Ending the Energy Stalemate

A Bipartisan Strategy
To Meet America's Energy Challenges

A KSG Forum Event on the Report of

The National Commission on Energy Policy

with

John P. Holdren, KSG, Commission Co-Chair

Philip R. Sharp, KSG, Commission Congressional Chair

Susan Tierney, The Analysis Group, Commissioner

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The National Commission on Energy Policy

- Launched in 2002, the Commission…
  - met a dozen times,
  - sponsored and digested some 35 background and research papers on key issues,
  - issued interim reports on natural gas and electricity-sector restructuring,
  - released its final report December 8, 2004.
- Cost was $10 million, principally from
  - the William and Flora Hewlett Foundation
  - with minority participation from MacArthur Foundation, Pew Charitable Trusts, Packard Foundation, Energy Foundation.

The bipartisan leadership of the commission

JOHN P. HOLDREN
Co-Chair
Teresa and John Heinz Professor of Environmental Policy, Harvard University

WILLIAM K. REILLY
Co-Chair
Founding Partner, Aqua International Partners; former Administrator of the U.S. Environmental Protection Agency

JOHN W. ROWE
Co-Chair
Chairman and CEO, Exelon Corporation

PHILIP R. SHARP
Congressional Chair
Senior Policy Advisor, Van Ness Feldman PC; Senior Advisor, Lexecon, Inc.; former U.S. Representative, IN

Other members of the commission

Marilyn Brown, Director, Energy Efficiency & Renewables, ORNL

Ralph Cavanagh, Co-Director, Energy Programs, NRDC

Archie Dunham, CEO, Conoco-Phillips (1999-2004)

Rodney Ellis, State Senator, Texas

Leo W. Gerard, President, United Steel Workers of America

Henry Habicht, former Deputy Administrator, USEPA

Mario Molina, Institute Professor & Nobel Laureate in Chemistry, MIT

Sharon Nelson, Chief, Consumer Protection, Washington; Chair of the Board, Consumers Union

Linda Stuntz, former Deputy Secretary of Energy

Susan Tierney, former Assistant Secretary of Energy, EERE

R. James Woolsey, former Director of Central Intelligence

Martin B. Zimmerman, VP for Corporate Affairs, Ford (2001-4)

Elements of the US energy stalemate

- Gap between rising oil demand and declining domestic production widening since 1985, with little policy action to address it on either supply side or demand side.
- Corporate average fuel economy (CAFÉ) standards unchanged since 1985 for “passenger cars”, constant from 1987 to 2005 for “light duty trucks” (pickups, vans, & SUVs). Whole-fleet average 24 mpg in 2003 (≈ 1981).
- Thirteen years after USA ratifies UN Framework Convention on Climate Change, no requirement or incentive to reduce CO_2 emissions from energy sector in place.
- No new nuclear reactor ordered in the USA since 1978; siting of new LNG terminals and even wind farms increasingly stymied by “Not in my backyard” (NIMBY).
- 2004 Federal spending on energy-technology research, development, & demonstration same as in 1987.

The Commission's overarching objective

Develop recommendations that can…

- Ensure ample, clean, reliable, and affordable energy for the United States in the 21st century while responding to growing concerns about the nation's energy security and the risks of global climate change.
- Command the bipartisan support necessary to be break the stalemate and be enacted.

Key recommendations: dampening growth of demand for liquid fuels

- Significantly strengthen federal fuel economy standards for cars and light trucks while also reforming CAFE program.

  Range explored was 10-20 mpg increase by 2015.

- Provide manufacturer & consumer incentives to promote domestic production and increased use of highly efficient advanced diesel & hybrid-electric vehicles.

- Pursue efficiency opportunities in heavy-duty truck fleet and existing passenger vehicle fleet.

Key recommendations: facing up to climate change with mandatory greenhouse-gas restraints

- Initiate in 2010 a mandatory, economy-wide, tradable-permits system to limit greenhouse gas emissions.
  - Number of permits based on reducing GHG intensity of the economy (tons of carbon-equivalent emissions per million dollars of real GDP) at 2.4% per year.
  - Cap initial costs to the U.S. economy at $7 per metric ton of CO_2-equivalent ($26/tC) via a "safety valve" mechanism; safety valve to increase at 5%/yr in nominal terms.
- 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.

Key recommendations: accelerating energy-technology innovation

- Revise the tax code to increase private-sector incentives to invest in energy research, development, demonstration, & early deployment.
- Roughly double annual real federal expenditures for energy research, development, & demonstration (ERD&D) in next 5 years (reaching ~3.3 billion 2004$ per yr in 2010).
  - Within this effort, triple the funding for international cooperation on ERD&D, to $750 million per year.
- Complement the increased RD&D activity with a tripling of federal expenditures supporting accelerated deployment of the most promising technologies that successfully pass the demonstration phase (reaching ~$2 billion/year in 2010).

Key focuses of the technology-innovation effort

CLEANER COAL TECHNOLOGY

- Speed up the commercialization of integrated gasification-combined-cycle multipurpose coal plants with $400 million per year in federal early-deployment incentives over the next decade. These plants can…
  - sharply reduce emissions of criteria air pollutants,
  - produce liquid and gaseous fuels as well as electricity,
  - be more easily retrofitted than conventional coal-burning plants to capture carbon dioxide.
- Accelerate the development and commercial-scale demonstration of CO_2 capture and sequestration technologies with $300 million per year in federal support over the next decade.

Key focuses of the technology-innovation effort

NUCLEAR ENERGY TECHNOLOGIES

- Provide $2 billion over ten years from federal RDD&D budgets for 1-2 “first mover” advanced nuclear power plants to try to demonstrate improved safety & economics.
- Move expeditiously to establish a project for centralized, interim, engineered storage of spent fuel at no fewer than two U.S. locations.
- In parallel, work to reduce links of nuclear energy to weapon proliferation by…
  - reiterating commitment to continue indefinitely the long-standing US moratoria on commercial reprocessing of spent nuclear fuel and construction of commercial breeder reactors;
  - pursuing more actively than before the long-standing US policy of discouraging the accumulation of separated plutonium in civil fuel cycles elsewhere;
  - actively working to prevent the deployment of uranium-enrichment and spent-fuel-reprocessing capacity in additional countries.

Key focuses of the technology-innovation effort

RENEWABLE ENERGY TECHNOLOGIES

- Accelerate development & deployment of non-petroleum transportation fuel alternatives, especially cellulosic ethanol and diesel from biomass and wastes.
  - Increase RD&D from $25M to $150M per year over next 5 yr; provide $0.75 billion in early-deployment incentives 2008-2017.
- Increase RD&D on solar photovoltaic and solar thermal energy systems from $83M to $300M per year.
- Extend the renewable production tax credit through 2009 and expand eligibility to all non-carbon energy sources, including hydropower, next-generation nuclear power plants, and fossil-fuel power plants with carbon capture & sequestration.

Key focuses of the technology-innovation effort

ENERGY END-USE EFFICIENCY TECHNOLOGIES

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

For more information about these recommendations and others on oil & gas supply and energy-supply infrastructure and regulation…

- Go to 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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