

Energy Policy Overview and Legislative Outlook

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and Bill Williams**

IEEE-USA Energy Policy Committee

IEEE-USA

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Institute of Electrical and Electronics Engineers (IEEE) – USA

- IEEE-USA advances the public good and promotes the careers and public policy interests of more than 215,000 engineers, scientists and allied professionals who are U.S. members of the IEEE.
- “Building Careers and Shaping Public Policy”

IEEE-USA

- IEEE-USA - Representing the unique interests of IEEE members in the United States
- Staff of 23. Office in Washington, DC.
- Over 750 active volunteers.
- Five program areas include Career/Member Services, Professional Activities, Government Relations, Communications, Public Awareness

IEEE-USA

- Government Relations Department
 - 4 GR Representatives
 - Grassroots
 - Press Relations
 - Support Staff



About IEEE-USA

■ Government Relations Committees

- Career and Workforce Policy Committee
- Committee on Communications Policy
- Committee on Transportation and Aerospace Policy
- Critical Infrastructure Protection Committee
- Government Fellows Committee
- Intellectual Property Committee
- Medical Technology Policy Committee
- Research and Development Policy Committee
- Energy Policy Committee

Energy Policy Committee

- A committee of the Government Relations Council of the IEEE-USA
- Reports to the IEEE-USA Board of Directors through the IEEE-USA Vice President Government Relations – Pete Eckstein.
- The principal efforts of the EPC are directed toward the energy and environmental technology policy-related aspects of the activities of the executive and legislative branches of the United States government at all levels.

Energy Policy Committee

- Made up mostly of power engineering professionals and professors from across the country
- Expertise in areas such as:
 - Power generation, transmission and distribution
 - Alternative Energy Resources
 - Nuclear Power
 - Power System Reliability
- Chaired by Thomas Gentile

Political Situation

- Unprecedented Dual Challenge
 - Global Climate Change
 - Addiction to Foreign Oil
- Threat to the Country's Economy, National Security and Environmental Health
- New Administration and Congress Intend to Make Energy Reforms



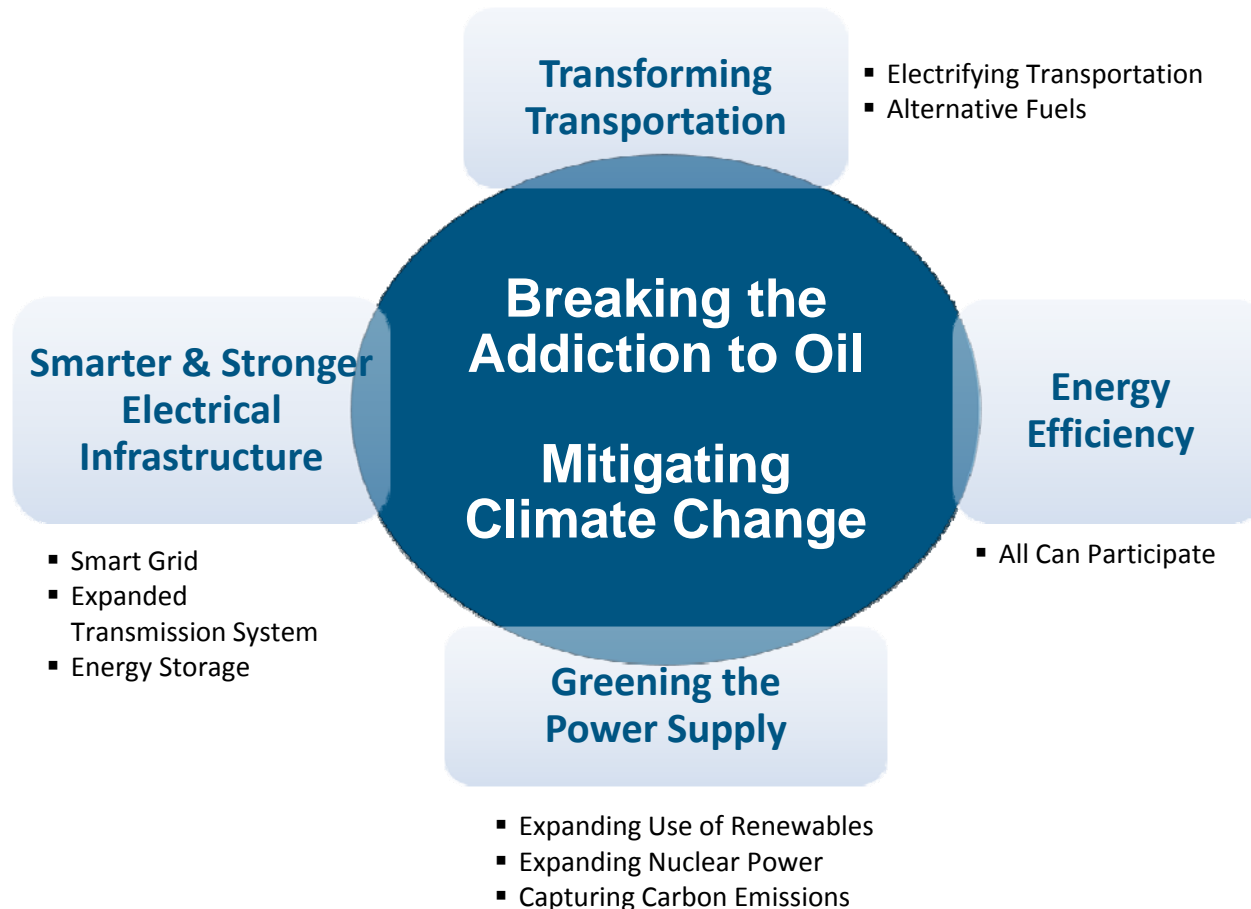
National Energy Policy Recommendations

- Objective: to assist in the resolution of energy problems through the provision of rational, sound, technical and professional counsel based upon the best resources which the IEEE is competent to bring to bear upon these problems in the United States.
- Comprehensive and integrated set of recommendations.

IEEE-USA Recommendations

- Increase Energy Efficiency
- Break the addiction to Oil by Transforming Transportation
 - Electrify transportation: Plug-in Hybrid Electric Vehicles
 - Develop and Use Alternative Transportation Fuels
- Green the Electric Power Supply
 - Expand the Use of Renewable Electric Generation
 - Expand Nuclear Power Generation
 - Capture Carbon Emissions from Fossil Power Plants
- Build a Stronger and Smarter Electrical Energy Infrastructure
 - Transform the Network into a Smart Grid
 - Develop an Expanded Transmission System
 - Develop Massive Electricity Storage Systems

IEEE-USA Recommendations



Increasing Energy Efficiency

- Education and Awareness
- Capital Investments
- Standards
- Transportation Systems
- Energy Losses
- Communications and Information Technologies



Break the Addiction to Oil by Transforming Transportation

- Electrify Transportation: Plug-in Hybrid Electric Vehicles
- Developing and Use Alternative Transportation Fuels



Green the Electric Power Supply

- Expand Use of Renewable Electric Generation
- Expand Nuclear Power Generation
- Capture Carbon Emissions from Fossil Power Plants



Build a Stronger and Smarter Electrical Energy Infrastructure

- Transform the Network into a Smart Grid
- Develop and Expand the Transmission System
- Develop Mass Electricity Storage System



The Need to Take Action Now

- With Each Passing Year
 - Dependence on Imported Oil is Increasing
 - Threat to the Economy and National Security is Growing
- Low Energy Prices Must Not Lull us Into Complacency Again
- Threats of Addiction to Oil and Climate Change Are Real and Urgent
- We Must Invest in New and Established Technologies
 - Become Better Energy Stewards
 - Reduce Damage to the Environment
- Electricity Has a Role to Play in Reaching These Goals

Recent Energy Legislation

- Energy Policy Act of 2005 (EPACT; Public Law 109-58)
- Energy Independence and Security Act of 2007 (EISA; Public Law 110-140)
- The American Recovery and Reinvestment Act – the 2009 Stimulus Bill (ARRA; Public Law 111-005)

Energy Policy Act of 2005

- Highlights:
 - \$14.6 billion total in tax credits for nuclear, oil, gas, coal, and renewable industries
 - Establishment of Electric Reliability Standards and the ERO
 - Transmission System Modernization
 - National Interest Electric Transmission Corridors
 - Transmission congestion study every three years
 - New PURPA Standards
 - Net metering
 - Smart Metering
 - IEEE 1547 Standard on Interconnection of Distributed Resources
 - Market Rules and Merger Reform

Energy Independence and Security Act

- Highlights:
 - Increased Corporate Average Fuel Economy (CAFÉ) Standards to 35mpg by 2020
 - Increased bio-fuel production
 - Improved efficiency standards for appliance and lighting
 - Included incentives for Plug-In Hybrid Electric Vehicles
 - Included provisions for Smart Grid Implementation

EISA Smart Grid Provisions

- Title XIII
 - Section 1303:
 - DOE to establish a task force to coordinate federal smart grid activities. Mission:
 - Conduct research and development
 - Develop standards and protocol
 - Conduct demonstration projects
 - Section 1304:
 - Smart grid research, development and demonstration
 - Power Grid Digital Information Technology
 - \$100 million for Smart Grid Regional Demonstration Initiative
 - Section 1305:
 - Interoperability Framework
 - Directs NIST to coordinate with IEEE, Gridwise Architecture Council, FERC, NERC and NEMA to develop an Interoperability Framework

American Recovery and Reinvestment Act

- Public Law 111-16
- Passed by Congress on February 13, 2009
- Signed into law by President Obama on February 17, 2009
- Contains \$41 Billion for Energy Initiatives

American Recovery and Reinvestment Act

■ Stronger and Smarter Grid

- Modernize electricity grid
 - \$4,400,000,000
- Electricity grid worker training
 - \$100,000,000
- Western Area Power Administration construction and maintenance
 - \$10,000,000
- Bonneville Power Administration borrowing authority
 - \$3,250,000,000
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 - \$3,250,000,000
- FYI, this includes \$10m to fund Section 1305 of the EISA.

American Recovery and Reinvestment Act

■ Efficiency

- Energy efficiency and conservation block grants
 - \$3,200,000,000
- Weatherization Assistance Program (increases maximum income level and maximum assistance)
 - \$5,000,000,000
- Federal building conversion to "high-performance green buildings"
 - \$4,500,000,000
- Energy efficiency federal vehicle fleet procurement
 - \$300,000,000

American Recovery and Reinvestment Act

■ Transportation

- Advanced batteries manufacturing, including lithium ion batteries, hybrid electrical systems, component manufacturers and software designers
 - \$2,000,000,000
- Fossil energy research and development
 - \$3,400,000,000
- Leading edge biofuel projects
 - \$500,000,000



American Recovery and Reinvestment Act

- **Green Electric Power Supply**
 - Uranium Enrichment Decontamination and Decommissioning Fund
 - \$390,000,000
 - Leading edge biofuel projects
 - \$500,000,000
 - Fossil energy research and development
 - \$3,400,000,000



American Recovery and Reinvestment Act

- **General Support for Energy:**
 - State energy program
 - \$3,100,000,000
 - Department of Energy science programs
 - \$1,600,000,000
 - Advanced Research Projects Agency
 - \$400,000,000
 - Innovative technology loan guarantee program
 - \$6,000,000,000

Future Energy Legislation 2009 - 2010

- 2010 Appropriations
- Energy Policy Act of 2009 expected from Senate and House (Bindaman and Markey)
- Obama Climate Change Cap and Trade may not emerge until 2010 in final form

For More Information

- **IEEE-USA National Energy Policy Recommendations**
- www.thomas.loc.gov
- www.house.gov
- www.senate.gov
- <http://www.ieeeusa.org>

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