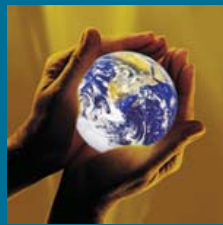


History, Focus, Goals and Implementation of California's AB 32



October 8-9, 2007
EPRI-IETA-IEA GHG Trading Workshop

Joe Nation, Ph.D.
ENVIRON International Corporation
Emeryville, CA

ENVIRON



Who is ENVIRON International?

- Established in 1982, ENVIRON is an international environmental consulting and engineering firm employing 1,100 people across 62 offices in 16 countries
- ENVIRON provides scientific, technical and strategic risk management services to address EHS matters and issues related to the development and use of energy and environmental technology
- Energy-related practice areas include carbon management, air quality, landfill gas, energy efficiency, energy technology and renewable energy
- Project development arm, CarbonVentures dedicated to development of GHG offset projects

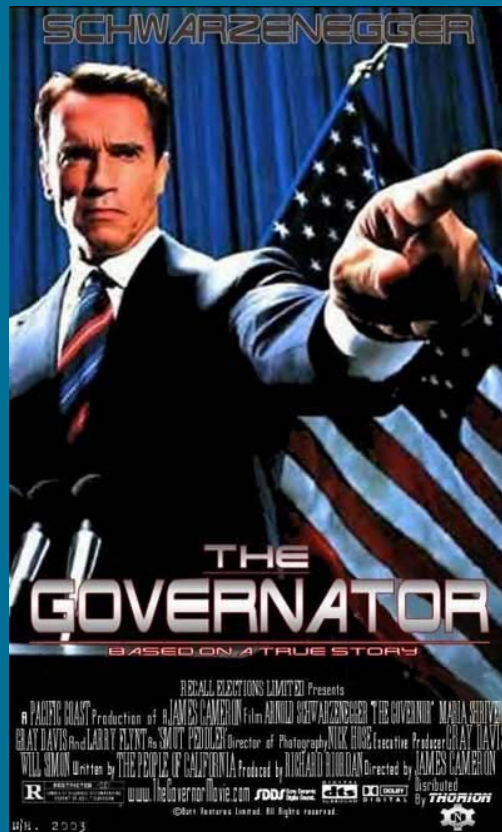


Presentation Outline

- AB 32 background
- AB 32 motivations
- Key issues laid out in the Market Advisory Committee (MAC) report
- AB 32 implementation challenges
- Implications of AB 32 on national/international policy development



The California Global Warming Solutions Act (AB32), September, 2006



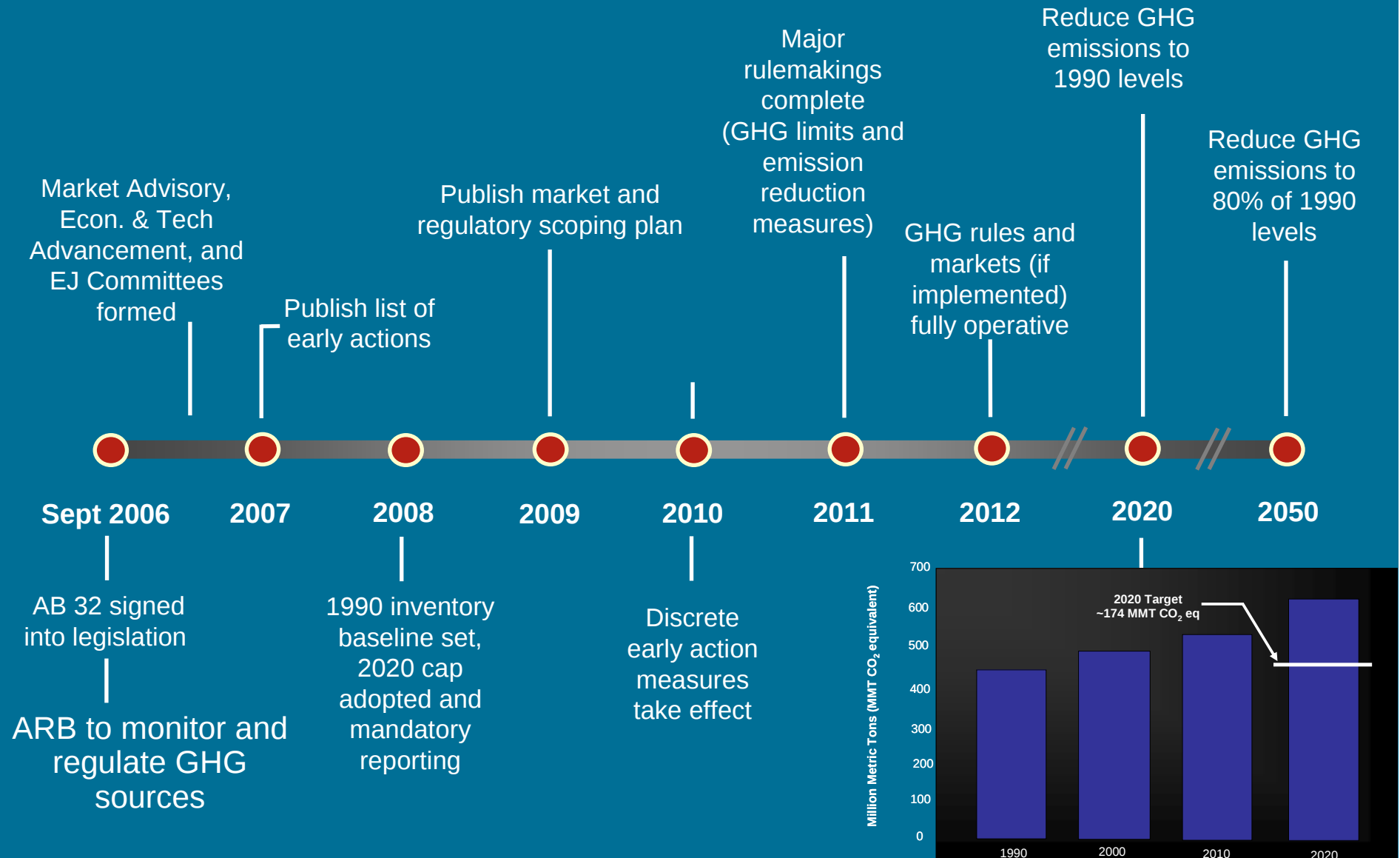
- “Bipartisan” plan
- Phased approach
 - reduction of GHG emissions to 1990 levels by 2020
 - 80% below 1990 levels by 2050
- Allows, but does not mandate cap and trade program
- Framework for action



Executive Orders

- EXECUTIVE ORDER S-3-05 (June 1, 2005): Reduce GHG emissions by 2020 to 1990 levels and to 80 percent below 1990 levels by 2050
- Executive Order S-20-06 (Oct. 18, 2006): sets up Market Advisory Committee to advise on market-based compliance program
 - MAC is advisory only

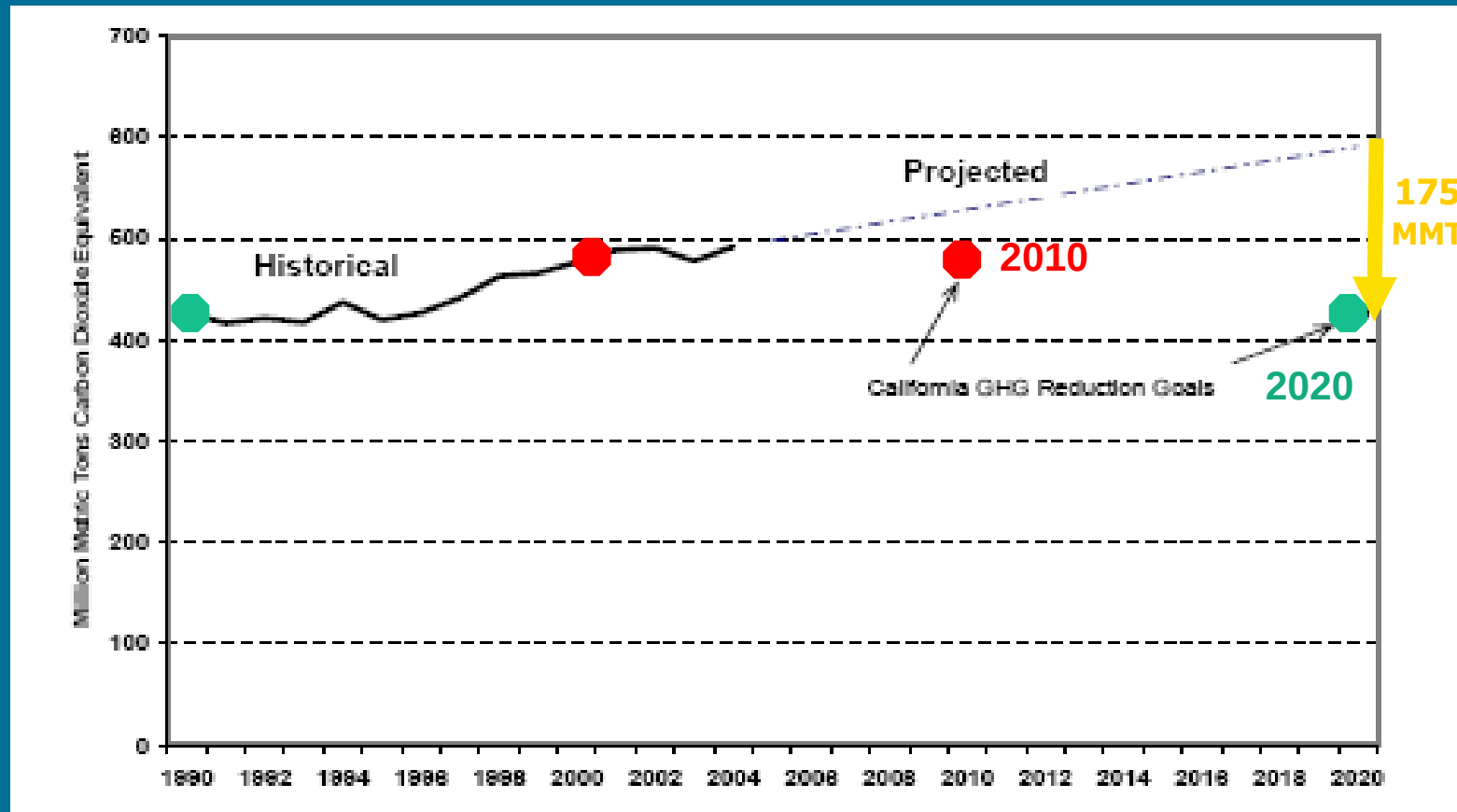
California's AB 32: ARB's Implementation Timeline



California's AB 32: Statewide GHG Emissions Limit



By January 1, 2008



Source: CEC



Motivations Behind AB 32

- Recognition of severity of issue
- Need to “prime” political pump
- Lead Washington; provide framework for national solution
- Demonstrate bipartisan success



Carbon Market Design Underway

- MAC created by Gov. Schwarzenegger; to provide recommendations on market design to California Air Resources Board (CARB)
- MAC issued report June 30
- Key elements
 - strongly support cap and trade
 - include all sectors, six gases
 - allocate first, then auction as much as possible
 - offsets should be permitted and not limited
 - linkages with other markets should be permitted



Rationale Behind MAC Recommendations

- Policy: consensus to recommend most efficient market
-more reductions, least cost
- Any quantitative or geographic restrictions would be arbitrary
- AB 32 is economy wide effort (unlike RGGI), so must be flexible
- Political: resistance to “politically-driven” issue(s)
 - sense that environmental justice movement, other political pressures sought to limit offsets
 - proverbial “nose under the tent” concerns
- Underlying motivation of AB 32 is to create a national, international market



Market Design Complications

- Significant opposition to cap and trade
 - threat to “de-fund” EPA, CARB
 - Shake-up at CARB
- “Environmental justice” issues
- Can California go it alone?
 - California only or limited U.S. system



Growing Concerns about Offsets

- Offset quality standards
 - real, additional, measureable, verifiable, transparent
 - CDM/Gold Standard/VCS level
- Only permit with trading schemes with stringent caps
- Ensure domestic marginal cost sufficiently high to encourage investment (minimum price?)
- Regulate where price signals insufficient (i.e., transportation)



AB 32 and MAC Implications

- National market development
 - Senators Lieberman, Warner effort considered most viable
 - almost certain to contain cap and trade element
- Senator Boxer, Pelosi to date suggest no federal pre-emption of California law
- AB 32 is most comprehensive of all regional, state efforts



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