

# The Section 812 Benefit-Cost Analyses of the Clean Air Act



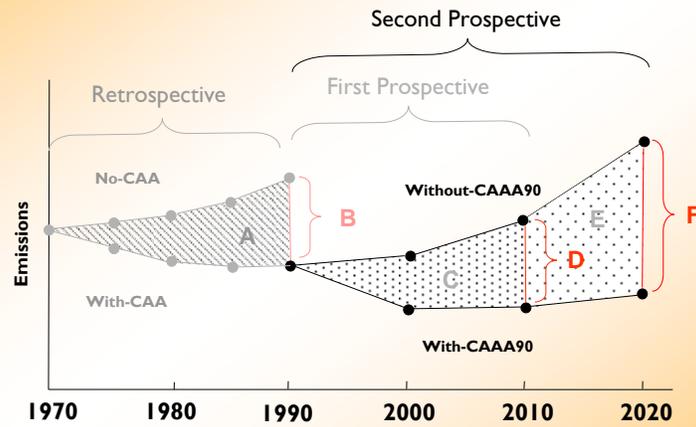
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## 1990 Clean Air Act, Section 812

- ⇒ EPA "... shall conduct a comprehensive analysis of the impact of this Act on the public health, economy, and environment of the United States."
- ⇒ Retrospective + biennial Prospectives
- ⇒ Review by outside experts
  - ↳ Advisory Council on Clean Air Compliance Analysis



## 812 Scenarios -- Schematic

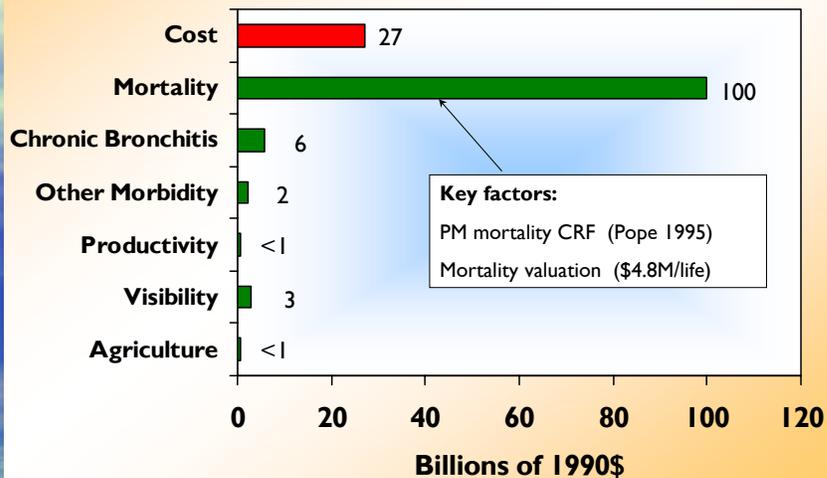


## First Prospective 2010 Reductions

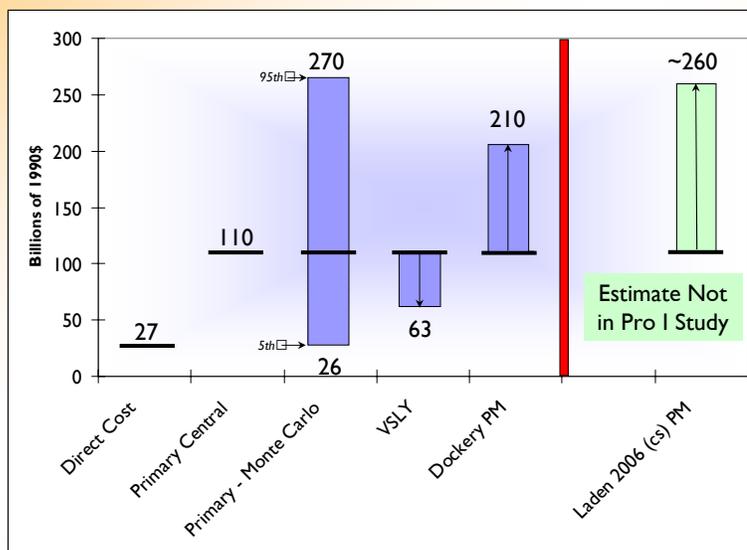
Endpoint	Incidences	% of Baseline
Mortality (30+)	23,000	1.00
Chronic Bronchitis	20,000	3.14
Chronic Asthma	7,200	3.83
Cardiopulmonary Hospitalizations	64,000	0.62 to 0.86
Asthma ERVs	4,800	0.55
Restricted Activity Days	12,000	
Work Loss Days	4,100,000	
Minor Illnesses	Millions	0.24 to 10.4



## 2010 Monetized Benefits – First Prospective Titles I through V Only



## Primary vs Alternative Estimates First Prospective 2010 Costs & Benefits



## Council Closure Letter – First Prospective

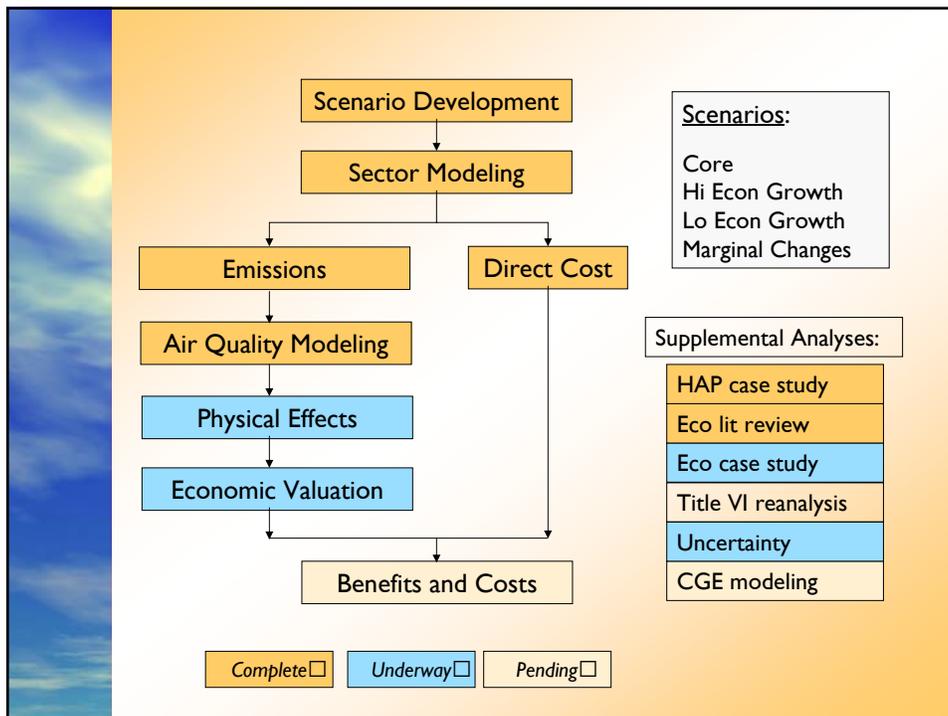
- ⇒ "The Council believes that the [Prospective Study] is a serious, careful study that, in general, employs sound methods and data."
- ⇒ "While we do not endorse all details of the study, we believe that the study's conclusions are generally consistent with the weight of available evidence."
- ⇒ Recommendations for Second Prospective:
  - ↳ Disaggregate Benefits and Costs by Title or Provision
  - ↳ Cost Uncertainty
  - ↳ Revise Mortality Risk Valuation Estimates
  - ↳ Increase Set of Ecosystem Benefits Valued
  - ↳ Estimate Exposure and Effects of Air Toxics

## Council Letter – Second Prospective Blueprint

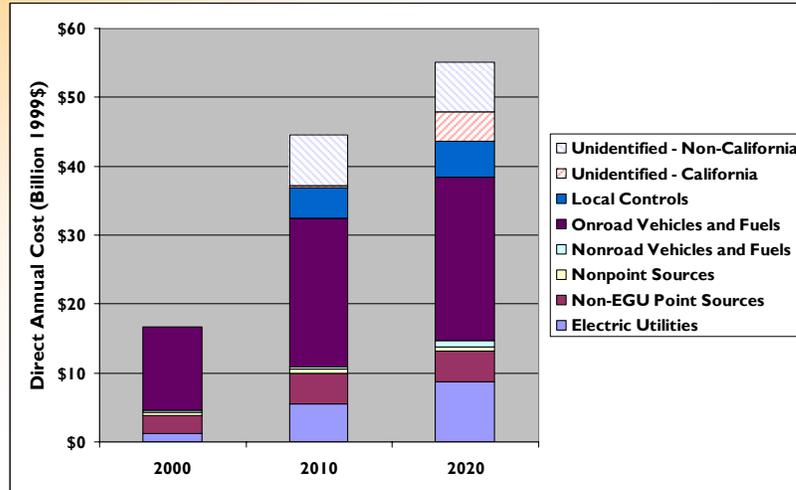
- ⇒ Recommendations for Second Prospective:
  - ↳ Implement Learning Laboratories
  - ↳ Disaggregation by Major Emitting Sector
  - ↳ Air Toxics Case Study
  - ↳ CGE Modeling
  - ↳ Discounting (inc. cessation lags)
  - ↳ Revise Mortality Risk Valuation Estimates
  - ↳ Expand Uncertainty Analysis, per NAS (2002)
  - ↳ Ecological Effects Case Study
  - ↳ Consider Role of QALYs, but outside of BCA

## Council Letter – Second Prospective Blueprint

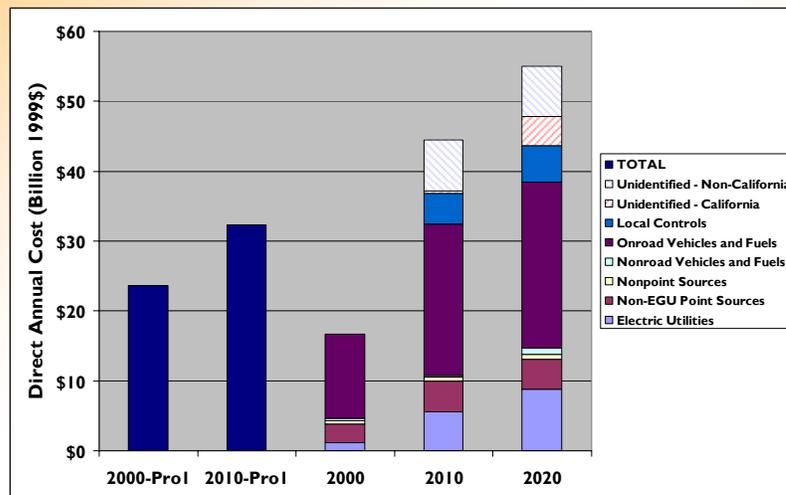
- ⇒ “The Council strongly **advocates that the Agency continue** to conduct these important benefit-cost assessments ...”
- ⇒ “These analyses **provide a rigorous example** for other regulatory impact assessments and serve an important educational role for the Agency.”
- ⇒ “Information requirements identified in the 812 Analysis **stimulate important research** both inside and outside the Agency.”
- ⇒ “The Council emphasizes that the 812 Analyses are not merely a perfunctory accounting exercise, but an ambitious and difficult enterprise that **pushes the Agency to the frontiers of science** in many different disciplines.”



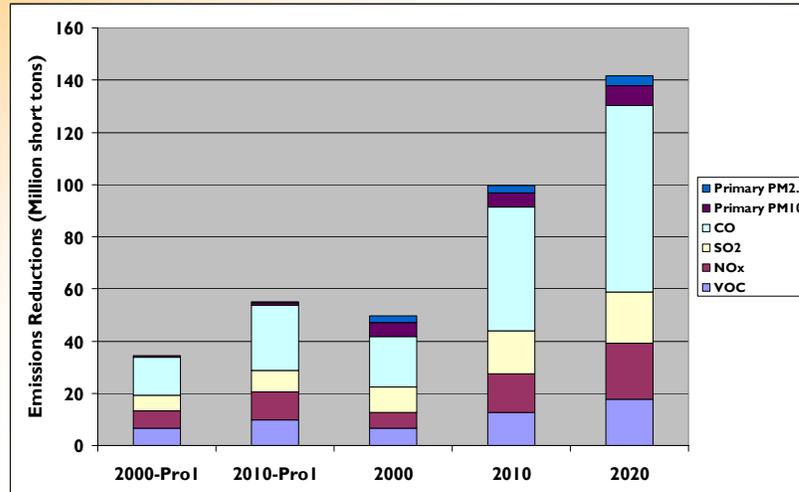
## Preliminary Prospective II Results – Direct Cost



## Direct Compliance Cost Pro I vs Preliminary Pro II



## Emissions Reductions Pro I vs Preliminary Pro II



## Looking Ahead

- ⇒ 812 studies are ongoing
  - ↻ Analytical system is state of the art
  - ↻ Rigorous external peer review by dedicated panels
  - ↻ Prospective II publication expected 2009
- ⇒ Gain insights
  - ↻ Update answer to core question of overall value of CAAA90
  - ↻ Per Council—
    - Educational role and methods development (e.g., case studies)
    - Stimulate research and refine priority-setting (e.g., disaggregation)
- ⇒ Explore new opportunities
  - ↻ Derivative analyses, such as pollutant-specific \$/ton mapping
  - ↻ Reconsider Learning Laboratory initiative
  - ↻ Reconciliation of climate change and criteria pollutant assessments
- ⇒ [www.epa.gov/oar/sect812](http://www.epa.gov/oar/sect812)