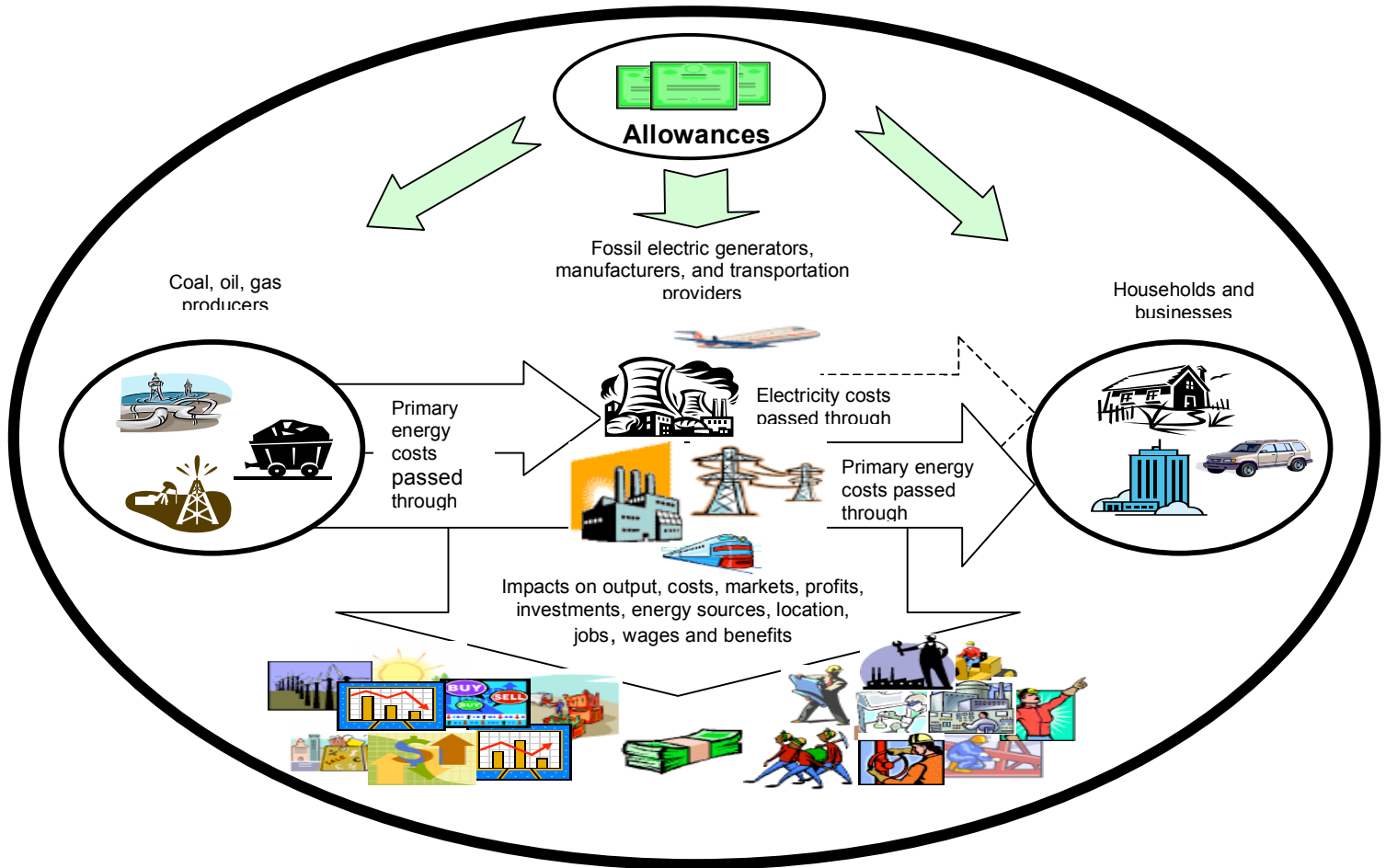




THE NCEP-LABOR CAP & TRADE PROJECT: LIMITING THE BURDEN OF CLIMATE POLICY ON UNIONS AND WORKING FAMILIES



Report prepared for:
National Commission on Energy Policy/Bi-Partisan Policy Council
Washington, D.C.

March 19, 20076

Joel S. Yudken, Ph.D.

Principal, High Road Strategies, LLC
104 N. Columbus Street, Arlington, VA 22203
(703) 528-7896 [o/fx] • (703) 980-8122
jyudken@highroadstrategies.com • www.highroadstrategies.com

OVERVIEW

The National Commission on Energy Policy has proactively sought labor union involvement in its work, to participate in the formulation of its climate change policies, as well as provide political support for its proposal in Congress. The *NCEP-Labor Cap & Trade* project is a part of this effort, initiated after an earlier set of meetings with staff and officers from a wide range of labor organizations, culminating in a preliminary report to the Commission in the Fall 2006.

Over the past three months the Project has engaged in a process designed to engage labor union guidance and participation in identifying key substantive concerns and issues associated with the design of the NCEP economy-wide emissions trading proposal. The project also solicited ideas and proposals for addressing labor's concerns. The findings of this process are presented and discussed in this report.

First, the report identifies and discusses economic assessment issues associated with the NCEP proposal on sectors with special market conditions, such as coal, electric power, manufacturing and aviation.

Second, it identifies and discusses labor concern about issues associated with the allocation distribution process, including how the allocation distribution is made, how allowances hold be conditioned and targeted, and how auction revenues are distributed. It also examines proposals for early investments in critical advanced energy technologies in two major sectors (coal/electric power, auto), integrated with, and important for, achieving the larger goals of the NCEP proposal.

Third, the report describes the project's initial discussions with labor unions to identify policy options for linking further stringent U.S. actions under the NCEP cap and trade program to obtaining developing nations' commitments to limit their greenhouse emissions.

Finally, the report outlines a set of follow-on projects to address the concerns and issues identified in the report that labor unions have identified as important.

Aside from the report, probably the most important result of this project has been the greatly expanded engagement and participation of labor unions in the substantive work of the Commission. Labor has now become an important and active participant in the national debate about how to best design a climate policy that reduces the threat of global warming without unfairly burdening working families.

TABLE OF CONTENTS

OVERVIEW	i
EXECUTIVE SUMMARY	iii
THE CONVERSION CHALLENGE	1
NCEP And Labor	1
Labor’s Position	2
AFL-CIO Energy Policy	3
THE NCEP-LABOR CAP & TRADE PROJECT	5
UNDERSTANDING THE ECONOMIC IMPACTS	6
Modest Economic Costs	6
Labor Concerns and Sector Impacts	7
Uncertainties and Model Limitations	8
Sector Assessments	10
Electricity Generation and Advanced Coal Technologies.....	10
Electric Power and Regulation.....	13
Manufacturing Competitiveness.....	15
Aviation and Volatile Energy Costs.....	17
ALLOCATION ISSUES	19
Allocation Distribution Issues	19
Conditioning Allowances to Firms	22
Auction Limits	23
Early Advanced Energy Technology Investments	24
INTERNATIONAL COMMITMENTS	25
Competitiveness and Trade Issues	25
Policy Options	26
CONCLUSIONS AND FOLLOW-ON WORK	26
APPENDIX	31

EXECUTIVE SUMMARY

Slowing and reversing climate change calls for a dramatic shift in how we supply and use the energy that drives modern economies. We must become much more energy-efficient and wean ourselves from dependency on fossil-based energy sources. Making this conversion, however, is not without the risk of large economic costs falling on ordinary workers, their families and communities, most of all. To be successful, climate change policies must acknowledge these costs and be guided by the objective of ensuring that the burden of these policies do not unfairly fall on working families.

Labor and Climate Change. Labor's stake in the climate change debate is profound. Unions in the energy, utility, manufacturing, transportation, building and construction sectors, have a particularly great interest in energy issues. Their members are especially vulnerable to climate policies that would drive up the costs of energy on an economy-wide basis. Labor unions opposed the Kyoto Protocol because its implementation would have imposed significant economic costs on the economy as a whole, and across many industrial sectors. Kyoto also did not require large developing countries, such as China and India, to participate in the treaty, putting American businesses and workers at a disadvantage in global markets.

Today, U.S. labor unions acknowledge the reality of global warming, and have become actively engaged in working to promote policies that both address the problem and protect the interests of workers. The AFL-CIO Energy Task Force policy statement calls for "balanced measures to combat global warming," and embraces "a balanced approach that assures abundant affordable energy supplies, creates good paying jobs for American workers, improves the environment, and reduces our dangerous dependence on foreign oil." At the same time, the AFL-CIO opposes "extreme measures that would undermine economic growth, harm particular sectors, or placing ourselves at a disadvantage to other nations." It also supports public investment in advanced energy technology R&D but only if it "promotes domestic production and jobs for American Workers."

Not coincidentally, the measures proposed by the AFL-CIO statement are broadly compatible with key elements of the climate change policy proposal of the National Commission on Energy Policy (NCEP), now embodied in legislation being drafted by U.S. Senator Jeff Bingaman (D-NM), chair of the Senate Energy and Natural Resources Committee. The AFL-CIO and many of its affiliates have publicly stated their general support for the Commission's approach, even as they flag certain aspects of the proposal with which they disagree or believe warrant further examination. The Commission has long been sensitive to the economic shock that an aggressive climate change policy might produce, and most important, the need to minimize these impacts on working Americans. Its mandatory economy-wide greenhouse emissions cap and trading proposal was purposely designed to minimize economic costs as the program gets off the ground.

The NCEP-Labor Cap & Trade Project. The Commission also has engaged in active outreach to solicit labor union involvement in its work, to participate in the formulation of its climate change policies, as well as provide political support for its

NCEP-Labor Cap & Trade Project

proposal in Congress. In December 2006, the NCEP-Labor Cap and Trade Project was started, after earlier meetings between NCEP staff, contractors and representatives from a wide range of labor unions. Its purpose is to broaden labor union participation in an effort to address substantive issues associated with the NCEP cap and trade proposal.

The project made presentations to staff and officers from several labor unions and organizations, supplemented by many informal individual communication and research. The presentations were designed to guide discussion and elicit labor perspectives and ideas. It's goal was to identify labor's most important concerns, and recommend follow-on activities to address these concerns, in three areas: assessing the NCEP proposal's economic impacts; design of allowance allocation policies; and, obtaining international commitments. The findings of this effort are presented in this report, and summarized below.

Understanding the Economic Impacts. Labor unions recognize that the NCEP proposal's overall economic costs probably would be modest, especially compared to other climate policies aimed at limiting GHG emissions currently being considered on the Hill. Nevertheless, the labor discussions revealed concerns about the economic implications of the NCEP for industry sectors facing special competitive pressures that warrant further examination and analysis:

- *The price signal from increasing energy prices for coal, and the allowance allocation revenues from the Climate Trust Fund designated for advanced coal technology will not be sufficient to encourage the timely development and commercialization of carbon capture and sequestration technology needed to ensure the future of coal, while meeting GHG emissions reduction goals.*
- *There needs to be further analysis of how the NCEP proposal will affect economic costs, and the consequences for fossil-fuel use, in the electric power sector, given the confused mix of regulated and unregulated electric power regimes across the nation.* Unions are interested in understanding how the behavior of regulated and unregulated power generators might differ when confronted with higher energy costs or how they would use free allowances allocated to them, and finally the consequences for their industry and workforce.
- *Unions are especially concerned about how even modest increases in energy prices from the NCEP plan might threaten the economic health of energy-intensive manufacturing sectors in the face of stiff foreign competition from China and other low-cost nations, which preclude the ability of U.S. manufacturers to pass along energy costs to their customers. They are worried that the cap and trade plan could create pressures for some firms to move their operations offshore, perhaps even encouraged by their allowance allocations.*
- *Unions with members in aviation, aircraft manufacturing and transportation are concerned about how the NCEP plan would impact the airline industry, as a result of increased jet fuel prices.* Energy costs are the largest portion of the airline industry's overall costs, yet it is not eligible for allowance allocation under the NCEP plan. The industry, whose economic fortunes were seriously hurt by 9/11 and the Katrina disaster, has also been buffeted since 2000 by escalating and volatile energy prices,

NCEP-Labor Cap & Trade Project

which has threatened the sector's recovery. Even a very modest increase in fuel costs could have significant impacts on the airline industry's bottom line.

Allocation Issues. Several issues associated with the allowance allocation process were also examined:

- *Some unions raised serious concerns about separating the point of regulation from the points of allowance allocation.* The UMWA disagrees with the NCEP proposal, and calls for the point of regulation to move from coal mines to fossil-fuel burning electric generators.
- *There is widespread agreement that the states should receive few or no allowances, and the allowances allocated to the states in the NCEP plan should be distributed to other uses.*
- *Unions believe that the quantities of allowances that would be allocated to the electricity and manufacturing sectors are not adequate, and should be increased, probably taken out of the state allocations.* The aviation industry, and perhaps the transportation industry as a whole (including aviation, shipping, rail, and trucking) should receive an allocation. Some also propose targeting allowances to support workforce training and assistance programs.
- *A major concern is that allowances allocated to emitting industry sectors are not used to support firm behavior that results in the closure or offshoring of operations, leading to the loss of jobs.* Allowances should be conditioned to prevent or punish "bad behavior" to offset energy cost increases, or game the process for greater gains, at workers' expense. They also should reward "good behavior" that leads to investments that reduce emissions while retaining or creating good jobs.
- *There is universal agreement for eliminating the \$50 billion cap on auction sales, and that the auction revenues be used to provide greater funding for advanced technology programs, and other uses that promote the Commission's environmental goals and spur economic growth.*
- *Both the UMWA and UAW call for establishment of programs that generate significant revenue streams for early, rapid development, commercialization and deployment of key enabling technologies in the coal/electric utility and auto sectors, respectively, prior to the implementation of the NCEP plan.*

International Commitments. *Finally, there is strong support for provisions in the NCEP plan to condition further U.S. stringent action to reduce GHG emissions on comparable commitments from developing nations. Although some options are being considered, the appropriate mechanisms for achieving this have yet to be determined.* Some call for employing international trade law to induce major developing nations to develop systems to limit GHG emissions. Another proposal would require allowance-emissions credits to accompany exports from major emitting nations that have not joined a post-Kyoto global cap-and-trade framework or capped their emissions by other means.

Follow-On Work. To more substantively address many of the issues identified above, selected follow-on projects are outlined below. Given time and resource constraints,

NCEP-Labor Cap & Trade Project

these should be considered a list of recommended options for further Commission activity, designed to enable even greater labor union involvement and support for NCEP objectives.

■ ***International Commitments Project.*** This project would identify, evaluate, and recommend options for the international commitments provision in the NCEP bill. It also would assess the economic impacts of the NCEP cap and trade proposal on energy-intensive manufacturing industries that are vulnerable to international competition.

1. **International Commitments Roundtable:** Bring together labor energy and trade experts to examine different options for establishing mechanisms to obtain developing nation (i.e., China, India) engagement and commitments in a comparable carbon emissions pricing and reduction regime.
2. **Manufacturing Industry Analysis:** Study how energy-intensive industries would be affected by increased energy prices resulting from NCEP plan when faced with competition with low-cost foreign competitors. Working closely with USW staff and officers, and industry officials, case studies will be conducted of selected industries (steel, aluminum, paper, tires, chemicals).

■ ***Accelerating Carbon Sequestration RD&D.*** Work with the United Mine Workers of America and legal and economic experts to identify and clarify UMWA's proposal for establishing a source of accelerated funding of CCS RD&D and commercialization, and analyze, define and broker this proposal's linkage with NCEP policies. A related, analysis would identify and evaluate options under the NCEP plan to achieve the goal of early commercialization of CCS.

■ ***Allowance Conditions and Incentives.*** Would build on prior discussions with labor unions to clarify, focus and develop specific recommendations for conditioning allowances to industries (restrictions on "bad behavior," rewards for "good behavior") to minimize perverse incentives for cutting or offshoring operations or gaming the allowance market, and other measures.

■ ***Utility Regulation Analysis.*** Work with the electric utility unions to examine the behavior of regulated and unregulated power generators and operators when confronted with higher prices, how they would use grandfathered allowances, and the consequences for their industry and workforce.

■ ***Aviation Industry Analysis.*** Work with the International Association of Machinists and other aviation unions to examine how the NCEP program would impact the airline industry, as a result of increased fuel costs, and would also explore whether the airline industry should receive an allowance allocation, and how receiving allowances could impact the industry's economic situation

■ ***Early Investment in Advanced Vehicle Technology.*** Work with the United Auto Workers to develop policies for generating funds for accelerating the commercialization and deployment new advanced vehicle technologies, integrated with the NCEP economy-wide cap and trade program vehicle modernization initiatives.

THE CONVERSION CHALLENGE

The movie *Amazing Grace* powerfully portrays the courageous and seemingly futile efforts of a small band of abolitionists to ban the British slave trade at the turn of the nineteenth century. Yet, armed only with information and moral outrage, this group over several decades gradually changed the awareness and sympathies of the British public, and, in the end, aided by clever political maneuvering, got Parliament to abolish the slave trade in 1807. While the analogy is not perfect, and the horrors of slavery are more palpable and immediate, the modern-day effort to raise awareness and enact policies and legislation to address the threat of global warming has some interesting parallels.

Powerful, entrenched economic forces were arrayed against the abolitionists, just as they today present significant obstacles to enacting policies that limit carbon and other greenhouse gas emissions. Moral suasion, while absolutely necessary, was alone not sufficient. Policies and historical conditions that undercut the economic underpinnings of slavery, which had fueled political resistance to change, were important to the ultimate success of the abolitionists. Today, addressing the underlying economic dependencies and rationales that have fueled resistance to enacting climate change policies, at least in the United States, are key to converting to a “clean”-energy economy and reducing the threat of global warming.

Now, as then, the jobs and livelihoods of working people are tied to an existing economic order, dependent on a particular source of productive power upon which the wealth and welfare of nations have relied. Ironically, the rise of industrialization in Britain in the first half of the 1800s, in which fossil-fueled machines began to replace human labor—now at the root of the climate change dilemma—most likely contributed to reducing that nation’s (and later America’s) dependency on slavery for wealth creation.

Today, slowing and reversing climate change calls for a new, and perhaps an even more dramatic shift in how we supply and use the energy that drives modern economies. We must become much more energy-efficient and wean ourselves from dependency on fossil-based energy sources—which supply over 85 percent of the nation’s total energy needs. Making this conversion, however, is not without the risk of large economic costs falling on ordinary workers, their families and communities, most of all.

NCEP and Labor

The National Commission on Energy Policy (NCEP) early on seemed to exhibit a keen sensitivity to the economic shock that an aggressive climate change policy might produce, and most important, the need to minimize the impacts on working Americans. This is important, both for reasons of economic fairness and because it would enable workers and their unions to more comfortably lend political support to climate policies.

With this recognition, the Commission proposes a relatively modest reduction of greenhouse emissions over time compared to other proposals favored by most of the environmental community. This proposal includes mechanisms that limit the initial economic shock of this reduction, and encourages investment in new energy technologies that would create new economic growth opportunities. Especially significant, the

NCEP-Labor Cap & Trade Project

Commission would link future stringency of U.S. actions to reduce greenhouse gas (GHG) emissions to comparable efforts by China and other major trading partners. This reflects an awareness of the potentially adverse impact of raising energy prices resulting from climate policies on the competitiveness of U.S. producers in global markets.

These features of the NCEP plan have impressed many in the labor community. The United Steel Workers (USW), United Mine Workers of America (UMWA) and the United Auto Workers (UAW) unions were supportive of whole or parts of the NCEP proposal when it was released as a report in 2004. The Commission has consistently attempted to engage labor unions, from the early work on its proposal to recent, ongoing outreach to solicit labor input as the NCEP proposal is incorporated into Congressional legislation. Senator Jeff Bingaman (D-NM), now chair of the Senate Energy and Natural Resources Committee, was successful in getting a Sense of the Senate resolution passed in 2005 containing many of the same objectives and mechanisms as the NCEP proposal. Senator Bingaman currently is developing a “staff draft” of similar legislation, which will be introduced during the 2007 legislative session. Congressman Udall and Petri on the House side are expected to introduce a similar bill as well.

Meanwhile, many other climate change bills, and related energy legislation, have been or are likely to be introduced in the coming months. In short, the political stakes have grown significantly, and labor’s interest in participating in this debate has increased accordingly. Yet, the Commission is one of the only major climate change initiatives making an effort to proactively involve labor in its work. For example, a recently formed coalition of major corporations and leading environmental organizations, also promoting a cap and trade proposal, has not invited labor involvement.

Labor’s Position

Labor’s stake in the current energy debate is profound. As Table 1 illustrates, unions have appreciable memberships in major industrial sectors that either produce or are the heaviest users of fossil fuel-based energy, and therefore are most likely to be affected by climate change policies. Moreover, many other unions in the building, construction and transport unions, not mentioned in this table, have strong interest in energy policy issues.

Most trade unionists today probably acknowledge the dangers of global warming and genuinely want to find a solution to the problem. At the same time, they know that a solution may require economic sacrifices that may fall on them and their families more heavily than others. Union fears about these impacts on their members’ jobs and livelihoods was a the root of the AFL-CIO’s opposition to the Kyoto climate treaty. The Federation’s efforts to engage in a “Blue-Green” dialogue with environmentalists in the late 1990s through 2001 ultimately collapsed. Several unions questioned the claim that human activity was the primary cause of global warming, or even that climate change was real. Many distrusted the environmentalists’ intentions—based on past experiences with other issues, they did not believe that the promoters of climate change policies were sensitive to the threat to workers’ economic welfare that these policies posed.

AFL-CIO Energy Policy

Over the past few years, partly because of the Commission’s work, the official labor position on climate change and the policies to mitigate it has shifted substantially. In the Fall of 2006, responding to a flurry of meetings with groups such as the Apollo Alliance, the Energy Future Coalition/25x’25 and the NCEP, the AFL-CIO formed an Energy Task Force comprised of representatives from the major affiliated manufacturing, energy and building and construction unions, to once again reexamine its positions on energy and climate change. In February 2007 the task force released a consensus policy paper, “Jobs and Energy for the 21st Century,” which calls for the nation to “embrace a balanced approach that assures abundant affordable energy supplies, creates good paying jobs for American workers, improves the environment, and reduces our dangerous dependence on foreign oil.”

**Table 1
Labor’s Stake in Climate Change**

Union (Membership)	Primary Industry Sectors	Energy Sources
UMWA (~40,000-50,000)	Coal Mining	Coal
UAW (640,000 active 500,000 retirees in U.S. & Canada)	Auto (Cars & Trucks, Buses, Auto Parts), Aircraft Manufacturing	Petroleum (motor gasoline, diesel, aviation fuel)
USW (1.2 million active and retired in U.S. and Canada)	Metals (steel, aluminum, titanium), Paper & Pulp, Forest Products, Chemical & Plastic Products; Oil; Nuclear, Natural Gas, Tire, Rubber & Plastics, Glass	Coal, Natural Gas, Petroleum, Nuclear, Electricity
IBEW (750,000 in U.S. & Canada)	Utilities, Manufacturing, Construction, Telecommunications, Railroad	Electricity, Coal, Natural Gas, Nuclear, Petroleum
UWUA (50,000 in U.S.)	Utilities (electric, gas, water, nuclear)	Electricity, Coal, Natural Gas, Nuclear, Petroleum
IBB (100,000 in U.S. & Canada (~1/2 in construction))	Construction, Cement, Lime, Gypsum, Boiler Repair & Maintenance, Manufacturing	Natural Gas, Coal, Electricity
IAM (730,000 across North America)	Aerospace, Automotive (repair), Transportation (aviation, rail), Forest Products	Petroleum (jet fuel, distillate fuel oil), Natural Gas, Electricity
<u>Transportation Unions:</u> TTD, AFL-CIO (32 unions) ATU (180,000 in NA) TWU (100,000) UTU (125,000) ALPA (60,000) AFA-CWA (55,000)	Aviation, Railroad, Mass Transit	Petroleum (jet fuel, diesel, gasoline), Natural Gas, Electricity, Coal

NCEP-Labor Cap & Trade Project

Most of the paper's provisions fall within long-standing AFL-CIO policies expressed in its executive council statements over a number of years. However, its strong, affirmative stand on climate change represents a departure from prior federation statements. First, it accepts that, "A growing body of scientific evidence has confirmed the environmental challenges posed by global warming. Human use of fossil fuels is undisputedly contributing to global warming, causing rising sea levels, changes in climate patterns and threats to coastal areas."

Second, it states the AFL-CIO's support for "balanced measures to combat global warming," which are broadly compatible with key elements of the NCEP proposal. This includes "addressing greenhouse gas emissions" upstream "on an economy-wide level," with contributions from each sector in proportion to the emissions of that sector, "a mandatory tradable-permits program," and "a 'safety valve' cost cap to protect the economy." It also supports a carbon permit "auction," whose revenues would be targeted to financing the development and deployment of affordable clean energy technologies, including "clean coal," carbon sequestration, advanced technology vehicles, and renewable energy resources. Finally, it states that U.S. climate change efforts "should be conditioned on similar actions by U.S. trading partners and developing countries."

At the same time, the AFL-CIO paper cautions that the federation opposes "extreme measures that would undermine economic growth, harm particular sectors, or placing ourselves at a disadvantage to other nations." In addition, it raises concern that in a cap and trade regime, no sector be "disproportionately burdened," and while it supports investments in technology R&D on a diverse range of energy sources, the deployment of this technology must be done in a "manner that promotes *domestic* [emphasis added] production and jobs for American workers."

Implicit in these statements are labor's criteria and framework for evaluating any climate change and energy proposals. They apply equally to the NCEP plan as to the more draconian proposals for limiting fossil-fuel energy use and greenhouse emissions that Congress is now deliberating. Even though the Commission proposal calls for only a modest reduction of greenhouse gas emissions over time, with mechanisms designed to effectively dampen economic shocks resulting from its implementation, concerns remain about the proposal's economic impacts and implications. A number of design issues in the NCEP proposal remain unresolved, including elements of the greenhouse gas allowances allocation system and the criteria and process for linking future U.S. action with comparable commitments from its trading partners, most notably China.

The fast pace that energy and climate change legislation is moving in the new Democratic Congress has added urgency to identifying and clarifying these concerns. Although, there is now strong labor support for policies that address global warming, labor unions want to understand the implications of these policies for its members, and be assured that there will be sufficient safeguards to prevent or buffer economic shocks to workers. They also want American workers to reap the greatest benefits from the economic opportunities created by these policies.

THE NCEP-LABOR CAP & TRADE PROJECT

The Commission has offered labor unions an opportunity to influence and shape climate change policies to ensure that U.S. working families are not unfairly burdened. In response to a series of meetings between NCEP staff, contractors and representatives from a wide range of labor unions in the Fall 2006,¹ the Commission initiated the NCEP-Labor Cap & Trade Project, to engage union guidance and participation in addressing substantive issues associated with its emissions trading proposal. The project's goals include identifying and clarifying labor's greatest concerns with the Commission's proposals, and outlining proposals for follow-on work to analyze and make recommendations for addressing the most important of these concerns.

Specifically, the project was designed to solicit union views, concerns and ideas with respect to three questions:

- What are the potential economic impacts of the Commission's cap-and-trade proposal on the industry sectors represented by the unions, especially the impacts on their members employed in these sectors, and on the geographical regions they live in?
- How should the allowance system in the cap-and-trade proposal be configured to mitigate economic costs while providing incentives and opportunities for investment and job creation in sectors affected by the Commission's proposal?
- How should the international component of the cap-and-trade proposal be designed to address the concerns labor unions have about the extent of foreign (in particular, large developing country) commitments to GHG emission reductions?

In the first phase of this effort, from January through early March 2007, another round of meetings with labor union officers and staff was held. In each meeting, the discussion was facilitated by use of a PowerPoint slide presentation. Its purpose was to help participants more fully understand the principal elements and mechanics of the Commission's proposed the emissions trade and allowance allocation system. It was then used to guide them in expressing and discussing their perspectives and concerns regarding the proposal, and identify ways to address these concerns.

Dr. Joel S. Yudken, Principal, High Road Strategies, LLC of Arlington, VA is coordinator of this project, and developed and delivered the presentation to staff and officers of a wide range of unions from the energy, utility, manufacturing, transportation and construction sectors. In addition, he participated in and presented at meetings of the Unions of Jobs and the Environment and the AFL-CIO Energy Task Force. He also had a large number of informal meetings and phone conversations with individuals outside the formal presentations.

¹ See Joel S. Yudken, *Labor Unions and GHG Emissions Trading: Proposal for a Labor-NCEP Cap & Trade Project*. Report prepared for the National Commission on Energy Policy/Bi-Partisan Policy Council, Washington, DC. Arlington, VA: High Road Strategies, LLC. November 10, 2006.

NCEP-Labor Cap & Trade Project

Initially, the focus of the meetings was to flag labor's major concerns with the original NCEP proposal, and then solicit recommendations and ideas for evaluating and addressing these concerns within a reasonable time frame. However, it soon became apparent that the focus needed to shift to the latest version of legislation being drafted by U.S. Senator Jeff Bingaman (D-NM), now chair of the Senate Committee on Energy and Natural Resources, which embodies the NCEP proposal, but with important differences. The findings presented below, therefore, pertain to the Bingaman draft legislation, though it is referred to as the NCEP plan in most of the text.

UNDERSTANDING THE ECONOMIC IMPACTS

The failed "Blue-Green" dialogue, which attempted to bridge differences between labor and environmentalists over the Kyoto Protocol, largely floundered on labor's perceptions that the treaty would impose unacceptable economic costs. A number of studies at the time predicted that the climate policy would result in large losses in economic outputs and jobs.² One important result, warned Economic Policy Institute economist Robert Scott, is that higher energy prices would "increase the competitiveness of exporters based in unaffected low-wage developing countries," who then would be able to capture a larger share of the U.S. market, further increasing the U.S. trade deficit.³

In contrast to its reaction to the Kyoto agreement, labor receptivity to the Commission's proposal has generally been positive. As already noted, labor unions today accept that global warming is a genuine and serious threat to the planet that needs addressing. Indeed, during the labor union presentations, some participants thought that the NCEP plan might not be aggressive enough in curbing greenhouse gas emissions. Labor's primary concern today is how to address climate change without unfairly burdening working families. Unions also recognize that some form of climate policy is likely to be enacted by the new Democratic Congress in the next year or two. Pragmatic political considerations, therefore, dictate that labor unions become engaged more directly in shaping climate legislation so that American workers' interests are protected.

Modest Economic Costs

The Commission not only has attempted to give labor a seat at this table, it offers an approach with the smallest economic costs compared to the alternatives. It proposes a policy framework intended to limit the overall costs to the economy and minimize initial economic shocks, first by slowing emissions growth and then, later, inducing more substantial reductions as needed. As a recent NCEP report notes, "the Commission deliberately designed an approach that was initially modest and protective of existing

² See for example, Robert E. Scott, "Accelerating Globalization? The Economic Effects of Climate Change Policies on U.S. Workers," Economic Policy Institute, Washington, DC, September 17, 1997; Standard & Poor's DRI, *The Impact of Meeting the Kyoto Protocol on Energy Markets and the Economy*. Report prepared for UMWA-BCOA LMPCP Fund, July 1998. This study, using a DRI model, found that implementing the protocol would result in the loss of 1.3-1.7 million jobs by 2005, GDP declines of 1.1-1.6 percent on average during the compliance period, consumer energy price increases from 24-36% and producer energy price increases from 49%-77%, and reductions in real household incomes of \$1,021 to \$1,403 per family annually.

³ Scott (1997).

NCEP-Labor Cap & Trade Project

investments in long-lived capital assets to overcome the cost and competitiveness objections that so far stymied efforts to reach consensus on a mandatory national climate policy.”⁴ A key feature is the “safety-valve” price, which puts a cap on the price of GHG emissions for a given year, and consequently the incremental increases in energy prices resulting from the program.

Lacking these features, the economic costs of other economy-wide GHG cap and trade climate proposals are likely to approximate the kinds of economic impacts on output, jobs and incomes projected for the Kyoto Protocol. Bills sponsored by Senators McCain and Lieberman (S.280) and by Senators Sanders and Boxer (S.309) call for sharp GHG emissions reductions of 60 percent and 80 percent, respectively, below the 1990 level in 2050. Neither has a “safety valve” price. It is probable that, given much steeper and faster mandated reduction in GHG emissions, and no mechanism to moderate emission prices in the early years of implementation, the resulting economic costs, both aggregate, and distributed (i.e., for coal, energy-intensive manufacturing, other energy-reliant sectors) will be quite high—perhaps enough to create significant discomfort and opposition among labor unions comparable to their reaction to Kyoto.

In comparison, the economic costs associated with the NCEP plan, as embodied in the latest Bingaman draft bill, appear very modest. The Energy Information Administration (EIA),⁵ estimates that the NCEP program would impose very small costs on the U.S. economy and would have “no meaningful impact” on the nation’s future economic growth. Cumulative GDP from 2009-2030 was calculated to be only 0.1 percent less than the *business-as-usual* case (BAU; the economic trends if no climate policies were enacted). Energy prices rise, but with mostly modest impacts on energy markets and use. Electricity prices rise by only 11 percent and retail gasoline prices are only 11¢ above BAU by 2030. Only the cost of coal grows substantially compared to BAU, by 48 percent by 2020 and 81 percent by 2030 above BAU. Nevertheless, coal use still expands, albeit at half the rate in the BAU economy.

Labor Concerns and Sector Impacts

These results have helped temper labor worries about the NCEP plan’s economic impacts, even how it might affect their members’ jobs. The EIA analysis did not estimate impacts on workers’ jobs and wages, in aggregate, or by sector. But the modest increases in energy prices (with the exception of coal) and tiny GDP impacts the EIA’s model predicts suggest that the overall economic and employment impacts on energy producers and users are likely to be relatively small. Because coal use continues to grow under the NCEP program, even the coal mining sector probably would not see substantial job losses, and perhaps even experience job gains.

⁴ National Commission on Energy Policy (NCEP), *Allocating Allowances in a Greenhouse Gas Trading System*. A staff paper from NCEP, Washington, DC, 2007.

⁵ Energy Information Administration (EIA), U.S. Department of Energy, *Energy Market and Economic Impacts of a Proposal to Reduce Greenhouse Gas Intensity with a Cap and Trade System*, SR/OIAF/2007-1, Washington, DC, January 2007.

NCEP-Labor Cap & Trade Project

On closer examination, though, some unionists have expressed apprehension about the implications of the NCEP trading program for their particular industry sectors, especially with respect to how the allocation distribution scheme would play out. The EIA analysis of the NCEP plan⁶ only shows projected energy price impacts and aggregate economic impacts (i.e., GDP). The energy price numbers could be applied to estimating cost impacts and fuel use changes for energy using sectors, and subsequently, with appropriate modeling tools, assess distributed impacts on industry sector outputs, including jobs and wages. But lacking such analyses, there is no way to determine just how the NCEP program might actually affect these outputs. Union representatives from the most affected industry sectors, therefore, simply have no point of reference in actually gauging the potential consequences for their members. They only can surmise, extrapolating from the aggregate numbers, that the impacts are small.

Uncertainties and Model Limitations

Because of this uncertainty, labor unions have a strong interest in understanding the economic impacts of the NCEP program for sectors facing special competitive pressures or are especially vulnerable to volatile energy prices. In addition, inherent characteristics of the EIA model and methodology—coupled with the uncertainties associated with any modeling of this type, which the EIA itself acknowledges⁷—limit its ability to accurately capture the economic costs and benefits of some kinds of policy options. The modeling limitations that generate the greatest uncertainties associated with measuring the economic costs, and most concern labor unions, include difficulties with assessing allowance distribution impacts, the affects of technology R&D investment, and the impacts on U.S. manufacturers faced with global competition.

1. *Allowance Allocation Impacts.* The EIA analysis does not address how the distribution of allowances to industry sectors, given to compensate for their increased energy prices, affects economic output and employment in these sectors. The EIA study assumes that allowances are freely given away to regulated upstream energy supply industries and downstream industry sectors in proportion to the CO₂-equivalent content in the energy fuels they produce or use, as specified in the latest Bingaman draft bill. The EIA model can represent the revenue streams coming into these sectors based on the allowance allocations, and is able to represent the broad energy and economic impacts of the allowance program. But it only has a limited ability to represent alternative allocation schemes, and is not even able to distinguish

⁶ From this point on the “NCEP” refers to the NCEP proposal as embodied in the 2006-7 draft Bingaman legislation, which is different from the Commission’s 2004 proposal, unless indicated otherwise.

⁷ See EIA (2007), 7, 34-35. For example, EIA states that, “NEMS, like all models, is a simplified representation of reality. Projections are dependent on the data, methodologies, model structure, and assumptions used to develop them. Since many of the events that shape energy markets are random and cannot be anticipated (including severe weather, technological breakthroughs, and geopolitical developments), energy markets are subject to uncertainty. Moreover, future developments in technologies, demographics, and resources cannot be foreseen with certainty.” (7); Similarly, “All long-term projections engender considerable uncertainty. It is particularly difficult to foresee how existing technologies might evolve or what new technologies might emerge as market conditions change, particularly when those changes are fairly dramatic.” (34).

the merits of the point of regulation. Nor can it assess how individual industries or communities will fare as a result of allocation choices under the emissions policy.⁸

2. Technology R&D Subsidies and Emission Pricing. Although the EIA model can represent the flow of revenues into the economy from the \$50 billion cumulative R&D expenditures funded by auction revenues, it does not evaluate potential energy efficiency improvements and other carbon mitigation effects of proposed RD&D provisions and incentives.⁹ Top-down macroeconomic models, like the EIA model, can represent links between environmental and macroeconomic performance, and are capable of capturing the *costs* of R&D efforts. But they have difficulty evaluating specific alternative energy technologies, and measuring the cost reductions from technological advancement.¹⁰ Other EIA analyses have shown “that estimates of both energy and economic impacts of such programs can change significantly under alternative assumptions regarding the cost and availability of new technologies.”¹¹

Economic studies show that a combination of emissions pricing policy and climate-friendly R&D subsidies are needed to cause a fall in GHG emissions at the lowest cost.¹² These analyses suggest that R&D subsidies in the absence of emissions pricing are not sufficient to induce emissions reducing behavior (i.e., installing new technologies) by emitters.¹³ On the other hand, it takes time for firms to replace (or retrofit or rebuild) older, less energy-efficient or high GHG-emitting industrial stock, with newer zero- or low-emissions technologies and equipment, even in the face of strong price incentives.

As the EIA recognizes, complying with the GHG emissions growth limits necessary to meet specified intensity targets would require all energy providers, particularly electricity producers, to “increasingly rely on technologies that play a relatively small role today or have not been built in the United States in many years.” Thus, there is a strong rationale for public investments in researching, developing and bringing new technologies to market, to optimize the impacts of climate policies. However, because of the often-substantial time lags for bringing key, emission-reducing technologies to commercial viability (such as IGCC and carbon sequestration (see below)), modeling their interactions with emissions pricing policies and calculating their economic implications and costs is difficult and highly uncertain.

3. International Competition. The EIA model does not capture well how increased energy costs from emissions policies can hurt the competitiveness of some U.S. domestic industries in global markets, which could produce greater economic costs than reflected in the study. As the Congressional Budget Office notes, “If a domestic

⁸ EIA (2007), 7.

⁹ *Id.*, 7, n.18.

¹⁰ Congress of the United States, Congressional Budget Office, *Evaluating the Role of Prices and R&D in Reducing Carbon Dioxide Emissions*, A CBO Paper, Washington, DC, September 2006, CBO, 10, n.9.

¹¹ EIA (2007), 34.

¹² CBO (2006), 16; David Popp, “R&D Subsidies and Climate Policy: Is There a ‘Free Lunch’?” NBER Working Paper 10880, Cambridge MA: National Bureau of Economic Research, October 2004.

¹³ *Id.*, 10.

NCEP-Labor Cap & Trade Project

carbon-pricing program led to significant increases in the prices of U.S.-produced goods that were not matched by other countries, then carbon-intensive industries might choose to relocate to countries that do not have similar restrictions, diminishing the effectiveness of a U.S. carbon-pricing program.”¹⁴ The Commission’s awareness that competition from low-cost regions of the world, notably China and India, could significantly hurt U.S. domestic energy-intensive firms under an emissions trading regime, motivated the inclusion of its international commitments provision.

But the EIA analysis does not attempt to model this provision, let alone the economic costs of the NCEP plan imposed on domestic industries in the face of intense foreign competition. More troubling is the likelihood that the EIA model may be making unrealistic assumptions regarding international trade flows, implying an inherent limitation for evaluating the economic costs tied to international competition that the labor community is especially concerned about. Although the EIA study starts with a realistic, net U.S. trade deficit in 2004 of a little over \$600 billion (\$2000), the trade balance flips to a highly unlikely \$117 billion trade surplus by 2020 and rises to a whopping \$677 billion surplus by 2030 in the reference case—the surpluses are only a little smaller in the NCEP case. The steady, exponential growth in the U.S. trade deficit since the late 1970s—largely driven by deficits with China—with records broken nearly every year, raises questions about the EIA model ability to accurately account for the impact of global trade flows in the context of the NCEP plan.

Sector Assessments

Given these uncertainties, and the limitations on the ability of the EIA macroeconomic model to capture the economic costs of climate policies, the economic impacts of the NCEP proposal at the industry sector level in some instances could be larger and more significant. Labor representatives have identified several instances where these factors may be important, warranting further examination of the economic implications for key industry sectors under the NCEP cap and trade regime. Understanding these impacts would be helpful for two reasons. On the one hand, if the potential economic impacts turn out not to be high, it would give unions greater assurance about the NCEP proposal. On the other hand, if there were worrisome costs, especially if borne by union members, not captured in current analysis, it would provide a basis for identifying strategies for mitigating and adjusting to these impacts on affected business, workers and communities. As identified through the union meetings, sectors that could benefit from such an analysis include coal, electric power, manufacturing, transportation (especially aviation), and construction.

■ **Electricity Generation and Advanced Coal Technologies.** In the words of a United Mine Workers representative, we need a “reality check” regarding the assumptions about how fast advanced coal technologies—low carbon electricity generation (i.e., Integrated Gasification Combined Cycle or IGCC), carbon capture and sequestration (CCS), and coal-to-liquids (CTL)—can be commercialized and brought on line soon enough to make a difference, to ensure a future for coal under the NCEP, or any

¹⁴ *Id.*, 19.

NCEP-Labor Cap & Trade Project

carbon emissions pricing proposal. The UMWA official said he believed that there is a general misunderstanding about what may actually be required to enable the new advanced coal technologies, especially CCS technologies, to be available in the time frames stated in the NCEP proposal.

The Commission's 2004 proposal calls for a \$4 billion investment over ten years to support the early deployment of roughly ten GW of sequestration-ready IGCC plants, as well as support for commercial-scale demonstrations of geologic carbon storage with a \$3 billion investment over ten years. The Bingaman bill proposes large investments from the Climate Trust Fund for deployment of up to 20 GW of advanced coal generation. After awards for 2 GW of this capacity are given out, priority would be given to projects that capture and sequester CO₂ emissions. The EIA study, however, only accounted for the R&D revenue flows into the economy allocated to IGCC development and deployment, but did not evaluate the energy efficiency improvements and other carbon mitigation effects of these investments.

More important, aside from calculating that the 5 percent allowance allocation for pilot programs in agricultural sequestration would account for 4 percent of the total GHG gas reductions,¹⁵ the EIA did not evaluate the contribution and costs of carbon capture and sequestration associated with IGCC or any other advanced coal generation technologies. Even though the EIA recognized that "successful development of carbon capture and storage technologies might allow coal-fired plants to remain competitive under a GHG allowance program, the allowance prices" were not high enough "to compensate for the increased capital and operating costs." Consequently, it projected that power plants with CCS would not be commercially viable within the 2030 time frame" of its analysis.¹⁶

MIT Future of Coal Study. However, the Mine Workers claim, "geological sequestration of CO₂ is critical to retaining domestic coal as a viable energy supply in the context of constrained U.S. greenhouse gas emissions."¹⁷ This view is strongly supported by the Massachusetts Institute of Technology's 2007 report on *The Future of Coal, Options for a Carbon-Constrained World*.¹⁸ It identifies CCS as "the critical enabling technology that would reduce CO₂ emissions significantly while allowing coal to meet the world's pressing needs." It also concludes that making CCS commercially available would make "a significant difference in utilization of coal at mid-century regardless of the levels of the CO₂ prices or assumption about nuclear power." For example, if CCS becomes available, global CO₂ emissions from all sources would be only slightly higher than today's levels and less than half of the BAU level, although more coal would be used in 2050 than today.¹⁹

¹⁵ EIA (2007), vii.

¹⁶ *Id.*, 16.

¹⁷ Eugene M. Trisko, "A Proposal for Accelerating Applied Carbon Sequestration RD&D." Draft proposal. Berkeley Springs, WV, March 2007.

¹⁸ Massachusetts Institute of Technology (MIT), *The Future of Coal, Options for Carbon-Constrained World*, Cambridge, MA, 2007.

¹⁹ MIT (2007), x. At the same time, the report notes that the reduction of CO₂ emissions from coal to half or less of today's CO₂ emissions level, and to one-sixth or less than the BAU projection, would be a major contributor to restraining emissions in 2050.

NCEP-Labor Cap & Trade Project

It is very instructive to review the MIT study, as it explicitly uses the NCEP “safety-valve price” of \$7/tonne of CO₂ for its “low” price trajectory starting in 2010, rising at an annual real rate of 5 percent. Its “high” price scenario begins in 2015 with a \$25/tonne-CO₂ price, increasing by a real rate of 4 percent every year. There are other important differences in the scenarios examined by the MIT study from the NCEP plan and the scope and assumptions in the EIA analysis. The MIT study examines the trajectories of CO₂ emissions and coal use under different technology assumptions (different generation technologies, with and without CCS) out to 2050, while EIA analysis examines outcomes only as far out as 2030. The NCEP carbon pricing and cap and trade proposal applies only to the U.S. economy, while the MIT analysis assumes a worldwide CO₂-pricing regime, even as it recognizes that this currently is politically unrealistic.

The MIT study’s most relevant finding is its conclusion that investments in carbon-sequestration-ready IGCC plants are not warranted. It argues that the concept of a “capture-ready” IGCC or pulverized coal plant has yet to be proven, and is unlikely to be fruitful.²⁰ Instead, successful CCS commercialization is prerequisite for broad deployment of coal-based electricity generation on a large scale in the context of a carbon mitigation policy. Therefore, priority should be given to “the successful large-scale demonstration of the technical, economic and environmental performance of the technologies that make up all the major components of a large scale integrated CCS system—capture, transportation and storage.”²¹ Thus, it calls for a strong government role in developing and bringing CSS technology to realization, in particular, and only secondarily, to support development of advanced coal conversion technologies, such as IGCC and super critical pulverized coal or SCPC.

Significantly, although it argues that there is no justification for federal assistance for new power plant technologies without CCS, there is for federal support to “first mover” IGCC plants with CO₂ capture.²² At the same time, it cautions against federal programs “picking winners and losers,” that is, favoring any one coal conversion/combustion technologies over another, that is, IGCC over SCPC.²³ Instead it recommends a federal investment of as much as \$800-\$850 million/year for analysis, R&D and demonstration for a full-range of sequestration, IGCC, pulverized coal, and related technologies.²⁴

The MIT study’s main findings about the critical importance of CCS, and the need for strong federal investment, holds regardless of whether the “low” (NCEP-related) or “high” price trajectory is followed, and the assumptions made about nuclear power capacity or natural gas prices. It is significant, however, that the “high” price case leads to coal combustion with CCS becoming commercially viable much earlier than the “low” price option. This is not surprising as the higher CO₂ price gives CCS the time and economic incentive to begin gaining in market share in 2025, growing steadily to 2050,

²⁰ *Id.*, 99.

²¹ *Id.*, xi.

²² *Id.*, 100.

²³ *Id.*, 98.

²⁴ *Id.*, 77-87; Also summarized in Table 8.1, 104.

leading to a resurgence of global coal consumption after reductions in use in earlier years. Under the “low” price trajectory, coal consumption falls to 45 percent of the reference case, though still 100 percent above 2000 coal use.²⁵ However, the CCS contribution is much smaller, as it does not become economical until around 2035 or 2040, leading to a small market penetration by 2050.²⁶ These findings, in this instance, appear consistent with the EIA analysis of the NCEP option.²⁷

Future Analysis. In conclusion, as the MIT report notes, the “pace of deployment of coal-fired power plants with CCS depends both on the timing and level of CO₂ emission prices and on the technical readiness and successful commercial demonstration of CCS technologies.”²⁸ But it is not obvious that the NCEP proposal would provide sufficient inducements to speed up the commercialization and deployment of advanced coal combustion technologies with CCS to ensure robust use of coal, while reducing GHG emissions. It therefore would be useful to identify what may be necessary, under the NCEP plan, to achieve this goal: how much and what kind of investments might be necessary (i.e., should the MIT analysis and RD&D proposal be adopted?); the role of government and private sector investments; and, what policy mechanisms are needed, including targeting allowance allocations and auction revenues. Economic analysis of these options would explore issues such as: the actual economics, as well as institutional and market motivations, behind generator choices; the consequences for Eastern and Western coal (i.e., underground vs. surface mine), how small operators might be affected; and, different assumptions about nuclear power and natural gas prices.

■ **Electric Power and Regulation.** An additional complicating factor in realistically assessing how the NCEP plan would affect economic costs, and especially the consequences for fossil-fuel use, in the electric power sector, is today’s confused mix of regulated and unregulated electricity regimes across the nation. The electrical workers unions (IBEW, UWUA) have expressed interest in understanding how the behavior of regulated and unregulated power generators might differ when confronted with higher energy prices or how they would use free allowances allocated to them, and what the consequences would be for their industry and workforce.

The Deregulation Movement. The Federal Power Act of 1935 granted the states authority, through their public utility commissions, to regulate power generation and

²⁵ *Id.*, 10

²⁶ *Id.*

²⁷ The MIT study also evaluates CCS and coal use for limited and expanded nuclear capacity options and for high and low natural gas price scenarios. This has some interest for the electric power unions, and the potential substitution of nuclear power for coal-fired plants is a concern for the coal miners. But huge hurdles exist before the expectations about growth in nuclear power are realized. As the EIA report notes, “the NCEP proposal assumes that the power sector would significantly increase its reliance on nuclear power in order to reduce GHG emissions. This is despite the facts that the last nuclear order in the United States was placed in 1978 and the last nuclear plant to enter service began operating in 1996. However, several factors, including rising fossil fuel prices, concern about GHG emissions, tax incentives in the EPACT 2005 and new nuclear plant designs, have recently spurred renewed interest in new nuclear plants.” EIA (2007), 34

²⁸ MIT (2007), xi.

NCEP-Labor Cap & Trade Project

retail distribution of electric power within their geographic borders, with a mandate to ensure that electricity was provided to all consumers served at “just and reasonable” rates. On the whole, this system worked well for over sixty years, guaranteeing consumers across the nation nearly universal access to reliable and reasonably priced electric power.

In 1996, California became the first state to deregulate its wholesale and retail electric power markets, followed by many other states, especially in the Northeast, several Midwestern states and Texas. This march towards deregulation, that even the Clinton Administration encouraged, came to a sudden end with the California electricity crisis in 2001. Electricity prices skyrocketed, in part due to the efforts of unregulated energy traders, most notoriously Enron, to illegally manipulate wholesale electricity markets. Since then, some states have suspended their deregulation laws (California) or indefinitely delayed their plans to restructure their electricity markets. Today, twenty-seven states continue to be regulated, six have delayed or suspended their restructuring plans, while 17 states and the District of Columbia continue to be remain actively restructured. However, because of escalating retail prices and the failure of efforts to establish competitive retail markets, several states, such as Maryland and Virginia, are now contemplating reversing (or revising) their restructuring laws.

The AFL-CIO has long opposed efforts to encourage the deregulation of electric power markets. It was actively engaged in efforts to prevent the repeal of the Public Utility Holding Company Act (PUHCA) of 1935, designed to prevent the formation of large electric power conglomerates through the merger of geographically unconnected utilities. It played an instrumental role in enabling the introduction of language in the Energy Policy Act of 2005 that retained some federal oversight and limits on electric power mergers, when it became obvious that PUHCA would be repealed in the new energy bill. It continues to oppose efforts to deregulate the nation’s electric power system. The AFL-CIO Energy Task Force statement reiterates its support for policies that, “guarantee states’ regulatory authority over the generation and delivery of electricity within their borders and the right to remain free from federal efforts to coerce them into joining regional wholesale electricity markets.”²⁹

Different Rules. Understanding the different rules governing regulated utilities and unregulated power generators is critical for understanding how energy price increases tied to the pricing of emissions allowances will be handled. How grandfathered allowances might be used and the consequences for their use also would vary for different regulatory situations. Regulated entities are required to follow the decisions of state regulators about how much of any fuel price increases could be passed along to consumers. They would require regulators’ approval in response to fuel price increases, to close, retrofit or rebuild existing plants, or build new plants with non-carbon or low-carbon-fired plants or to invest in integrated coal-fired plants with CCS when it became available.

²⁹ AFL-CIO (2007).

NCEP-Labor Cap & Trade Project

All these decisions are conditioned by the requirement that regulated utilities are bound by an “obligation to serve,” ensuring reliable and affordable electric power for all consumers (whether industrial or residential) in the regulated geographic area. Regulators of integrated utilities look at the optimum mix of plants at any one time to meet actual demand conditions, considering the actual costs of those units over their long-term utilization, not on an hour-to-hour basis. Unregulated power companies do not have these constraints, and their response to fuel price increases or free allowances would, as a UWUA representative noted, “would not be determined by fuel efficiency needs, but by market conditions to take advantage of market opportunities.”

The NCEP staff paper on allocation considers some of the differences between the regulatory situations. It argues that when electricity prices are set by regulators rather than markets, the regulators will shield consumers from rate impacts to prevent windfall profits by “passing through opportunity costs associated with the use of grandfathered allowances.” It contends that this would block “the price signal needed to stimulate efficient responses on the part of the end-users,” and “would create large unintended inequities between consumers in different regions,” depending on whether “they live in traditionally regulated regions or not, and between firms in the business of supplying electricity, depending on where they operate.”³⁰

In contrast, energy union representatives contend that regulated utilities would be allowed to pass along these costs as legitimate fuel charges. Regulators also could require regulated utilities to apply their grandfathered allowances to investing in plant upgrades, support managed demand programs, and make other improvements to their operations, including upgrading their workforces. Unregulated entities, however, would be free to pass on their allowance revenues to their shareholders, or even close down plants to avoid costs, and take the profits from cashing in the allowances. In short, there is a great deal of uncertainty about the nature of the price signals under different regulatory conditions. We really don’t know how these signals, and allowance distributions, would affect choices about existing power plants, especially existing coal-fired plants, what modifications may be required and what and how many plants potentially may be shut down. Also, unknown is how wholesale and retail markets be affected, and what would the impact would be on consumer electricity prices.

■ **Manufacturing Competitiveness.** Unions representing energy-intensive industries, notably the USW and IBB, are very concerned about how even modest increases in energy prices resulting from the NCEP cap and trade program, can diminish the economic health of these sectors in the face of stiff international competition, especially from nations’ such as China, which are not bound by comparable emissions reduction commitments.

Energy Costs. The primary metals (steel, aluminum), chemicals, paper and pulp, nonmetallic mineral products (especially cement), wood products, plastic and rubber products (including tire), and fabricated metal products are among the largest users of

³⁰ NCEP (2007), 18.

NCEP-Labor Cap & Trade Project

energy, not only in manufacturing, but, in the overall economy. In 2002, they accounted for nearly one-seventh of total energy consumption in the economy, and nearly 60 percent of all energy consumed by manufacturers. Chemicals alone consumes almost seven percent of the economy's energy, paper consumes 2.4 percent and primary metals 2.2 percent. Energy also makes up a major part of their production costs: it accounts for about 20 percent in the steel industry and as much as 30-35 percent of the cost of aluminum production, according to a union source. Natural gas, coal products, petroleum and electricity are the primary energy sources for these sectors, and therefore are subject to price increases on fossil-fuels resulting from the NCEP cap and trade program.

How capable a firm is to compensate for energy cost increases depends on how much room it has to make new energy-efficiency improvements. Many of these industries have been investing in cutting their energy costs, increasing energy efficiency, and reducing their carbon emissions, for many years. The now defunct Industries of the Future program of the Department of Energy, which began in the 1980s, and was strongly supported by the Clinton Administration, was a government-industry partnership to promote these objectives. In the labor discussion, a USW official claimed that the paper industry "is stretching technology as it is." There probably remain opportunities for manufacturers in these sectors to make further energy efficiency improvements, but these may be limited and expensive.

These industries also face some of the strongest competition from foreign manufacturers. The greater the competitive challenge from foreign manufacturers, the harder it is to pass along energy price increases to consumers without risking the loss of market share for their products to the foreign competitors. Faced with higher energy prices, some manufacturers may even find it more attractive to move their operations offshore, to China or other nations with lower labor and energy costs, rather than invest in improving their energy efficiency.

Perverse Incentives. The uncertainties associated with assessing the economic burden imposed on any given firm or industry, as identified in the NCEP allocation white paper, applies to these sectors. This burden, the NCEP report notes, depends on two determinants: a firm's ability to pass along "costs associated with fossil-fuel use backwards and forwards in the energy chain," and the reductions in products "experienced as a result of higher prices for fossil fuels and fossil-fuel intensive products." Moreover, how these determinants play out involves a variety of factors, including market conditions, the regulatory environment, and the elasticity of demand for particular goods or services. In the case of energy-intensive manufacturing, there is a substantial threat of increased substitution of domestically made goods by cheaper foreign goods when energy prices rise.³¹

Receiving free allowances may help offset the increased energy costs, enabling companies to avoid raising prices on their finished products. Ostensibly, companies would also have an incentive to invest in energy-efficiency technologies or other measures to reduce their energy consumption and costs. However, there is a possibility

³¹ *Id.*, 17.

NCEP-Labor Cap & Trade Project

that allowances will provide a perverse incentive for some firms to cut their workforces, shut down some or all their operations, reduce investment in R&D, or make other cost cutting measures, rather than invest in modernizing their production capabilities or increasing energy efficiency to compensate for increased energy prices. As a USW official noted, we want a paper mill to invest in reducing their energy consumption, “to incent them to make the same unit of paper with reduced units of energy,” rather than to make less paper and cut back on production and jobs.

This could be comparable to the situation of the aluminum industry during the California electricity crisis, when wholesale electricity prices in the western states rose dramatically. The Pacific Northwest had a huge aluminum industry encouraged by cheap electricity provided by the Bonneville Power Administration. Aluminum companies had a claim on cheap electricity through long-term contracts with Bonneville, which they sold on the market for much more. Realizing that they could make more money selling the electricity than producing aluminum, many aluminum companies shut down their plants and laid-off workers.

Further Analysis. It therefore would be useful to conduct a detailed examination how the NCEP proposal would affect these trade-vulnerable energy-intensive industries. Such analyses would examine patterns of the industries’ energy use and costs, their energy price pass-along potential, the potential for, and investments needed, to achieve further energy efficiency reductions, the nature and extent of their domestic and international competition, and how increased energy prices would affect their market shares and profits in these markets. They also should assess the implications for jobs and compensation in these sectors. In addition, the studies should evaluate options for using free allowances in these sectors, and the impacts on their energy costs, profits and competitiveness. These analyses would provide a valuable baseline, both for conditioning the allowance distribution to energy-intensive sectors, and for designing the international commitment provisions (see below).

■ **Aviation and Volatile Energy Costs.** The IAM, which represents airline industry workers, raised a concern about how the NCEP program would impact the airline industry, as a result of additional jet fuel costs. As in energy-intensive manufacturing, energy is critical to most transportation sectors, including aviation, trucking, rail and shipping. Conversely, transportation is one of the biggest consumers of energy, especially petroleum products. Aviation, in particular, is a heavily energy reliant and vulnerable sector, with sunk fixed costs perhaps exceeding the manufacturing industries.

Rising Fuel Costs. The ailing airline industry has been buffeted even further by dramatically rising and volatile jet fuel prices since 2000, and especially over the past few years. The average price of jet fuel doubled between 2003 and 2005, and jumped by perhaps nearly another 20 percent by the end of 2006. As a result, the airlines major trade organization, the Air Transport Association (ATA) complained, “that continued

NCEP-Labor Cap & Trade Project

rising jet fuel prices are impeding” the progress the U.S. airline industry had been making towards returning to profitability.³²

Historically, fuel expenses ranged from 10-15 percent of airline costs, but now it's between 20-30 percent. According to the ATA, U.S. airline fuel expenses jumped from \$16.4 billion in 2000 to \$38 billion in 2006, even though U.S. airline fuel consumption remained roughly the same at around or below 20 billion gallons. As John P. Heimlich, ATA's vice president and chief economist, testified, “On a unit-cost basis, for most carriers fuel has tied or overtaken labor as the industry's largest expense. More precisely, a historically three-to-one labor-to-fuel cost ratio has become a dead heat at best.”³³

NCEP Impacts. The EIA predicts that the NCEP plan would drive up jet fuel prices by 6 percent above BAU by 2020 and 8 percent above BAU by 2030. These are modest increases in fuel prices, especially in light of the highly volatile and rapid growth in fuel costs the industry has had to adjust to in recent years. On the other hand, even a small increase in energy costs, in a highly competitive industry that virtually has no room for passing along additional fuel-related costs, could hurt the industry's financial health. For example, Heimlich states that, “at today's consumption rate every penny increase in the price of a gallon of jet fuel drives an additional \$195 million in annual operating expenses for the industry.”³⁴ Increased energy prices could also contribute to further cuts in the industry payroll. Again, Heimlich calculates, “According to the latest government figures, network carriers had already eliminated 164,000 jobs, or nearly one out of every three workers, by the end of 2005. In 2005, it cost the airlines an average of \$75,000 to employ one worker. That means that the \$10.8 billion increase in jet fuel expense from 2004 could have supported over 144,000 airline employees.”³⁵

The airline industry has not been targeted for receiving free allowance allocations, even though it is very fossil-fuel-reliant industry, and the potential consequences of the NCEP plan for its economic health and its workforce could be significant. The IAM therefore has expressed interest in a closer examination of this industry. In particular, how would the pass along jet fuel costs affect airline service demand (i.e., the number of people flying), and subsequently the industry's profitability? How would reduced demand and profits ripple to affect the aircraft manufacturing industry (also represented by IAM)?

The study also would explore whether the airline industry should receive an allowance allocation, and how receiving allowances could impact on the industry's economic situation. The airline industry already is strongly motivated to find ways to improve its jet fuel efficiency, largely because unlike other modes of transport, they have no alternative source of energy. Allowances could be employed to offset the impact of jet fuel increases, though they might be applied to other energy cost cutting measures. Some

³² Air Transport Association (ATA), “Rising Jet Fuel Prices Hamper Airline Industry's Extraordinary Cost-Cutting Efforts” ATA News Release, April 12, 2006.

³³ John P. Heimlich, “Commercial Jet Fuel Supply: Impact on U.S. Airlines.” Before the Aviation Subcommittee of the Committee on Transportation and Infrastructure of the House of Representatives,” Washington DC, February 15, 2006.

³⁴ *Id.*

³⁵ *Id.*

consideration might be given to support the airline industry investments to cut energy consumption using funds from the Climate Trust Fund or allowance sales revenues, such as air traffic control modernization, synthetic jet fuels (CTL) and biomass jet fuel manufacturing, and fleet modernization.

ALLOCATION ISSUES

The prior section identified and discussed different assessment issues associated with evaluating the NCEP proposal's impacts on sectors with special market conditions (technology commercialization requirements, mix of regulatory regimes, globally competitive markets), that the EIA analysis could not fully address. The discussion also examines questions of how different allocation options play out and affect economic outputs, and touches on how certain allowance uses could create perverse market incentives.

The discussion below addresses labor union concerns regarding the allocation distribution process itself. Union representatives raised questions about how the allocation distribution is made, how allowances should be conditioned and targeted, and how auction revenues are distributed. In addition, proposals for early investments in critical advanced energy technologies in two major sectors (coal, auto), important to achieving the larger goals of the NCEP plan are outlined.

■ **Allocation Distribution Issues.** The Bingaman bill specifies an initial first year distribution of emissions allowances of 15 percent to the upstream fuel providers, 40 percent for other industrial mid-stream emitters (electric generators, energy-intensive manufacturing), 29 percent to the states, and 10 percent for the auction. The remainder would be allocated to agricultural sequestration (5 percent) and early reduction credits (1 percent). Table 2 shows the proposed allocation for selected years broken down by industry sector among the regulated “upstream” energy providers and the “midstream/downstream” industries (power generators, manufacturers). It also shows estimated dollar value of those allowances (in \$2004) given to those sectors.

The labor discussions raised a number of concerns about this distribution, in particular about the location of the points of regulation and allocation, the allocation to states, and allocating allowances for other purposes, such as to the transportation or aviation sectors.

- ***Points of Regulation and Allocation***—An important area of contention revolves around the provisions designating upstream producers of fuel as the point of regulation. The UMWA argues that the point of regulation should be the same as the point of allowance allocation, similar to the Title IV acid rain program and all other major federal cap-and-trade program implemented under the Clean Air Act, including EPA's 1998 NO_x SIP Call and the 2005 Clean Air Interstate Rule.³⁶

³⁶ United Mine Workers of America (UMWA), “Requests to Questions to NGOs from Chairman Dingell and Chairman Boucher,” February 2007.

NCEP-Labor Cap & Trade Project

First, it contends, separating the points of allocation and regulation makes little administrative sense and poses potentially serious compliance and enforcement difficulties. It proposes shifting the point of regulation from coal producers to coal-based electric utilities. The latter already have made the capital, management and personnel investments required to monitor and report CO₂ emissions, and manage allowance-based compliance under the Title IV program. On the other hand, all but the largest coal producers have any expertise in managing or accounting for allowance transactions. There are hundreds of very small “mom and pop” coal producers scattered throughout Appalachia and the Midwest, for whom managing and complying with emissions allowance regulations would be a major burden.

Table 2
Proposed Allowance Distribution and Values³⁷
Selected Years, 2012-2040

Percent of Allowances								
Year	Auction	Regulated Entities				Non-Regulated Entities		States
		Coal	Petro-leum	Natural Gas	Non-CO ₂ GHG	Electric Generators	Indus-trial Sectors	
2012	10.00	7.00	4.00	2.00	2.00	30.00	10.00	29.00
2016	10.00	7.00	4.00	2.00	2.00	30.00	10.00	29.00
2020	18.00	5.98	3.42	1.71	1.71	25.64	8.55	29.00
2030	38.00	3.44	1.96	0.98	0.98	14.73	4.91	30.00
2040	58.00	0.89	0.51	0.25	0.25	3.82	1.27	30.00
2044	65.00	0.00	0.00	0.00	0.00	0.00	0.00	30.00
Value of Allowances in \$ Billions (\$2004)								
2012	2.5	1.8	1.0	0.5	0.5	7.5	2.5	7.3
2016	3.5	2.5	1.4	0.7	0.7	10.6	3.5	10.3
2020	9.1	3.0	1.7	0.9	0.9	13.0	4.3	14.7
2030	24.7	2.2	1.3	0.6	0.6	9.6	3.2	19.5

Finally, since electric generators are the actual points of emissions, the union claims, they are in a better position to make improve efficiencies and reduce greenhouse gases. Therefore, it makes the most sense that they are given emissions limits that must be covered by purchasing allowances from the market. This obviously is an area that requires more discussion between the union and the Commission.

- ***State Allowance Placeholder.*** There was near unanimity that the apparent placeholder allocation of allowances to the states should either be eliminated or reduced, and the allowances spread to other uses. What those other uses are and the mechanism for their disbursement, however, requires further exploration.

³⁷ Data is from tables developed by Senator Bingaman’s staff. Dollar estimates are based on \$2004 equivalent values of 1% of allowances for a given year, through 2030.

NCEP-Labor Cap & Trade Project

The NCEP plan proposes the option of giving states 29 percent of the allowances during the first ten years of the program, rising to 30 percent thereafter. As the table shows, this is comparable over the first few years to the allocation to electric generators, and three times the amount granted to industrial users. In money terms, both the states and the electricity sector would receive a little over \$7 billion (\$2004) in the early years. But the revenues to the states would grow steadily larger from 2017, rising to \$19.5 billion by 2030, continuing at a robust level until 2040. Meanwhile, the amount given to electric generators and manufacturers grows relatively, and then absolutely, smaller, falling to zero by 2040.

The UMWA worries that the states could come under pressure to retire allowances, reducing the supply of allowances and creating competitive imbalances among the states. Others wonder why states would receive allowances if they are not emitters of GHG emissions. Although the Bingaman bill would designate a range of ways states should invest using their allowances, they would not be responding to any price signals, and there would be no real accountability for how they use the allowances.

Channeling allowances to support state energy programs, and perhaps some distributive relief for low-income consumers or economic adjustment assistance to communities and dislocated workers may be warranted, if not desired. Several states have initiatives to promote energy efficiency and alternative non-carbon or low-carbon energy sources, often with the support of state and local labor organizations—and some are allied with the AFL-CIO-endorsed Apollo Alliance. But any allocations to the states need to be conditioned by requirements that they are directly tied to activities that actually do reduce GHG-emissions, or they help in reducing distributional inequities associated with the cap and trade program.

- ***Other Allowance Allocations.*** There was a strong sentiment in the labor discussions that the allowances designated for the electric utility and industrial sectors may not be adequate. A utility union representative suggested that the allowance going to electric generators be increased from 30 percent to 40 percent. An industrial union staff person believes more allowances should go to industrial emitters. There also is a strong rationale for allocating allowances to the transportation sectors which use or depend on fossil-fuels, especially to the aviation industry, for which the need to adjust to rising energy costs in a volatile and uncertain market may be greatest (see below).

Another important target for allowance allocation may be workforce training and assistance programs. Some propose allocating a portion of the allowances to industry-labor joint training programs (such as apprenticeship training), including certification and licensing, especially for workforces involved in the construction and use of new energy technologies (such as IGCC, carbon sequestration, as well as renewable energy). The mechanisms for channeling allowances to such programs remains to be determined, though this too could come from the state allowances.

■ **Conditioning Allowances to Firms.** Labor unions strongly urge that firms in emitting sectors be required to use their allowances for improving the energy efficiency and reducing GHG emissions, and not take actions that unnecessarily result in the loss of jobs in their efforts to offset increased energy prices. As concisely articulated in an AFL-CIO public statement, “The point of the financial incentives and rewards of a cap and trade system are to encourage positive changes in domestic behavior. No one should be able to game the system for financial reward. There should be a prohibition on firms obtaining an allowance and then closing those facilities or moving those operations offshore. . . . In addition, firms should not profit from the sale of allowances created by temporary production cutbacks.”³⁸

Price Signals and Firm Behavior. The Commission allowance allocation scheme assumes that downstream industrial emitters will respond to the price signal from rising energy prices by behavior that reduces energy use (i.e., fossil-fuel based), and consequently, GHG-emissions from consumption of that energy. Allowances are granted in proportion to the amount of emissions they generate, in theory, to offset the incremental increase in costs of the energy used to produce those emissions. It is assumed that firms, even if their emissions are not being regulated, will have an incentive to invest in ways to cut energy use to the extent that the cost of reducing the corresponding emissions is not greater than the market price of their allowances. Again, according to theory, as long as the market value of their received allowances—capped however at the “safety-valve” price—is greater than the unit costs of reducing their energy use (or equivalent emissions), a profit maximizing firm will make the investments it needs to reduce its energy use (and accordingly, costs), and sell the higher-priced allowances for a profit.

However, if the unit cost of reducing energy use (or emissions) is equal or higher than the market value of the emissions allowances, the firm’s incentive to invest in cutting energy use depends on its ability to pass along the cost to its customers and what impact this would have on demand for its products. The latter, in turn, depends on issues such as the price elasticity of demand, and whether the producer is confronting substantial competitive pressures (i.e., from low-cost foreign producers) that limit the emitting firm’s ability to raise prices without severely damaging its business. Another limiting factor is the marginal cost of making additional energy reducing improvements in its operations. For some energy-intensive sectors that have long invested in energy efficiency these costs could be quite high, and not recoupable with existing allowance revenues. As already noted, these factors could result in much larger economic costs for energy-intensive manufacturing industries than traditional economic analysis would predict.

Perverse Incentives. One option for addressing this problem is to provide firms with a greater amount of allocations, which compensate for the additional costs imposed on emitting firms by these constrained market conditions. At the same time, what worries many in the labor community is that some firms may decide that, because of the pressure of higher energy prices and the potential gains from selling their allowances, it

³⁸ “AFL-CIO response to the Committee on Energy and Environment request for information regarding climate change legislation,” Washington, DC, March 19, 2007.

NCEP-Labor Cap & Trade Project

makes more business sense to shut down or move some of their operations offshore—perhaps using the allowances to finance this move. While shutting down a facility would foreclose receiving future allowances, offshoring could be accomplished without affecting energy use, while allowing the firm to offset increased costs and not have to raise prices on its goods.

In any event, there may be a number of ways, under certain market conditions, that firms would have a perverse incentive to offset cost increases, or worse, game the system for greater gains (such as the aluminum industry example, mentioned above) at workers' expense. It would be useful to identify these scenarios.

Allocation Conditions. It also would be desirable to design mechanisms in the allowance allocation system that prevent “bad behavior” and reward “good behavior” that leads to investments that reduce emissions while retaining or creating good jobs. As the AFL-CIO states, “The intent should be to reward increased efficiency,” and not allow firms to take allowances and then closing or offshoring their production.³⁹

How to condition the allowance allocations to achieve these objectives requires further exploration, but it is flagged as a priority within the labor community. It is strongly felt, that since the federal government is handing out the allowances and is responsible for overseeing the cap and trade system, it is legitimate for it to attach certain criteria for how allowances cannot be used. As the AFL-CIO advocates, perhaps enacting “a clawback provision for the return of allowances to the government that are not used due to cutbacks in production.” Transparency and enforcement in this process, is also vital. Again, as the AFL-CIO observes, “Since allowances are in essence public disbursements, the value of the allowances, as well as their sale and disposition, should be public information and subject to timely public reporting.”⁴⁰

At the same time, it has been suggested that that there could be stronger incentives attached to the allowance allocations to induce companies to make investments in energy efficiency or other related, good behavior. That is, perhaps, a firm may be eligible to receive additional credits for such actions if they can be shown to exceed expected emissions reductions, perhaps coming from the state placeholder allowance pool. Some union representatives have proposed even stronger measures, that would make releasing an allowance contingent on the company demonstrating that they did something to get back an allowance—i.e., invest in new technology or equipment that reduces emissions. In any event, if there should be additional allowance-based incentives, and how they should be designed and implemented deserves further examination.

■ **Auction Limits.** There is almost universal agreement in the labor community that the \$50 billion cap on auction sales that would underwrite the Climate Trust Fund be eliminated. There should be no limit how much is collected and dedicated to the kinds of new technology programs identified in the NCEP proposal as eligible for funds from this source. The money collected from auction sales for just the four years identified in Table

³⁹ “AFL-CIO response” (2007)

⁴⁰ *Id.*

NCEP-Labor Cap & Trade Project

2 above amounts to nearly \$40 billion (in 2004 dollars). Thus the auction revenues can provide a considerably larger flow of available funding for needed technology, and other important investments for promoting the environmental goals of the Commission, while simultaneously spurring new economic growth.

There is strong support for the advanced technology and commercialization programs identified in the NCEP. Summarizing the views heard throughout the labor discussions, and the AFL-CIO statement, revenues should be targeted to conversion to clean coal technology, carbon capture and sequestration, domestic production of advanced technology vehicles and their components, energy efficiency, and renewable energy. In addition, some of these revenues should be targeted to support the training of workers engaged in the production and deployment of these technologies.

■ **Early Advanced Energy Technology Investments.** Both the UMWA and UAW call for mechanisms to begin significant revenue streams, to support the early, rapid development, commercialization and deployment of key enabling technologies in their sector, *prior* to when the NCEP program would begin. Funding from the auction of allowances will not be available until after implementation of the cap and trade program.

As noted above, public investment in carbon capture and sequestration technology needs to begin much sooner than specified in the NCEP plan, as the timing of the auction funding and the lack of an adequate price signal would delay the availability of CCS technology. A similar argument can be made for providing RD&D funding for advanced vehicle technologies. As the AFL-CIO states, “there is an immediate need for investments” for these and other technologies. Therefore, it proposes that Congress “find a way to forward fund these important investments in new technology and thus enable these sectors to meet the program requirements when they are implement.”⁴¹

- **Accelerating Carbon Sequestration RD&D.** The UMWA calls for a Coal Use Research Fee (CURF), a temporary fee or tax on the gross sales price of coal delivered to U.S. electric generating plants, to generate as much as \$1 billion or more annually to generate a source of enhanced funding for research, development and demonstration of methods of carbon capture and geological or marine sequestration, but not on energy generation or conversion processes (such as IGCC, SCPC, coal liquefaction). The funding generated from the fees would support the operations of a quasi-federal RD&D agency focused on accelerating the commercial availability of CCS. It would be implemented after enactment of climate legislation but prior to when distribution of allowances begins. The miners believe that the coal suppliers and transporters would see this as a form of self-insurance, as their continued economic viability depends on the successful deployment of CCS.⁴²
- **Early Investment in Advanced Vehicle Technology.** The UAW recognizes that separate and distinct regulations may be legislated—CAFE or some fuel efficiency standard imposed on the auto industry—along with passage of a climate change policy. The union is concerned that NCEP allowance auction and sales revenues will

⁴¹ *Id.*

⁴² Trisko (2007)

NCEP-Labor Cap & Trade Project

not be large enough or available soon enough to help U.S. auto makers modernize and switch to advanced vehicle technologies. It proposes a program for generating additional funds integrated with the economy-wide cap and trade program. It also calls for additional allowance allocations from to help the auto industry cover its emissions burden. A possible mechanism might be a “feebate” that would impose fees on inefficient vehicles while providing rebates for more energy-efficient ones. UAW specifies that it would like to see \$5-6 billion annually go into the industry, to simultaneously address the automakers’ retiree health burdens and support advanced vehicle modernization. Although, realistically, the Japanese-owned domestic plants cannot be excluded from benefits, U.S. firms need to be helped so they can move down the right path. Otherwise, the domestic economic impacts could be very bad.

INTERNATIONAL COMMITMENTS

From the labor perspective, probably no issue in the climate policy debate is as difficult and important as that of obtaining commitments from the large developing nations, especially China and India, to limit their GHG emissions. Labor supports the NCEP plan because it conditions further stringent U.S. actions to reduce its emissions after 2015 on obtaining these commitments. Much work remains, however, in defining the mechanisms that realistically can achieve this goal.

Competitiveness and Trade Issues

The importance of this issue to labor is highlighted by the potential impacts of the NCEP cap and trade program on the competitiveness of U.S. energy-intensive manufacturers, as discussed above. Even modest price increases resulting from an emissions cap and trade program could put U.S. manufacturers at an even greater competitive disadvantage against foreign firms from developing nations with no comparable environmental burdens. For most of this decade, the AFL-CIO Industrial Union Council has been actively engaged in promoting policies to protect and revitalize American manufacturing.⁴³ More than 3 million manufacturing jobs and 40,000 manufacturing establishments have closed since 1998. The massive U.S. trade deficit in goods and services continues to mushroom, reaching a record \$764 billion in 2006. The largest share of this deficit is due to trade with China, whose goods trade surplus with the United States reach a new record, as well, of \$233 billion in 2006.

Underlying the erosion of U.S. manufacturing competitiveness, according to the AFL-CIO, are lax environmental standards, repression of workers rights, currency manipulation and other financial incentives being utilized by foreign governments to build their own industrial bases. The AFL-CIO considers these forms of illegal subsidies that have “undermined U.S. manufacturing” and contributed to its “unsustainable trade deficit.” At the same time, the Federation worries that a cap and trade could make this situation worse “if it does not include a timeline for compliance for non-participating

⁴³ AFL-CIO Industrial Union Council, *Revitalizing American Manufacturing*, Washington, D.C., 2004 Edition.

NCEP-Labor Cap & Trade Project

trading partners and provide a clear timely response mechanism with significant financial resources.”⁴⁴

Obtaining developing nations’ commitments to fully participate in a globally coordinated effort to limit GHG emissions is not just important for obtaining labor’s political support, or even to protect U.S. manufacturing. Rather, it is essential to get China and other developing nations to move down this path, if the world is to slow and reverse global warming in this century. The MIT *Future of Coal* report records that China is currently constructing the equivalent of two, 500 megawatt, coal-fired power plants per week, a capacity comparable to the entire UK power grid each year.⁴⁵ There can be no doubt that China will soon surpass the United States as the world’s greatest emitter of greenhouse gas emissions.

Policy Options

Identifying the right policy options and mechanisms for tying the NCEP and trade program to a trigger mechanism that initiates real action will require, as the AFL-CIO notes, a marriage of energy/environmental policy to manufacturing/trade policy. The AFL-CIO calls for “a carrot and stick approach,” which employs international trade law to induce major developing nations to develop systems to limit GHG emissions. This could include “a requirement that, with a time certain deadline and an impasse/failure in negotiations, nations not participating would have to purchase carbon allowances on products for exports” into the United States—that is, a “border adjustable permit requirement.”⁴⁶ Along similar lines, IBEW president Ed Hill and American Electric Power CEO Michael Morris have proposed requiring that allowances-emissions credits accompany exports from major emitting nations that have not joined a post-Kyoto global cap-and-trade framework or otherwise capped their emissions, in order to cover the emissions generated by the manufacture of those exports.⁴⁷

In any event, this or some other trade-based approach is vital for encourage U.S. trading partners to join in a worldwide emissions reduction initiative. Labor unions now accept that the United States must play a leadership role, by embracing GHG reducing policies before developing nation involvement. The United States can also use its technological leadership in promoting the diffusion of advanced coal technologies (especially CCS) to the developing world. But neither the U.S. or other developed nations efforts to reduce their own emissions can succeed unless China and other nations take serious steps in adopting such technologies and change their behavior.

CONCLUSIONS AND FOLLOW-ON WORK

Starting in December 2006, the Commission has successfully engaged labor in providing input and articulating its concerns regarding the NCEP cap and trade proposal. The AFL-

⁴⁴ “AFL-CIO response” (2007).

⁴⁵ MIT (2007), ix.

⁴⁶ “AFL-CIO response” (2007).

⁴⁷ Michael G. Morris and Edwin D. Hill, “Trade Is The Key To Climate Change,” *The Energy Daily*, vol. 35, No. 33, February 20, 2007.

NCEP-Labor Cap & Trade Project

CIO and many of its affiliates have publicly stated their general support for the NCEP approach, even as they flag certain aspects of the proposal with which they disagree or believe warrant further examination. The NCEP-Labor Project helped to broaden labor union participation in its effort to address substantive issues associated with the NCEP cap and trade proposal.

In particular, the Project made a series of presentations to staff and officers from several labor unions and organizations, supplemented by many informal individual communications and research, designed to guide this process and elicit labor perspectives and ideas. Its goal was to identify labor's most important concerns, and recommend follow-on activities to address these concerns, in three areas: assessing the proposal's economic impacts; design of allowance allocation policies; and, obtaining international commitments. The findings of this effort are presented in this report.

Labor unions recognize that the NCEP proposal's overall economic costs probably would be modest, especially compared to other climate policies aimed at limiting GHG emissions currently being considered on the Hill. Nevertheless, the labor discussions revealed concerns about the economic implications of the NCEP for industry sectors facing special competitive pressures:

- *The price signal from increasing energy prices for coal, and the allowance allocation revenues from the Climate Trust Fund designated for advanced coal technology will not be sufficient to encourage the timely development and commercialization of carbon capture and sequestration technology needed to ensure the future of coal, while meeting GHG emissions reduction goals.*
- *There needs to be further analysis of how the NCEP proposal will affect economic costs, and the consequences for fossil-fuel use, in the electric power sector, given the confused mix of regulated and unregulated electric power regimes across the nation. Unions are interested in understanding how the behavior of regulated and unregulated power generators might differ when confronted with higher energy costs or how they would use free allowances allocated to them, and finally the consequences for their industry and workforce.*
- *Unions are especially concerned about even modest increases in energy prices from the NCEP plan might threaten the economic health of energy-intensive manufacturing sectors in the face of stiff foreign competition from China and other low-cost nations, which preclude the ability of U.S. manufacturers to pass along energy costs to their customers. They are worried that the cap and trade plan could create pressures for some firms to move their operations offshore, perhaps even encouraged by their allowance allocations.*
- *Unions with members in aviation, aircraft manufacturing and transportation are concerned about how the NCEP plan would impact the airline industry, as a result of increased jet fuel prices. Energy costs are the largest portion of the airline industry's overall costs, yet it is not eligible for allowance allocation under the NCEP plan. The industry, whose economic fortunes were seriously hurt by 9/11 and the Katrina disaster, has also been buffeted since 2000 by escalating and volatile energy prices,*

NCEP-Labor Cap & Trade Project

which has threatened the sector's recovery. Even a very modest increase in fuel costs could have significant impacts on the airline industry's bottom line.

Several issues associated with the allowance allocation process also were examined:

- *There are important concerns about separating the point of regulation from the points of allowance allocation.* The UMWA disagrees with the NCEP proposal, and calls for the point of regulation to move from coal mines to fossil-fuel burning electric generators.
- *There is widespread agreement that the states should receive few or no allowances, and the allowances allocated to the states in the NCEP plan should be distributed to other uses.*
- *Unions believe that the quantities of allowances that would be allocated to the electricity and manufacturing sectors are not adequate, and should be increased, probably taken out of the state allocations. The aviation industry, and perhaps the transportation industry as a whole (including aviation, shipping, rail, and trucking) should receive an allocation.* Some also propose targeting allowances to support workforce training and assistance programs.
- *A major concern is that allowances allocating to emitting industry sectors are not used to support firm behavior that results in the closure or offshoring of operations, leading to the loss of jobs.* Allowances should be conditioned to prevent or punish "bad behavior" (i.e., to offset energy cost increases, or game the process for greater gains, at workers' expense), and to reward "good behavior" (i.e., investing in the reduction of emissions while retaining or creating good jobs).
- *There is universal agreement for eliminating the \$50 billion cap on auction sales, and that the auction revenues be used to provide greater funding for advanced technology programs, and other uses, that promote the Commission's environmental goals and spur economic growth.*
- *Both the UMWA and UAW call for establishment of programs that generate significant revenue streams for early, rapid development, commercialization and deployment of key enabling technologies in the coal/electric utility and auto sectors, respectively, prior to the implementation of the NCEP plan.*

Finally, there is strong support for provisions in the NCEP plan to condition further U.S. stringent action to reduce GHG emissions on comparable commitments from developing nations. Although some options are being considered, the appropriate mechanisms for achieving this have yet to be determined. Some call for employing international trade law to induce major developing nations to develop systems to limit GHG emissions. Another proposal would require allowance-emissions credits to accompany exports from major emitting nations that have not joined a post-Kyoto global cap-and-trade framework or capped their emissions by other means.

To more substantively address many of the issues identified above, selected follow-on projects are outlined below. Given time and resource constraints, these should only be considered a list of recommended options for further Commission activity, designed to

NCEP-Labor Cap & Trade Project

enable even greater labor union involvement and support for NCEP objectives. However, there is an attempt to list the projects in some order of priority, according to what issues the Commission may want to address sooner than later. The proposals also specify the possible work performed by Dr. Joel S. Yudken, Principal, High Road Strategies, LLC and coordinator of the NCEP-Labor Cap & Trade Project, under contract with the NCEP.

■ **International Commitments Project.** Two principal issues would be addressed: (1) identifying, evaluating, and recommending options for the international commitments provision in the NCEP bill; (2) assessing NCEP cap and trade proposal economic impacts on energy-intensive manufacturing industries which are vulnerable to international competition. The latter will help establish a baseline for gauging the vulnerability of manufacturing industries to foreign competition in a carbon-constrained environment under the NCEP plan.

1. **International Commitments Roundtable:** Will bring together labor energy and trade experts to examine different options for establishing mechanisms to obtain developing nation (i.e., China, India) engagement and commitments in a comparable carbon emissions pricing and reduction regime. It will consider the joint IBEW-AEP proposal for requiring that allowances-emissions credits accompany exports from nations that have not joined a post-Kyoto global cap-and-trade framework. A report will be produced with recommendations for policy provisions to address the international commitments issues that labor is concerned with.
2. **Manufacturing Industry Analysis**—Will study how energy-intensive industries would be affected by increased energy prices resulting from NCEP plan when faced with competition with low-cost foreign competitors. Working closely with USW staff and officers, and industry officials, case studies will be conducted of selected industries (steel, aluminum, paper, tires, chemicals), which examine: patterns of the sectors' energy use and costs, their energy price pass-along potential; the potential for, and investments needed, to achieve further energy efficiency reductions; the nature, extent and impacts of domestic and international competition; and the implications for employment. Options for using free allowances, and their impacts on energy costs, profits and competitiveness, also would be assessed.

■ **Accelerating Carbon Sequestration RD&D.** Working with United Mine Workers of America and legal and economic experts, will identify and clarify UMWA's proposal for establishing a source of accelerated funding of CCS RD&D and commercialization, and analyze, define and broker this proposal's linkage with NCEP policies. A related, analysis would identify and evaluate options under the NCEP plan to achieve the goal of early commercialization of CCS: the investments required (e.g., should it embrace the MIT technology investment proposal?), the role of government and private sector investments; and the policy mechanisms needed, including targeted allowance allocations and auction revenues.

■ **Allowance Conditions and Incentives.** Would build on prior discussions with labor unions to clarify, focus and develop specific recommendations for: conditioning allowances to industries (restrictions on "bad behavior," rewards for "good

NCEP-Labor Cap & Trade Project

behavior”) to minimize perverse incentives for cutting or offshoring operations or gaming the allowance market; guarantees to “make things here”; expanding or eliminating the auction revenue cap and identifying targets for investment (technology RD&D, workforce development, training and adjustment, etc.); and alternative distribution of the 29 percent of allowances allocated to states.

■ **Utility Regulation Analysis.** Work with the electric utility unions to examine the behavior of regulated and unregulated power generators and operators when confronted with higher prices, how they would use grandfathered allowances, and the consequences for their industry and workforce. Includes examining how allowance distributions would affect choices about existing fossil-fuel plants (e.g., retrofitting, rebuilding or shutting them down) and new plant construction, how wholesale and retail markets would be affected, and the consequences for consumer electricity prices.

■ **Aviation Industry Analysis.** Work with the International Association of Machinists and other aviation unions to examine how the NCEP program would impact the airline industry, as a result of increased fuel costs: how the pass along of increased jet fuel costs affect airline service demand (i.e., the number of people flying), and the industry’s profitability; and, how reduced airline demand and profits would ripple to affect the aircraft manufacturing industry. Would also explore whether the airline industry should receive an allowance allocation, and how receiving allowances could impact the industry’s economic situation. Finally, would consider how allowance and auction revenues could be used for R&D and other energy efficiency measures in aviation, such as air traffic control modernization, synthetic and biomass jet fuel manufacturing, and fleet modernization.

■ **Early Investment in Advanced Vehicle Technology.** Would work with the United Auto Workers to develop policies for generating funds for accelerating the commercialization and deployment new advanced vehicle technologies, integrated with the NCEP economy-wide cap and trade program vehicle modernization initiatives.

APPENDIX

LIST OF LABOR UNION STAFF AND OFFICERS TALKED TO:

Bill Banig,	Director of Government Affairs, United Mine Workers of America (UMWA)
Bob Baugh	Executive Director, Industrial Union Council, AFL-CIO and Chair, AFL-CIO Energy Task Force
Gary Beevers	International Vice President, Chair of the USW Energy Committee, United Steelworkers of America (USW)
Ron Bloom	Special Assistant the President, United Steelworkers of America (USW)
Abe Breehey	Legislative Representative, International Brotherhood of Boilermakers (IBB)
Bill Cunningham	President, Unions for Jobs and the Environment (UJAE)
Robert Ginsburg	Director, Center on Work & Community Development
Neil Gladstein	Director of Strategic Resources, International Association of Machinists and Aerospace Workers (IAM)
Kirk Groenendaal	International Representative, Construction and Maintenance, International Brotherhood of Electrical Workers (IBEW)
Donald Hartley	International Representative, Utility Department, IBEW
Jim Hunter	Director, Utility Department, IBEW
Todd Newkirk	International Representative, Utility Department, IBEW
Brad Markell	United Auto Workers (UAW) Research Department
Linda Mathews	International Representative, Utility Department
Bruce Olsson	Assistant Legislative Director, IAM
Alan Reuther	Legislative Director, UAW
Gary Ruffner	National Secretary-Treasurer, Utility Worker Union of America (UWUA)
Gene Trisko	Attorney, UMWA consultant
Carl Wood	Regulatory Affairs Director, UWUA