

# Ending the Energy Stalemate

A Bipartisan Strategy to Meet America's Energy Challenges

National Commission on Energy Policy  
Recommendations on Energy Technology Innovation

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# National Commission on Energy Policy

- Launched in 2002 by charitable foundations
- 35 independent research analyses
- Final Report Issued December 2004

Overarching Goal: Ensuring ample, clean, reliable, and affordable energy for the 21<sup>st</sup> Century while responding to growing concerns about the nation's energy security and the risks of global climate change.

# The Commissioners

## **John Holdren (co-chair)**

Teresa and John Heinz Professor of Environmental Policy, Harvard University; Director of the Woods Hole Research Center

## **William K. Reilly (co-chair)**

Founding Partner, Aqua International Partners; former Administrator, U.S. Environmental Protection Agency

## **John W. Rowe (co-chair)**

Chairman and CEO, Exelon Corporation

## **Philip Sharp (congressional chair)**

President, Resources for the Future; Former Congressman, Indiana

## **Marilyn Brown**

Interim Director of Oak Ridge National Laboratory's Engineering Science and Technology Division

## **Ralph Cavanagh**

Co-Director, Energy Program, Natural Resource Defense Council

## **Rodney Ellis**

State Senator, Texas

## **Leo W. Gerard**

International President, United Steelworkers of America

## **Robert E. Grady**

Managing Partner, Carlyle Venture Partners, The Carlyle Group; former Executive Associate Director of the Office of Management and Budget (OMB)

## **F. Henry Habicht**

CEO, Global Environment & Technology Foundation; former Deputy Administrator of the U.S. Environmental Protection Agency

## **Frank Keating**

CEO of the American Council of Life Insurers; former governor of Oklahoma

## **Richard A. Meserve**

President of the Carnegie Institution; former Chairman of the U.S. Nuclear Regulatory Commission (NRC)

## **Mario Molina**

Professor, University of California, San Diego

## **Sharon L. Nelson**

Chief, Consumer Protection Division, Washington Attorney's General Office; Chair, Board of Directors, Consumers Union

## **Richard L. Schmalensee**

Professor of Economics and Management at the Massachusetts Institute of Technology (MIT) and the John C Head III Dean of the MIT Sloan School of Management

## **Susan Tierney**

Managing Principal, The Analysis Group; former Assistant Secretary of Energy

## **R. James Woolsey**

Vice President, Booz, Allen, Hamilton; former Director of Central Intelligence

## **Martin Zimmerman**

Clinical Professor of Business, Ross School of Business, University of Michigan; Group Vice President, Corporate Affairs, Ford Motor Company (2001 - 2004)



# Structure of the Commission's Report

- Improving Oil Security
- Reducing Risks from Climate Change
- Improving Energy Efficiency
- Expanding Energy Supplies
- Strengthening Energy Supply Infrastructure
- Developing Energy Technologies for the Future

# Reducing Risks from Climate Change

- Technology is the Answer.
- *The Question is who pays?*
  - Share Holders/Consumers (Mandates)?

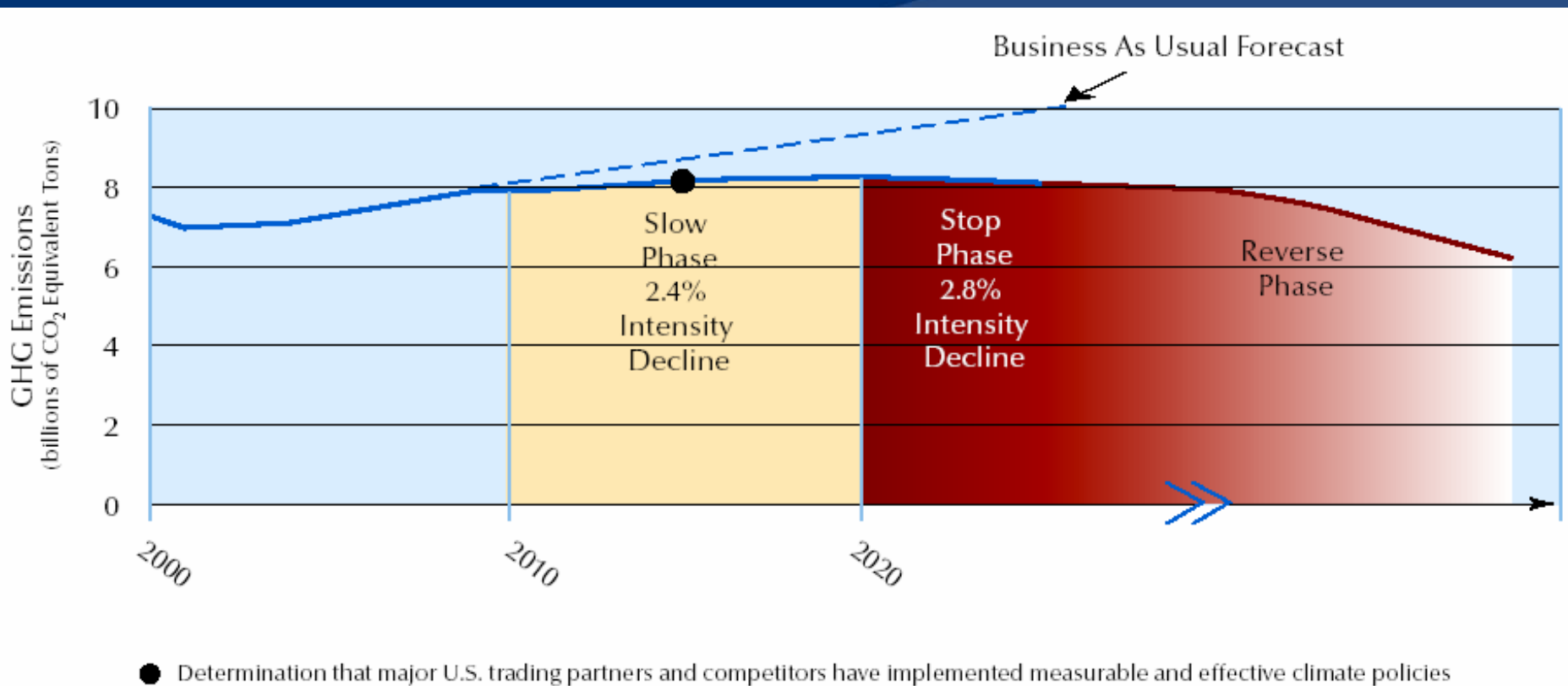
or

  - Tax Payers (Incentives) ?

*YES*

# Reducing Risks from Climate Change

The Commission's recommendation is to slow, stop, and eventually reverse U.S. greenhouse gas emissions.



# Reducing Risks from Climate Change

- Initiate in 2010 a mandatory, economy-wide, tradable-permits system to limit greenhouse gas emissions.
- Cap initial costs to the U.S. economy at \$7 per metric ton of CO<sub>2</sub>-equivalent via a “safety valve” mechanism. 5% nominal increase in cost cap annually.
- Link subsequent U.S. action with comparable efforts by other developed and developing nations via a program review in 2015 and every five years thereafter.

# Context for the Commission's Technology Policy Recommendations

- Private and public sector investments in energy innovation have been falling far short of what is likely to be needed.
- A \$7/ton CO<sub>2</sub> charge alone is inadequate.
- Energy technology innovation requires a reliable revenue stream and a reduction in Congressional earmarks.

# Technology Innovation Recommendations

- Double federal funding and improve management of research and development.
- Triple investment in cooperative international initiatives and improve coordination among relevant federal agencies.
- Provide support for demonstration or early deployment of coal gasification with sequestration, domestically produced efficient vehicles, alternative transportation fuels, and advanced nuclear reactors.

# Cleaner Coal Technology

- Accelerate commercialization of advanced coal technologies (e.g. IGCC) with \$4 billion over a decade in federal early deployment incentives.
- Speed the development and commercial-scale deployment of CO<sub>2</sub> capture and sequestration technologies with \$3 billion over a decade in federal support.

# Nuclear Energy Technologies

- Provide \$2 billion over ten years for 1-2 “first mover” advanced nuclear power plants to demonstrate improved safety and economics.
- Move expeditiously to establish a program for centralized, interim, engineered storage of spent fuel at two or more U.S. sites.
- Work to reduce links of nuclear energy to weapon proliferation

# Renewable Energy Technologies

- Accelerate development and deployment of non-petroleum transportation fuel alternatives, especially cellulosic ethanol and diesel from biomass and wastes, with \$1.5 billion over a decade in RD&D and early deployment incentives.
- Extend the renewable production tax credit through 2009 and expand eligibility to all non-carbon energy sources (total spending capped at \$4 billion).

# End-Use Efficiency Technologies

- Increase manufacturer & consumer incentives for more efficient vehicles from \$80 million per year in 2004 (consumers only) to \$300 million per year.
- Increase federal RD&D on efficiency improvements in buildings and appliances from \$60 million per year in 2004 to \$300 million per year.
- Increase federal RD&D on improved efficiency in industrial processes from \$93 million per year in 2004 to \$200 million per year.

# For More Information...

- Go to [www.energycommission.org](http://www.energycommission.org).
- In addition to final report, staff papers and independent research sponsored by Commission are collected in a 2,700 page technical appendix available on the website and CD-ROM.
- Economic analysis describing key assumptions and detailed modeling results for the Commission's greenhouse gas proposal is also available on the website and CD-ROM.
- Contact Commission staff directly at:  
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