

# Cap and Dividend: Reducing CO<sub>2</sub> Emissions and Protecting Household Incomes



Energy and Telecommunications Interim Committee

November 9, 2009

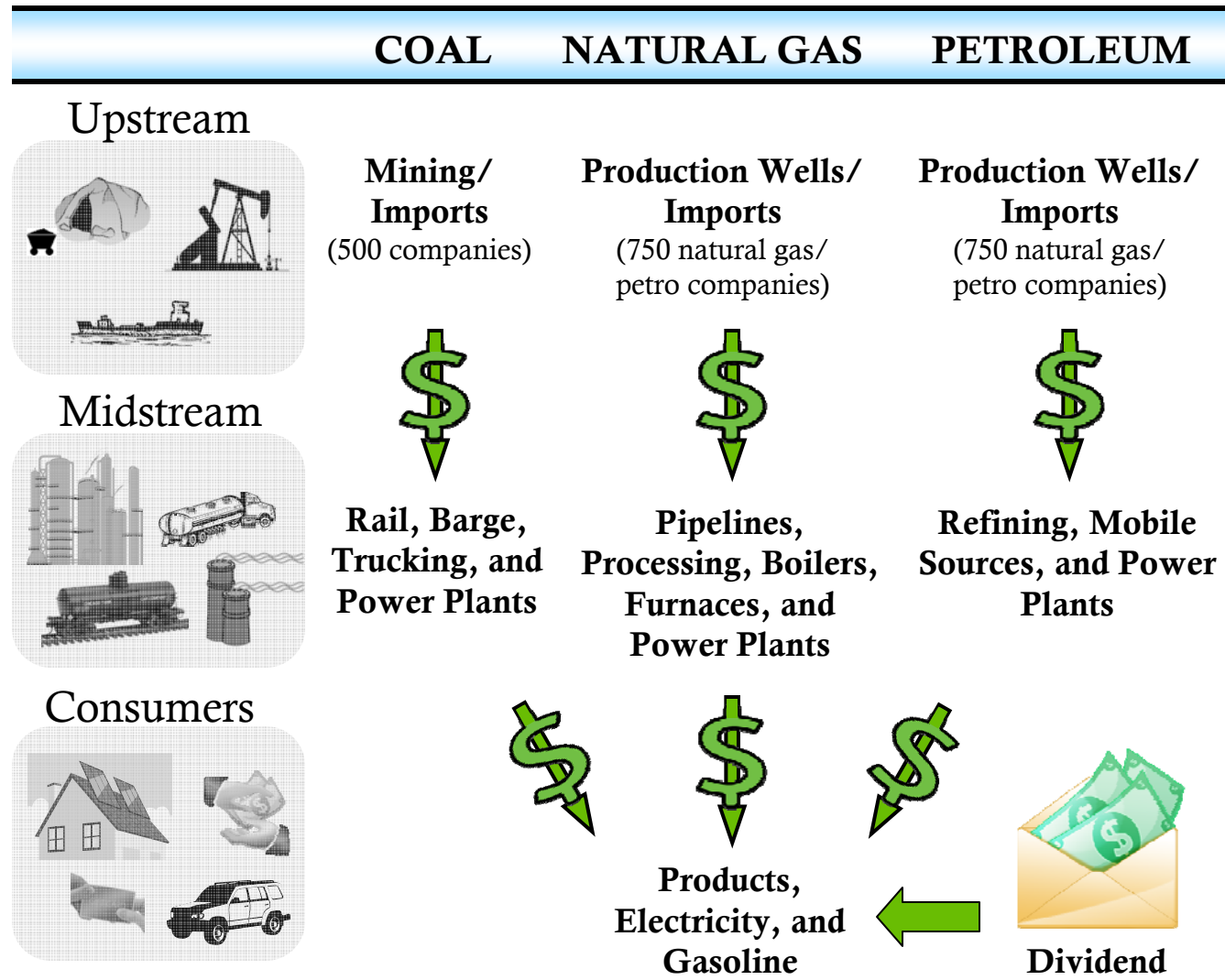
Montana Environmental Information Center

# Key Differences with Cap and Trade Models



- ❧ Simplicity
- ❧ Cap is *Upstream*
- ❧ 100 percent auction
- ❧ No offsets allowed
- ❧ Revenue distributed directly to American citizens at the start

# Upstream Cap on Fossil Carbon

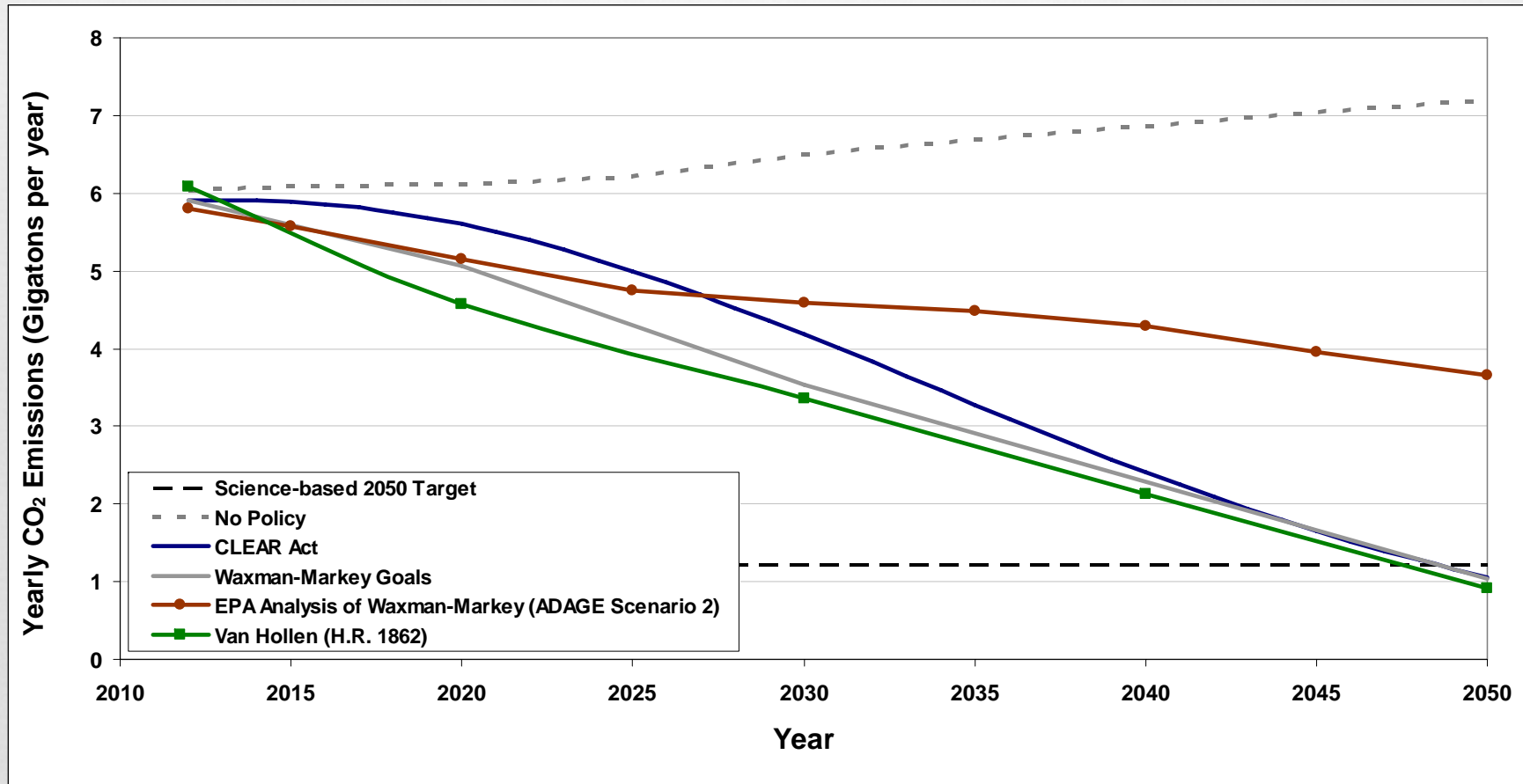


**Upstream cap covers all fossil carbon entering the economy, completely and equitably**

**Price signal passed downstream, leaving all midstream user revenue neutral**

**Price signal passed through to end consumers who are reimbursed with dividend**

# CO<sub>2</sub> Emission Reductions



- Cap starts slowly and accelerates over time
- Emissions still decline by 80% of 2005 levels *before* 2050



# Permit Distribution: Auction



- ❧ 100 percent of carbon permits are auctioned at the start of the program
- ❧ Allow regulated entities to bring fixed quantity of fossil fuels into the economy over time
- ❧ Prevents “trickle-up” economics
- ❧ Generates revenue to compensate consumers for higher energy bills

# Offsets



- ∞ Allow for emission reductions outside the cap
- ∞ Domestic and international
- ∞ Difficult to verify additionality (Kyoto)



# Direct Dividends



- ❧ Revenues generated from permit auctions are returned directly back to each American
- ❧ Prevents money from being thrown at government pet projects
- ❧ Distributed by direct deposit or monthly checks
- ❧ When cap tightens, permit price will increase and direct refund to households will be greater



# Benefits of Cap and Dividend

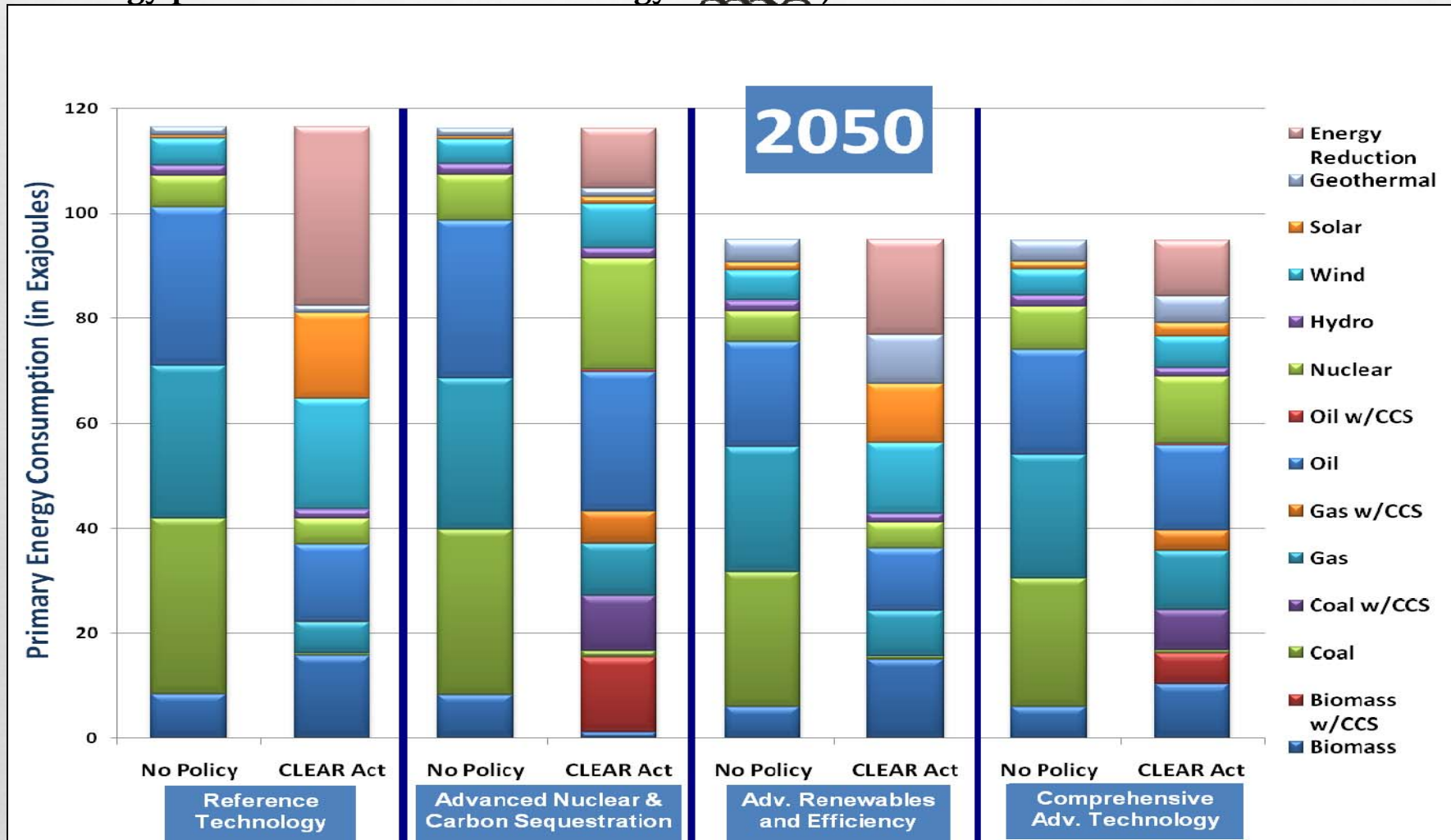


- ❧ Diversifies Energy Resources
- ❧ Montana's abundant renewable energy resources become more competitive (efficiency, wind, hydro)
- ❧ Majority receive positive net benefits
- ❧ Compensates for regional disparity inherent with carbon regulations

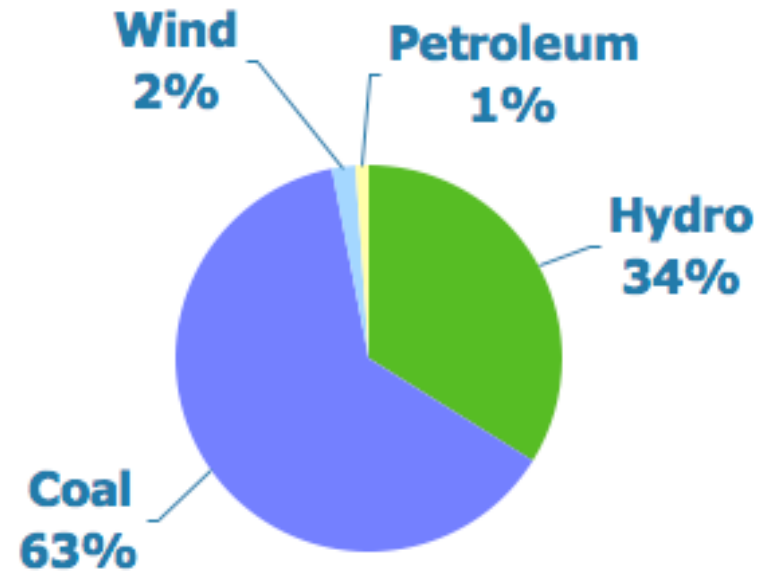


# Diversifies America's Energy Mix

Energy portfolios under four technology scenarios, with and without the CLEAR Act



# Current Montana Electricity Production



# Montana's Energy Potential



Wind Energy	116,000 aMW
Solar Energy	11,500 aMW
Biomass	700 aMW
Efficiency	500 aMW



# Net Benefits By State

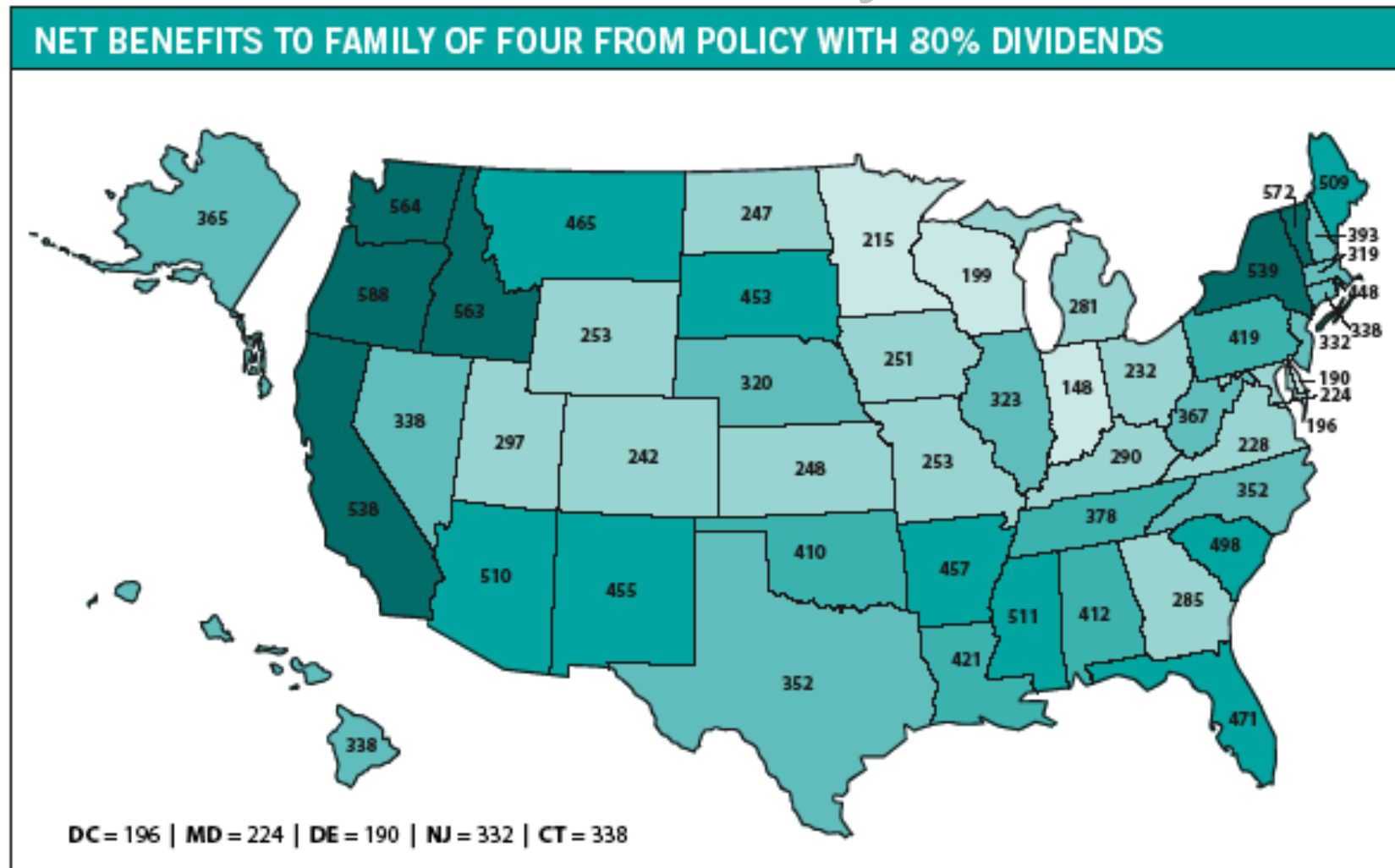
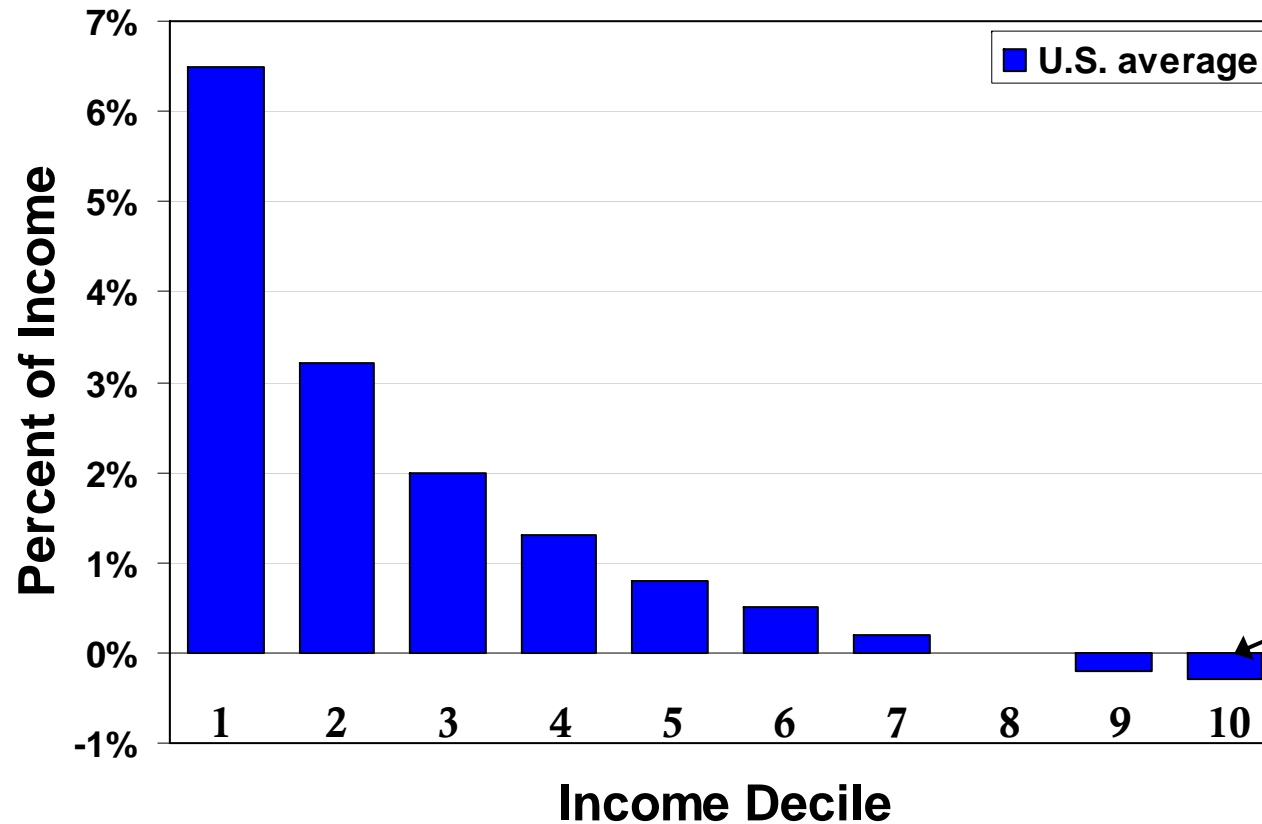


Figure 1 - SCENARIO: Net benefit to median household of four persons of a permit auction at \$25 per ton with 80% of the proceeds distributed on a per capita basis.

# Refund Covers Costs

## Net Impact of Cap and Dividend



- 75% of auction revenues distributed on an equal per capita basis returned tax-free each month to all legal U.S. residents
- Several existing programs prove this is logistically possible

Nationally, only the top two income deciles receive a very marginal cost after the refund.

Source: Boyce and Riddle (2009), assumes 80% refund, \$25/ton permit price.

# Compensation for Regional Variation

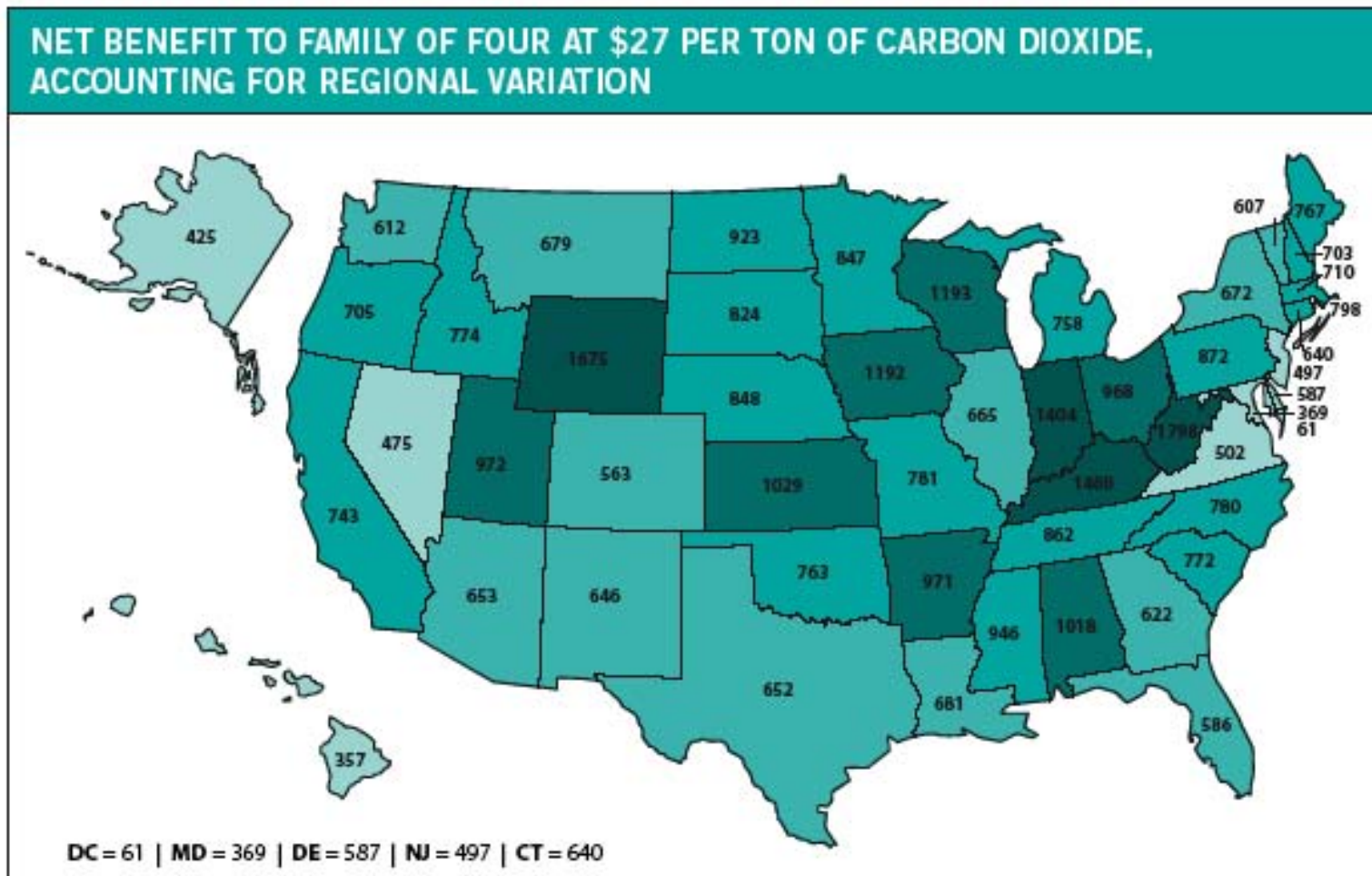


Figure 2 - SCENARIO: Net benefit to family of four at \$27 per ton of carbon dioxide with 75% of revenue in direct per capita dividend and 25% in direct per capita dividend based on coal and manufacturing employment, and carbon intensity of electricity.