



**An Estimate of the Economic  
Impact of  
A Cap and Trade Auction Tax  
On California**

**Thomas Tanton, Principal  
T<sup>2</sup> & Associates  
April 21, 2010**

# Introduction

- Analysis of four critical aspects of Cap and Trade as recommended by EAAC:
  - Direct employment loss created by adoption and implementation of the tax
  - Annual costs to typical family of four
  - Net loss in economic activity at the state level and
  - Qualitative impacts to state budget
- Available at [www.ab32ig.com/downloads.htm#Tanton](http://www.ab32ig.com/downloads.htm#Tanton)

# Background

- Cap and Trade
  - Allowances
  - Allocation
  - Auction
- Revenues
- Initially Set at Entities Emitting >25,000 MT/yr GHG; e.g.
  - Ports, Universities, Cities
  - Electric Generators, biotech, food processors

# Summary

Year and Permit Clearing Price	Impact on Family	Jobs Lost
<u>2012 @\$60</u>	<u>\$818</u>	<u>76,000-107,000</u>
@\$20	\$270	25,500-35,700
@\$200	\$2720	255,000
<u>2020 @\$60</u>	<u>\$2800</u>	<u>485,000</u>
@\$20	\$930	162,000
@\$200	\$9330	1,617,000

# A Few Examples

Entity	\$/year @ \$20/ton	\$/year @ \$60/ton	\$/year @ \$200/ton
UCLA	\$3.6 million	\$10.8 million	\$18 million
Biotech Firm	\$829k	\$2.5 million	\$4.1 million
Geothermal Power Plant	\$3.9 million	\$11.7 million	\$19.5 million

# Use of Revenue

- There is uncertainty about how auction revenues would be re-distributed in the economy. To the extent the revenue is captured in a special fund under the control of CARB, the legislature would have limited state budget authority and flexibility. This is a significant concern given the potentially large amount of revenue (collecting in 8 years, fully 120% of the single year 2009/2010 state budget) to be raised by an auction tax.

# Model Overview

- The model utilizes economic data (multipliers and consumption patterns) from BEA to estimate local economic activity and the resulting impact, based on compilations of national and regional economic and demographic data to calculate inter-industry linkages (aka I/O) and the relationships between changes in demand for goods and services, and associated economic activity.

# Comparison to Analogous Studies

Study (year)	Cost to Family	Impact GDP
EIA (2030)	\$76 – \$723	\$57-169 Billion
EPA (2030)		\$31-128 billion
CBO (2018)		\$156 billion
MIT (2020)		\$18-20 billion
CRA (2015/2050)	>\$2,300	\$689 billion (aggregate)
Heritage (2030)	\$467 (gas and electric)	\$221-624 billion (aggregate)



# Response to Comments by Goulder

- *No fuel-substitutions, no technological change*

Mandates and Subsidies have often acted to reduce innovation and productivity. Difficult to allocate cost effective fuel substitution and technological change to auction.

- *Focuses on \$60/ton allowance price for entire 2012-2020 interval (certainly too high for early years; potentially too high for 2020)*

No attempt to forecast auction prices (nor trading prices)—used range and none assumed more likely than others; volatility remains concern

# Response to Comments by Goulder (cont.)

- *Much discussion erroneously equates allowance value with cost*

In order to determine “value” a damage avoided calculation would be required. Further, this is a monopoly market with constrained supply.

“When allowances are auctioned, the allowance value consists of the proceeds from the auction” EAAC 3/15/09 p. 8

- *Misleadingly suggests costs are due to auctioning*
  - *In general, price impacts are same under auctioning as under free provision*
  - *Consumers likely to face lower costs under auctioning*
  - *Economy wide costs potentially lower under auctioning (perhaps \$1-\$4 billion less in 2020)*

Only looked at the auction approach, did not do a comparative analysis

**Questions?**

