs to new policies, some of which are clearly controversial.

This study does not make policy recommendations. Rather, the purpose of the study is to better understand the costs and benefits of alternative sets of policies to accelerate clean energy technology solutions. Some of these policies are not the policies of the current Administration. In addition, the policies do not address the complete range of policy options. For example, the scenarios do not include international emissions trading which could be important to meeting possible carbon emission targets.

This study identifies the potential for impressive advances in the development and deployment of clean energy technologies without significant net economic impacts. Widespread use of these technologies would do much to cut U.S. greenhouse gas emissions. In reviewing the study's results, however, it is important to remember the imprecision of policy analysis; uncertainties derive from such diverse issues as the likely pace of technology advancements and the response of consumers to market-based incentives.

We believe this study will make a substantial contribution to developing a deeper understanding of the potential for clean energy technologies and policies to meet future energy and environmental goals and challenges. This study provides a foundation of analysis that can help the nation identify smart, sustainable energy policies and technologies.

The contributions to this study by multiple national laboratories, and industry and university participants and reviewers, are another example of the effective partnerships that the Department of Energy is fostering to advance the nation's energy and environmental agenda.



Dr. Marilyn A. Brown



Dr. Mark D. Levine



Walter D. Short

Co-chairs, Interlaboratory Working Group on  
Energy-Efficient and Clean Energy Technologies