
THE CLEAR ACT: A CAP & REFUND APPROACH TO ENERGY INDEPENDENCE AND CLIMATE CHANGE MITIGATION

The Carbon Limits and Energy for America's Renewal (CLEAR) Act offers an attractive and effective climate policy alternative to traditional cap-and-trade or carbon tax policies. While these latter options have received significant attention from economists and policy makers, each has significant drawbacks that limit their effectiveness and political viability. Since climate policy impacts all economic sectors over a long period, getting the policy right the first time is essential. A flawed approach could impose significant and unnecessary costs and prevent America from realizing a tremendous economic and job creation opportunity and becoming a leader in the largest market of the 21st century.

Simplicity, transparency, and equity are the hallmarks of the CLEAR Act. 39 pages of legislative text combines novel design elements, including an upstream cap on fossil carbon as it enters the economy, a one hundred percent auction open only to energy producers and importers (and not Wall Street) with prices set by the market within a bounded price collar, and equal monthly distribution of auction revenues to every American. Funding is also dedicated to climate related needs such as clean energy R&D, programs that mitigate non-CO₂ greenhouse gas emissions, and needs-based, regionally-specific assistance for communities and workers transitioning to a clean energy economy. The CLEAR Act's upstream cap on fossil carbon declines gradually at a predictable rate, providing fossil fuel users certainty while reducing greenhouse gas emissions by 20% by 2020, 30% by 2025, 42% by 2030, and 83% by 2050 without relying on free allowances to industry, unverifiable offsets, or other giveaways.

Collectively these features empower consumers and maximize market mechanisms to achieve least-cost, scientifically-based carbon emissions reductions. The CLEAR Act does not pick winners and losers among technologies or special interest groups, prevents windfalls to historic greenhouse gas emitters, and is largely revenue neutral to most low and middle income families and fossil fuel users, including energy intensive industries and electric power generators. The bill includes a mechanism to fund carbon sequestration efforts and reimburse non-emissive users of fossil fuels like the plastics industry. The bill does not unduly impact one region over another, and protects energy-intensive commodity producers from unfair foreign competition, particularly from countries lacking greenhouse gas emission control regimes.

Key design features and benefits of the CLEAR Act are described below and in the accompanying Questions & Answers document.

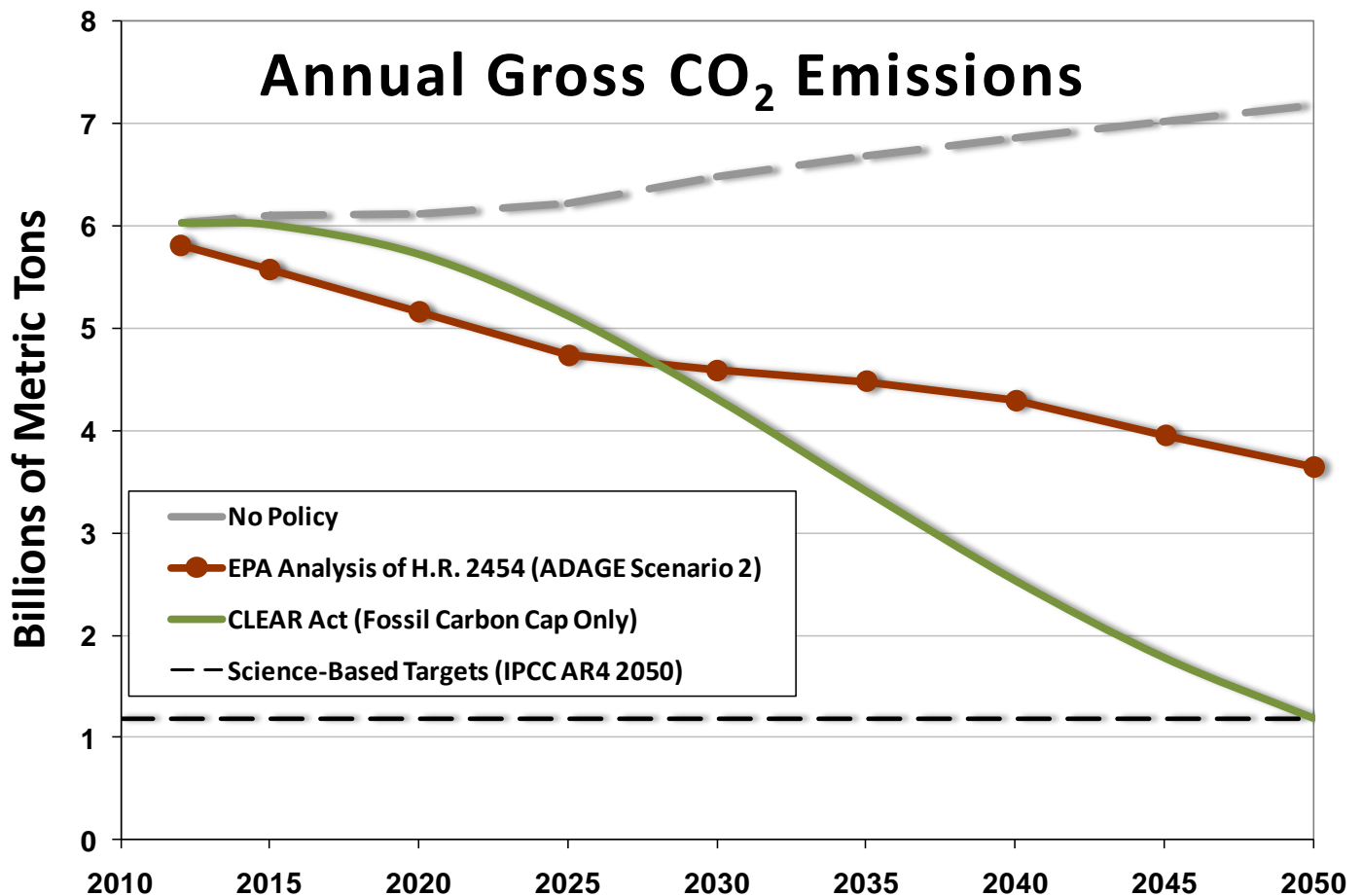
Key Design Features of the CLEAR Act

Upstream Cap, Economically Optimal Reduction Curve

The CLEAR Act's cap & refund approach to climate change mitigation places an upstream cap on the carbon content of fossil fuels, at the point of entry into the economy: the wellhead, mine mouth, or port of entry.

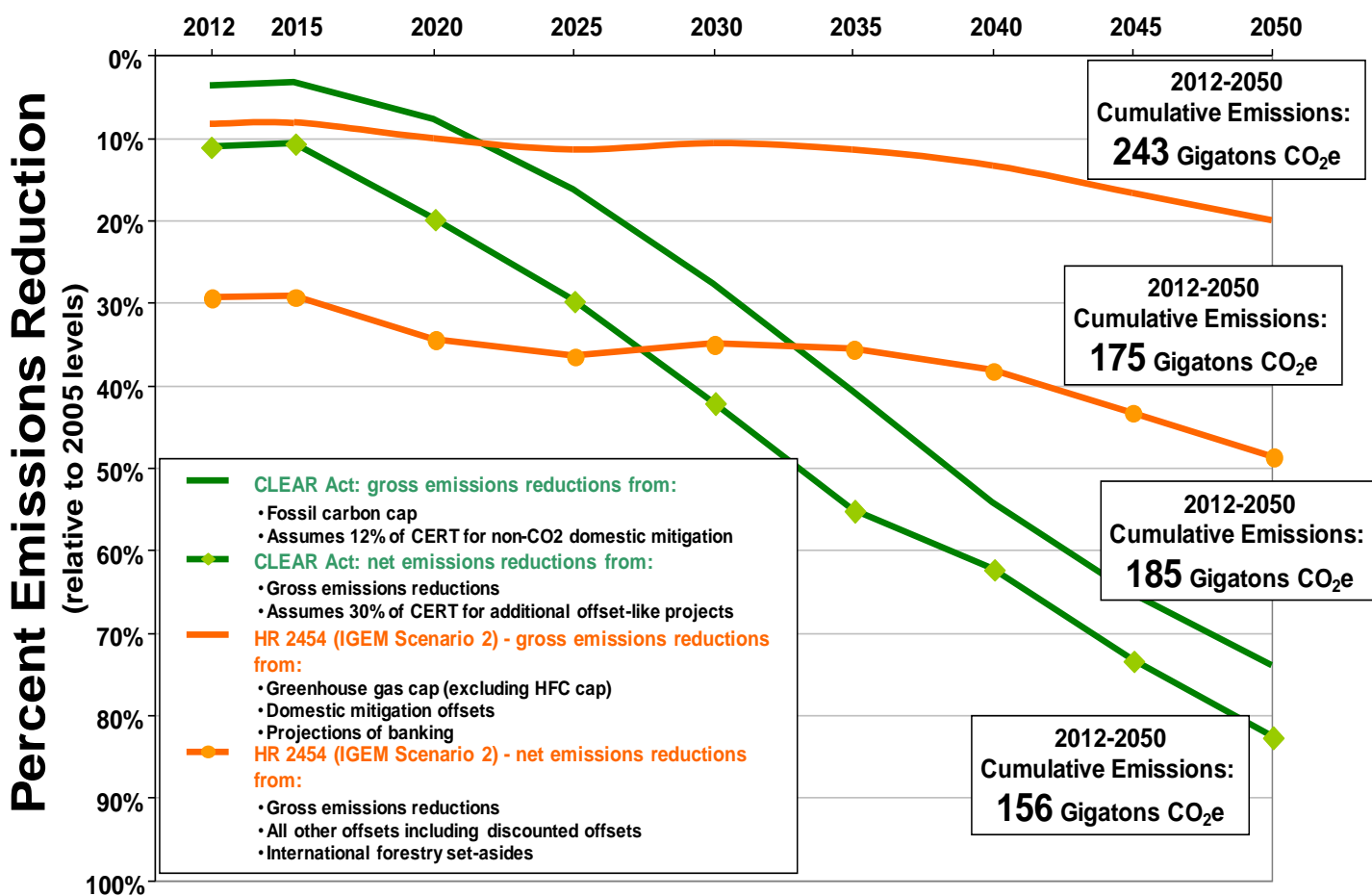
The cap is initially set by the President based on the U.S. economy's projected carbon dioxide emissions for 2012, the year in which the policy enters into force. The carbon cap is held constant at the 2012 level for the first two years of the policy. In 2015, and in each year thereafter, the cap declines at an accelerating rate that increases by 0.25 percent every year (e.g., in 2016 the cap is 0.25% less than 2015, in 2017 the cap is 0.5% less than 2016, in 2018 the cap is 0.75% less than 2017) resulting in an emissions reduction schedule that would achieve more than 80 percent reductions in carbon dioxide emissions (from 2005 levels) by 2050 (see Figure 1 below). Combined with spending from a dedicated trust fund, cumulative emissions reductions are equal to or exceed those of the House-passed ACES Act.

Figure 1. CO₂ Emissions Reduction Trajectories



The CLEAR Act’s gradual and more cost-effective reduction rate minimizes the impacts of achieving emission reductions by providing industry sufficient lead time for planning and investment in new, less carbon-intensive and efficient equipment and facilities. The CLEAR Act also achieves real and durable emissions reductions by relying strictly on the market incentives provided by the upstream cap, auction mechanisms, and a clear, stable price signal. The use of questionable international offsets, which feature prominently in cap-and-trade legislation such as the House-passed ACES Act, is prohibited in the CLEAR Act, which relies on actual emissions reductions within the United States to spur real transformation of the energy system (see Figure 2). Relative to 2005 greenhouse gas emission levels, the CLEAR Act will achieve a 20 percent reduction in CO₂ equivalent emissions by 2020, 30 percent reduction in CO₂ equivalent emissions by 2025, 42 percent reduction in CO₂ equivalent emissions by 2030, and 83 percent reduction in CO₂ equivalent emissions by 2050.

Figure 2. Gross and Net Emissions of CO₂ Equivalent in Percent Reduction from 2005 Levels: CLEAR Act and Waxman-Markey ACES Act



The principal advantages of an upstream cap include a significant reduction in the number of regulated entities and broad, economy-wide coverage of fossil carbon that would avoid differential treatment among industries and sectors. This feature distinguishes the CLEAR Act from cap-and-trade bills, which typically impose downstream caps on carbon dioxide emissions that are difficult to measure and verify. In addition, systems featuring downstream caps effectively pick winners and losers by giving away emissions allowances and covering only a subset of emitting industries and sectors. And rather than rewarding the most carbon-intensive industries, the CLEAR Act employs an upstream cap to convey competitive advantages to downstream users who have already deployed clean energy technologies and to institute incentives for further adoption of carbon-reducing technologies and practices.

Predictable Market Signals Anchored Around Monthly Auctions

The cap would be implemented via monthly auctions in which stakeholders would pay the market-clearing price for “carbon shares” for each ton of carbon entering the economy. To ensure price discovery based on fundamental supply and demand dynamics and prevent price volatility and market distorting behavior likely in cap-and-trade systems, auction participation would be limited to “first sellers” of carbon--the few thousand upstream fossil carbon producers, refiners, and importers in the United States. Carbon shares would expire ten years after their original date of purchase and would be tradable only among first sellers on an exchange with publically listed prices. To prevent hoarding of carbon shares, first sellers would also be subject to position limits based on their historic and anticipated business volume.

Office of Management and Budget Director Peter Orszag testified before Congress last March that *"If you didn't auction the permits it would represent the largest corporate welfare program that has ever been enacted in the history of the United States. All of the evidence suggests that what would occur is that corporate profits would increase by approximately the value of the permits."*

These design features will ensure that carbon share prices are set by stakeholders in the upstream fossil fuel industry, rather than by Wall Street traders, and will allow market forces to determine least cost solutions to lower carbon emissions. Price signals resulting from auction costs should flow downstream through the economy as the market dictates thereby holding all midstream fossil fuel users harmless.

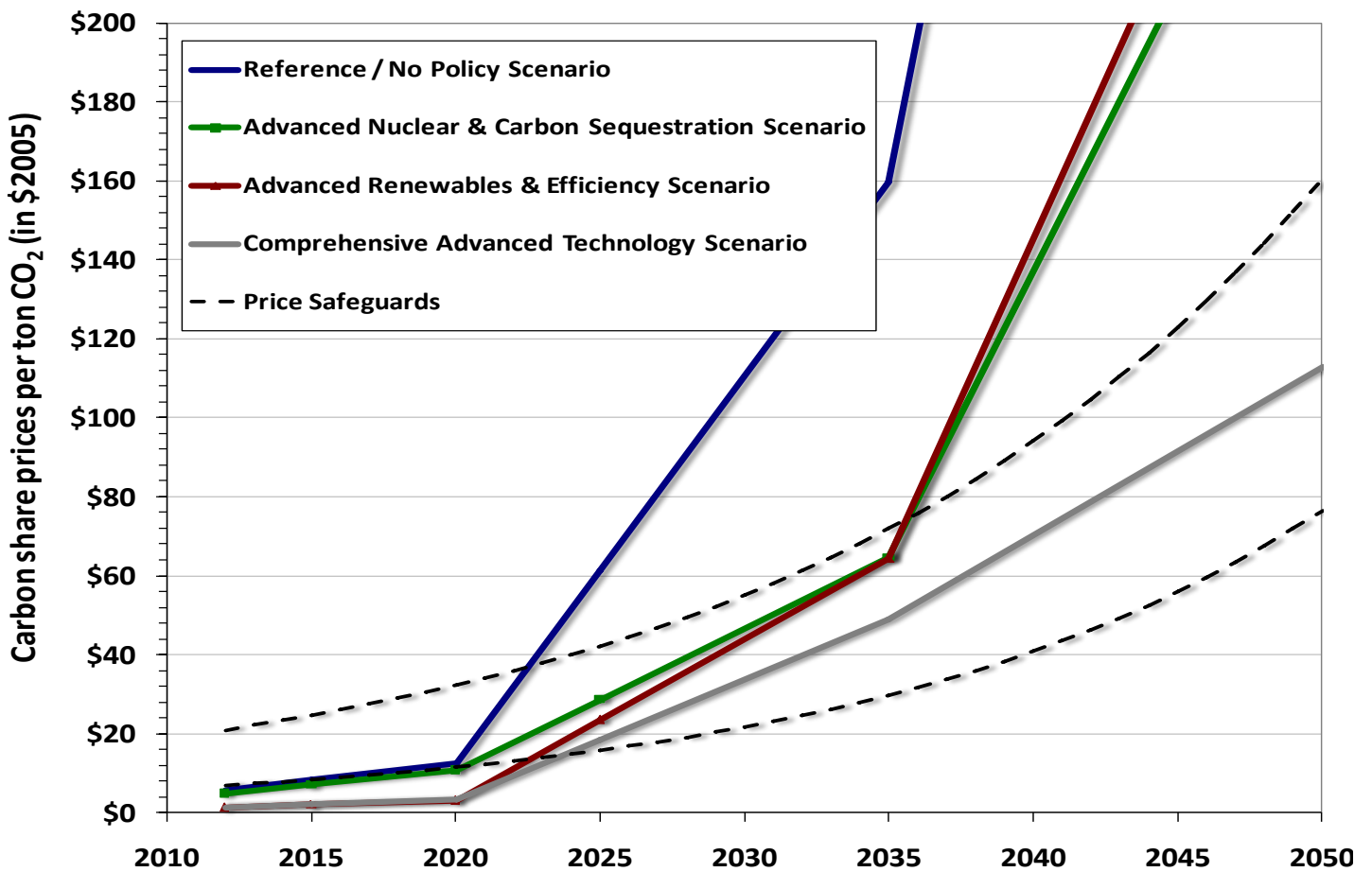
Fossil fuels users gain certainty by full and advance knowledge of the quantity of carbon shares available for any future calendar year, as well as an auction reserve price and corresponding maximum price for any carbon share sold in any one year. Specifically, in 2012 the floor of the CLEAR Act’s price collar is initially set at \$7 per carbon dioxide equivalent ton, with a safety valve price of \$21. Both the floor and the ceiling rise gradually, increasing each year in nominal dollars by the rate of inflation plus a 6.5 and 5.5 percent discount rate, respectively.ⁱ

This price collar will ensure robust and sustained clean energy investments, by preventing harmful price volatility and setting a minimum carbon price, while protecting the U.S. economy

from any sudden or excessive carbon share price increases. Modeling results recently published by Resources for the Future showed that the cost of carbon abatement in climate change policies with price safeguards was as much as 18 percent lower than it was in policies without safeguards.ⁱⁱ

Figure 3 below shows that under four possible technology adoption scenarios the CLEAR Act’s price safeguards are sufficient to prevent prices from reaching the boundaries except in rare and temporary circumstances, while limiting price volatility and providing investment certainty.ⁱⁱⁱ The scenarios illustrated in the figure represent alternative energy technology futures, including a reference case with a relatively slow rate of technological change and cases positing accelerated deployment rates for advanced renewable energy and efficiency technologies, advanced nuclear and carbon capture technologies, or a combination of both (the advanced technology scenario). As the figure suggests, the deployment of advanced energy technologies is critical to the achievement of the CLEAR Act’s emissions reduction goals and to controlling the costs of those reductions. Thus, the price collar—particularly the price floor—plays an important role by providing certainty to firms whose investments in advanced energy technologies might otherwise be at risk from the possibility of future carbon price collapses.

Figure 3. Projected Carbon Share Prices and Price Safeguards



In the rare event that the price safeguards are temporarily reached, the CLEAR Act includes several provisions that prevent higher net greenhouse gas emissions. Any revenues raised by the sale of carbon shares in excess of the specified cap level are directed explicitly to the abatement of non-CO₂ emissions outside the cap and to cost-effective projects that verifiably reduce, avoid, or sequester greenhouse gas emissions.

Non-Taxable, Monthly Cash Refunds to Every Legal Resident

The refund feature of the CLEAR Act promotes economic efficiency and protects the income of American consumers—particularly low-income families—as it reduces greenhouse gas emissions. Three quarters of auction proceeds would be returned each month, to each individual legally residing in the United States, on an equal per capita basis in the form of non-taxable cash refunds. Reaching the U.S. population regularly and accurately with minimal administrative costs is feasible, as illustrated by a number of systems already in place at the federal and state levels, including those administered by the Social Security Administration, the Internal Revenue Service, the Supplemental Nutritional Assistance Program, and the Alaska Permanent Fund.^{iv}

Refund income will put cash back directly into consumers' pockets, which will offset most energy price increases passed on to them from upstream producers and will keep the majority of low to middle income families whole. According to a recent report by the University of Massachusetts^v, roughly 70 percent of households will be kept whole by a refund mechanism like that in the CLEAR Act.

An important feature of the CLEAR Act is the fact that it does not dampen the energy price signal that is passed through to them from upstream. While monthly refund payments compensate consumers independently for higher costs, the price signal itself will encourage consumers to become more energy efficient, but allow them to decide for themselves how best to use their refunds. In this respect, the CLEAR Act differs fundamentally from cap-and-trade bills such as ACES, which distribute free emissions allowances to fossil-fired utilities as a means of dampening price signals to final consumers. Clear and consistent carbon price signals will be indispensable to efforts to fundamentally transform and decarbonize the U.S. energy system.

The Clean Energy Reinvestment Trust (CERT) Fund

The remaining quarter of auction revenues are directed to a dedicated trust, the Clean Energy Reinvestment Trust (CERT) Fund to accelerate the nation's urgently needed transition to a cleaner 21st century energy system and other climate-change-related priorities. Using the existing Congressional budget and appropriations process, the CERT Fund would be used exclusively to finance a variety of critical climate mitigation and adaptation programs as well as programs designed or administered by the Clean Energy Deployment Administration, including:

- targeted and region-specific transition assistance to workers, communities, industries, and small businesses of the United States experiencing the greatest economic dislocations due to efforts to reduce carbon emissions and address climate change and ocean acidification;
- targeted and region-specific compensation for early retirement of carbon-intensive facilities, machinery, or related assets in the United States that are stranded by new market dynamics;
- targeted relief for energy-intensive industries, including agriculture, that export their goods or products to countries that do not have similar restrictions on fossil fuels;
- training and development programs to prepare U.S. workers for careers in energy efficiency, renewable energy, and other emerging clean technology industries;
- mitigation of greenhouse gases other than carbon dioxide from fossil carbon and non-greenhouse substances that exacerbate or accelerate climate change (such as black carbon);
- cost-effective domestic and international projects that verifiably reduce, avoid, or sequester greenhouse gas emissions, such as agriculture, forestry, or other land use practices;
- investments in low and no carbon energy and fuels research, development, and deployment activities;
- projects or initiatives that verifiably increase energy efficiency or energy productivity;
- projects or initiatives that support residential fuel switching, particularly home heating oil;
- projects that verifiably increase energy efficiency and otherwise might not be undertaken without assistance;
- weatherization and energy efficiency improvements of low-income and public buildings;
- projects or initiatives that support residential fuel switching (with priority given to projects or initiatives relating to home heating oil);
- funding for climate change mitigation and adaptation projects, activities and research to increase the resilience of human populations and communities, fish and wildlife, and managed and unmanaged terrestrial, aquatic and marine ecosystems;
- cost-effective projects that provide adaptation services in areas and countries in which climate change or ocean acidification impacts are likely to be most severe;
- programs that protect or advocate for energy consumers relating to changes in rates and services as a result of the CLEAR Act;
- ensuring that the program does not contribute to the budget deficit of the Federal Government.

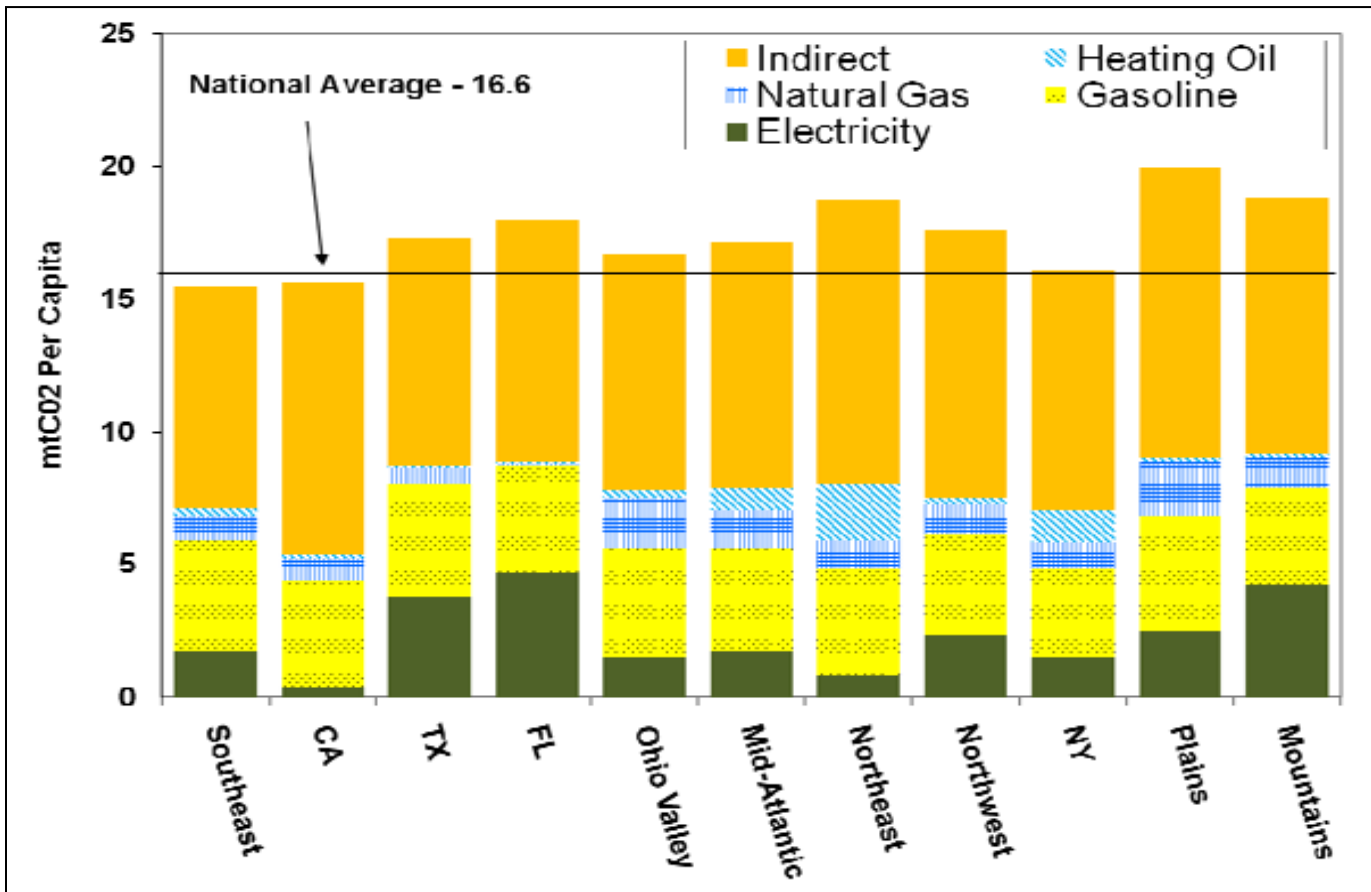
Minimizing Regional Income Disparities

The CLEAR Act’s upstream cap also minimizes regional income disparities. Figure 4, published by researchers at the non-partisan think tank Resources for the Future^{vi}, illustrates how regional variance in average per capita carbon intensity is relatively small.

Indirect fossil fuel use (the “production process” carbon in products and services such as food, air travel, and other services) ,rather than direct energy use, accounts for the majority of regional variance in carbon intensity. Since overall regional fossil fuel intensities do not vary widely and fossil carbon prices are passed downstream equally to all users, there is not likely to be a significant net regional redistribution of income resulting from the program.

Another study by the Hamilton Project at The Brookings Institution found that a per capita lump sum rebate, as in the CLEAR Act, would “not appear to disproportionately burden one region of the country more than any other region.”^{vii}

Figure 4. Average per capita carbon intensity by region



Leveling the Playing Field for Energy-Intensive Commodity Imports and Exports

Under the CLEAR Act, importers of energy intensive commodities such as steel, glass, or concrete may also be required to pay fees equal to the auction clearing price for the production process carbon used to manufacture their products, subject to U.S. obligations to any international trade agreements to which it is a party.

This requirement will help ensure that domestic manufacturers are not placed at a disadvantage relative to competitors operating in a country without carbon constraints. The CERT Fund also provides targeted relief to energy-intensive industries that export goods or products to countries that do not have similar restrictions on fossil carbon.

The CERT Fund will also fund targeted and region-specific transition assistance to U.S. workers, communities, industry, and small businesses experiencing the greatest economic dislocations due to new carbon limits. Monies are also authorized for compensation for early retirement of carbon-intensive facilities, machinery, or related assets in the United States impacted by efforts to reduce carbon emissions and address climate change and ocean acidification.

Providing Robust Incentives for Carbon Sequestration

The CLEAR Act also offers robust incentives for the commercialization and adoption of carbon capture and sequestration technologies that could allow electricity producers to continue using coal for baseload power generation indefinitely. Similarly, compensation is provided to manufacturers who purchase fossil fuel feedstocks used to produce goods (like plastics or fertilizer) that permanently embed carbon and prevent its release to the atmosphere

Each of these entities would be granted carbon shares commensurate with the amount of fossil carbon that is permanently embedded/sequestered and may sell shares at market rates on the carbon exchange established for first sellers. These “bonus” carbon shares are issued in addition to shares auctioned under the CLEAR Act’s upstream cap because this fossil carbon is permanently prevented from release into the atmosphere. These additional shares will have two important effects in that they will facilitate continued, non-emissive use of coal and other fossil fuels in the long-term, and that they will also provide a means for carbon capture and sequestration facilities and non-emitting fossil fuel product manufacturers to recoup additional input costs they might incur in the process of embedding carbon.

Primary Advantages of the CLEAR Act's Cap & Refund Approach

- The CLEAR Act offers simple, **streamlined design and simplified accounting** by virtue of its upstream cap and 100 percent auction of carbon shares with participation limited to a few thousand entities that actually produce or import fossil fuels.
- The CLEAR Act is likely to be **revenue neutral** to the U.S. Treasury, and the majority of American consumers.
- The CLEAR Act provides for a dedicated fund, allocated by Congress within the normal budget and appropriations process, to **finance clean energy investments and climate mitigation and adaptation programs** on a competitive basis.
- The CLEAR Act does not pick winners and losers, is fuel neutral, and leaves decisions regarding **energy technology choice to the market**.
- The CLEAR Act offers **emissions reduction certainty** through its establishment of gradually declining limits on fossil carbon entering the economy in a specified period, while achieving the science-based goal of an 80⁺ percent reduction in greenhouse gas emissions by 2050.
- The CLEAR Act provides fossil fuels users **reasonable price certainty** with full and advance knowledge of the annual quantity of carbon shares available, and a carbon share auction price collar.
- The CLEAR Act is economically efficient in its use of a **market-based auction** to set the price of carbon emissions reductions.
- The CLEAR Act **protects manufacturing** from unfair competition from foreign producers by requiring importers of energy-intensive commodities to pay the fair market price of the production process carbon that is emitted abroad.
- The CLEAR Act provides strong **economic incentives** in the form of direct payments to energy consumers encouraging energy efficiency, fuel switching, and broad-based support for policies to mitigate climate change.
- The CLEAR Act's **broad, economy-wide coverage of carbon, regional fairness, lack of special interest giveaways, protection for low-income families, and equal monthly distribution of auction revenues** will engender bipartisan and diverse political support, public acceptance, and long-term sustainability.

ⁱ The Congressional Budget Office (CBO) estimates that the economy's underlying ability to produce output from its capital stock provides a real return of about six percent [From 'How CBO Estimates the Costs of Reducing Greenhouse-Gas Emissions,' April 2009].

ⁱⁱ Harrison Fell and Richard D. Morgenstern, 'Alternative Approaches to Cost Containment in a Cap-and-Trade System,' RFF DP 09-14 (April 2009), p. 23.

ⁱⁱⁱ This analysis was performed using the Pacific Northwest National Laboratory/Joint Global Change Research Institute's GCAM integrated assessment model. The Joint Global Change Research Institute is a collaborative of the U.S. Department of Energy's Pacific Northwest National Laboratory and the University of Maryland, College Park.

^{iv} Michael A. Livermore, Institute for Policy Integrity, New York University School of Law. 'Dividend Mechanics: Moving Climate Auction Revenue into America's Wallets'

<http://policyintegrity.org/projects/documents/DividendMechanics.pdf>

^v Assumes 80% refund of auction revenues and \$25 per ton of CO₂ carbon share price [James Boyce and Matthew Riddle, August 2009: 'Cap and Dividend: A State-by-State Analysis.']

^{vi} Dallas Burtraw, Richard Sweeney and Margaret Walls, April/June 2009: 'The Incidence of U.S. Climate Policy: Alternative Uses of Revenues from a Cap-and-Trade Auction?'

^{vii} Gilbert E. Metcalf, October 2007: 'A Proposal for a U.S. Carbon Tax Swap: an Equitable Tax Reform to Address Global Climate Change.'