



Past, Present & Future: Economic Modeling of U.S. Climate Change & Land Use Policies



Reid Harvey

U.S. Environmental Protection Agency

Chief, Climate Economics Branch

Climate Change Division

6th Forestry and Agriculture GHG Modeling Forum

September 27, 2011



Overview

- Various policies have been considered in recent years
 - Legislative proposals
 - Offset programs: mandatory and voluntary
 - Clean Energy Standards (CES)
- Large role for land use and climate-related modeling of these policies
- Current areas of focus for policies to reduce GHG emissions
 - State Level Policies
 - RGGI, AB32, WCI
 - EPA Clean Air Act rules
 - Sectoral policies, such as electricity sector policies (e.g., CES)
 - Voluntary programs
- This talk will discuss some of the modeling opportunities for this community to consider for future work



EPA Analyses of Climate Legislation

111th Congress

- American Power Act (**Kerry – Lieberman**)
 - June 14, 2010
- American Clean Energy and Security Act of 2009 (H.R. 2454) (**Waxman – Markey** House Passed)
 - January 29, 2010
- The Clean Energy Jobs and American Power Act of 2009 (**Kerry - Boxer**)
 - October 23, 2009
- American Clean Energy and Security Act of 2009 (H.R. 2454) (**Waxman – Markey** Committee Passed)
 - June 23, 2009
- American Clean Energy and Security Act of 2009 (**Waxman – Markey** Discussion Draft)
 - April 20, 2009

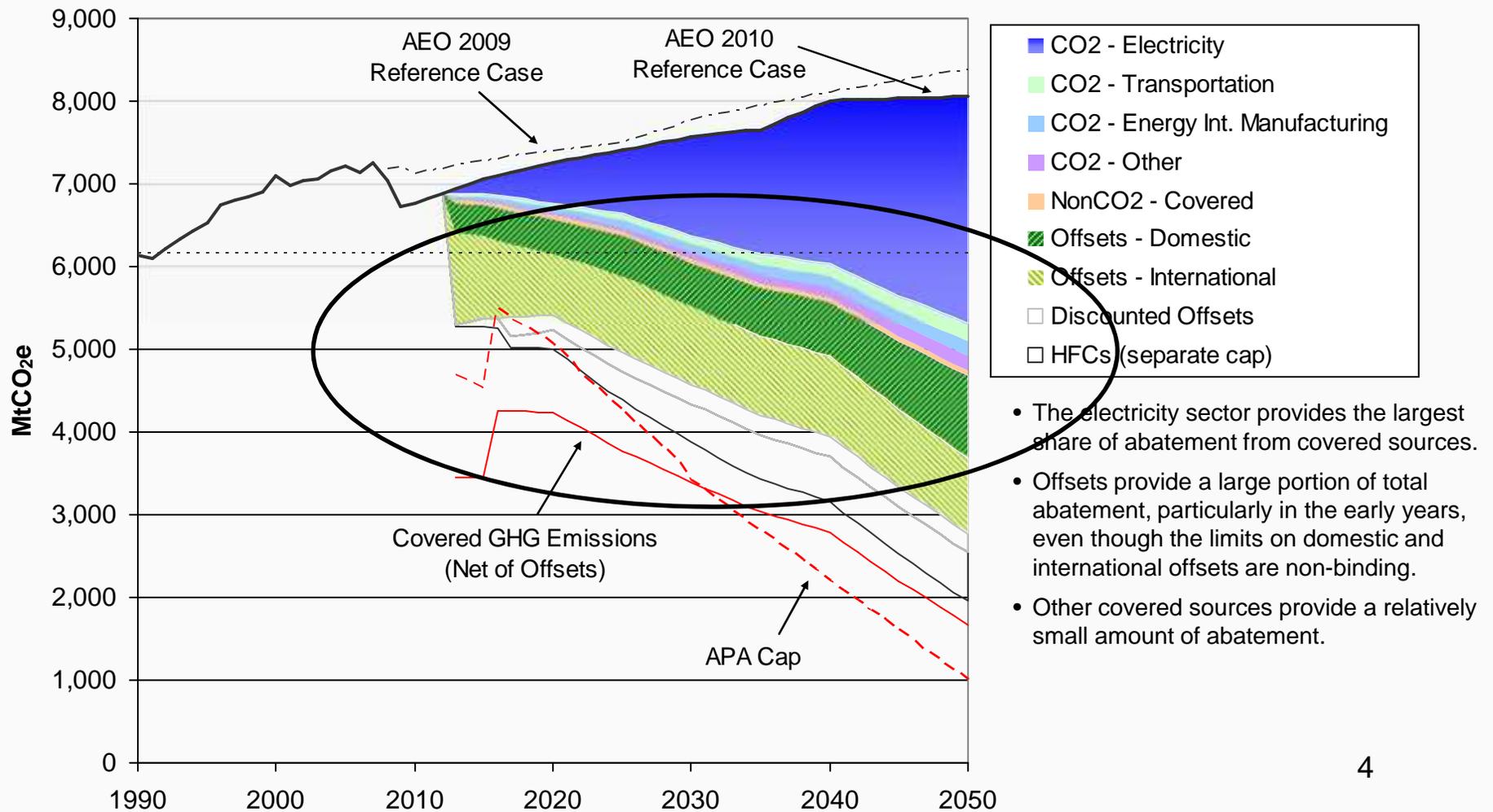
110th Congress

- Lieberman-Warner Climate Security Act of 2008 (**Lieberman – Warner**)
 - March 14, 2008
- Low Carbon Economy Act of 2007 (S. 1766) (**Bingaman – Specter**)
 - January 15, 2008
- Climate Stewardship and Innovation Act of 2007 (S. 280) (**Lieberman – McCain**)
 - July 16, 2007



Total US GHG Emissions & Sources of Abatement

EPA Analysis of the American Power Act (Kerry – Lieberman)





Current EPA Activities

- Support analyses related to regulatory initiatives (cost and benefit analyses for reporting rules, new source performance standards, etc.)
- Support development of methods to address key GHG accounting issues
- Prepare annual US emissions inventory for all GHGs, including sequestration trends in forestry and agriculture, and CH₄ & N₂O emissions in agriculture.
- Prepare U.S. GHG emissions projections, working with other agencies
- Evaluate GHG mitigation potential from U.S. sources, including forestry & agriculture, nationally and regionally
- Support work to incorporate climate change impacts into integrated assessment modeling
- Provide policymakers, the public and other stakeholders timely and relevant information about GHG mitigation opportunities, costs, and benefits
- Support efforts to improve representation of forestry, agriculture and bioenergy in regional, national and global models



Analytical Priorities

- Bolstering our tools and data in 3 priority areas:
 - GHG mitigation and adaptation opportunities
 - Data development, and
 - Climate and energy policy analyses



GHG Mitigation and Adaptation Opportunities

- Improve data and representation of emerging mitigation options in forestry and agriculture
- Improve data and representation of adaptation opportunities
- Incorporation of climate impacts



Data Development

- Expand regional- and state-level modeling capacity for various land types and land use activities
- Update/incorporate forestry and agricultural data and datasets
- Increase research and data on transaction costs, including transportation and storage
- Yield growth and other factors that affect productivity
- Data development on bioenergy feedstocks, current and emerging
- Data development of climate impacts



Policy Analyses

- Climate and Energy Policy Analyses
 - Continue refinement of capacity to evaluate climate policy (economy-wide, sectoral); expand regional and state level analyses
 - Increase capacity to evaluate land use change using integrated assessment modeling
 - Impacts of domestic bioenergy policies (state, regional, national)
- Exploration and comparison of climate programs and impacts of different policy designs
 - Current state/regional programs
 - Voluntary versus mandatory programs
- Global Impacts
 - Continue data development and exploration of land use changes under various policy, economic, and technological scenarios including REDD incentives and international land use change impacts



Thank you



Reid Harvey
U.S. Environmental Protection Agency
Chief, Climate Economics Branch
Climate Change Division
harvey.reid@epa.gov