CIBO Comments to House Energy and Commerce Committee Staff regarding Climate Change Legislation Design

August 29, 2008

The following are key points and feedback following the CIBO June Hill staff meetings.

1. **The vast majority of energy efficiency improvement projects actually result in emissions reductions, but the way emission rates are accounted for under NSR detracts from implementing those projects.**

The PSD/NSR rules were recently changed to allow comparison of actual emissions to projected future actual emissions for existing unit modifications. This is more of an apples to apples comparison than the previous accounting methods, which compared past actual to future potential emissions (thus almost always triggering PSD/NSR for all but the smallest modification projects). Further, when calculating future potential emissions you are now allowed to subtract emissions due solely to demand growth (emissions that the source could have accommodated prior to the change and that are unrelated to the project). You are also now allowed to limit calculation of emission increases to projects that will cause an emissions increase, so that simply replacing a worn-out unit or component with one of equal capacity should not cause an emissions increase. When the recent rules came out, many believed that a variety of projects formerly subject to NSR/PSD requirements would no longer trigger those requirements, so process changes and energy efficiency improvement projects would increase in number. Unfortunately, and somewhat surprisingly, the reality has been far different to date.

EPA made it clear in the recent PSD/NSR rules that companies were welcome to continue use of the past actual to future potential accounting methods, and that EPA would require less recordkeeping and overall justification for use of this approach. The more stringent recordkeeping requirements laid out for use with the past actual to future projected actual accounting system were viewed as still too lax by certain ENGOs and states, and were challenged in court, with the court ultimately agreeing with the plaintiffs and remanding the recordkeeping rules to EPA. Revised rules are even more stringent, and failure to calculate future actual projected emissions accurately has enforcement and control implications. Right off the bat, sources may find it more convenient to avoid these potential issues by using the far more conservative past actual to future potential method.

In addition, use of the demand growth and causation exclusions has proven to be far more difficult than initially envisioned. In the long, multi-year debate about NSR reform, EPA was frequently taken to task for issuing thousands of pages of guidance explaining how NSR/PSD should work. Ironically, many in industry are now seeking guidance from EPA on how causation and demand growth should work, and EPA is exceedingly reluctant to provide this guidance. As a result, convincing demand growth and causation arguments are difficult to make, and, therefore, so are arguments for future actual emissions that exclude increases due to demand growth. Without guidance from EPA, many states (though not all) are reluctant to allow sources to use these exclusions.

In summary (short of using past potential to future potential methodology), maximum defensibility comes from use of the past actual to future potential accounting approach, as using the new past actual to future projected actual approach brings recordkeeping issues, compliance exposure, reluctance from the states, and uncertainty for the source. While this may change over the next few years as more companies try to work through use of the reformed NSR/PSD rules with their state permitting authorities, for now, many sources will decide to use the most conservative methodology that basically makes internal justification of energy efficiency upgrades and process improvements more difficult.

Under a climate change policy that is intended to drastically reduce GHG emissions, it is logical that energy efficiency improvement projects should be advocated and regulatory burdens eliminated as much as possible so that these projects can be implemented quickly, effectively, and without concern for future compliance exposure. Allowing such projects to avoid PSD/NSR applicability issues would go a long way toward giving a “green light” to energy efficiency improvement.

2. There are significant differences between the Acid Rain Program and its allowance price trends vs. a CO2 equivalent allowance system basing comments on the May 2008 White Paper which included the SO2 allowance price trend curve.

The May 2008 White Paper, p.16 presents Figure 5 and discussion relating a greenhouse gas cap and trade program to the Acid Rain Trading Program and its projected and actual allowance costs, noting that the same basic principles leading to low cost reductions should apply. CIBO would like to point out that there are significant differences between the Acid Rain Program and greenhouse gas cap and trade programs that could lead to significant differences in allowance cost behavior over time.

Specifically, under the Acid Rain Program, all allowances were allocated to emission sources based on historical emissions and overall reduction requirements were in the range of 50% reduction from 1990 emission levels. SO2 emissions control technology (scrubbers) could be applied to large units and achieve 95% or greater SO2 emissions reduction, thus allowing significant over-control on more cost effective units (larger units that capture economy of scale) while smaller units were not specifically controlled. Market forces and opportunities through banking and trading allowed optimum use of western lower sulfur coal without scrubbing and use of higher sulfur coals with scrubbing. Because reduction targets were reasonable, the emissions trading and banking options could achieve lower allowance costs and lower overall program costs by enabling the least cost reductions to be made in lieu of higher cost reductions at other sites.

Conversely, with greenhouse gases, very few options exist for significant emissions reductions since at this point in time there are no viable add-on controls to significantly reduce CO2 emissions and there are inadequate economical, low-carbon energy sources to meet demand. If aggressive greenhouse gas emission caps are imposed without adequate time for development and implementation of the technologies needed to achieve reduction requirements, there can be little or no excess reductions available for trading. As a result, demand for reduction credits (or alternately for emissions allowances) will far exceed supply, and reduction credit (or allowance) costs will increase unnecessarily as a result. This excessive climate compliance cost to industry would be in addition to the cost for actual energy efficiency projects, the cost of escalating energy prices, and increasing transportation and supply chain costs that will also result from climate legislation, all on top of any potential cost for purchase through an auction of needed non-allocated allowances. Further, the added cost will not reduce emissions of CO2; it will only decrease the ability of industry to make investments needed to move towards higher energy efficiency and a lower-carbon future. Where the supply of resources (allowances) being traded can not meet demand, a trading system can not decrease costs. What is needed are reasonable reduction targets, over an extended period, until such time as new technologies can be developed and deployed.

Among the needed technologies, carbon capture and sequestration (CCS) is of paramount interest. However, CCS will require additional energy input to remove CO2 from exhaust gases and for transport to a sequestration site. Timing for significant CCS impact is longer term. Magnitude and timing of reduction requirements must be balanced with availability of CCS and other low-carbon energy technologies and the time needed to implement energy efficiency projects.

If this balance is not maintained, not only will compliance costs unnecessarily increase, but distortion in fossil fuel markets, especially for natural gas, will result. The most likely short-term option to satisfy what will be a huge demand for lower-carbon fuels for utilities (who are not dealing in international commodities and who are able to pass through fuel price increases to their consumers) is natural gas. Again, most likely demand will greatly exceed supply (unless supplies are similarly increased) and prices can soar well beyond their current high levels, with industrial, commercial, and residential consumers being materially harmed unless some method of restitution is provided.

CIBO believes that while some advantages will occur with a greenhouse gas cap and trade program due to market forces, the ability to over-control is very limited compared to the Acid Rain Program, so that actual allowance pricing will likely not reflect the relatively low allowance pricing experience for SO2. Unlimited banking of allowances has been proven through the Acid Rain Program to be a key flexibility element of any cap and trade program and should be included in any potential climate change program. It appears that only allowing borrowing of allowances from future years would not provide adequate flexibility and could impose a higher probability of problems in meeting future obligations.

On the other hand, abundant, economical, and verifiable offsets present another viable means to help control excessive climate compliance costs. EPA's economic analysis has demonstrated that international offsets are particularly important to controlling costs in the US[1]. Generous use of offsets with reasonable verification procedures should be an objective, and US legislation should provide a platform for delivery of offsets with verified environmental equivalency to the future US market.[2]

3. Differences between electric utility and industrial/institutional boiler facilities and operations influence the ability/inability to pass through costs and effectively compete in an allowance auction.

Electric utility units supply power to local consumers or supply power into the transmission grid in a way that demand is satisfied within the constraints of the transmission and distribution systems theoretically in a manner that minimizes cost of service. Since this is a limited market based on geography, there are no global competitive pressures involved. Electric utilities must also pass any increased costs due to greenhouse gas allowances on to electricity consumers since they must remain solvent to serve their customers[3]. Utilities can, therefore, to some extent, pay whatever it takes to obtain allowances to meet their emissions needs.

Conversely, industrial facilities provide products that must compete in globally competitive markets, where imports and exports drive market prices and costs imposed domestically can only be passed through to the extent prices remain

[1]The EPA economic analysis also is believed to seriously underestimate the cost of carbon response in that predicted natural gases prices are grossly underestimated and in that offsets are assumed to be immediately available in great supply. Natural gas is one of the few low-carbon fuels immediately available and utilities undoubtedly will have to compete with industry and consumers for it, thereby driving prices markedly upwards. Offsets in the form of verifiable emissions reduction projects take time to develop and qualify. They will not be immediately available and the structure of a climate law and the qualifying processes must remain reasonable to not artificially constrain offsets and to be proactive in setting the stage early enough to allow project developers to supply the market, which under any terms will be strong in the US.

[2] Ideally with a downstream cap and trade approach, use of real, verifiable offsets should be unlimited to maximize the effectiveness of the cap and trade concept by minimizing compliance costs at least for non-utility entities. Spiraling fuel costs and competitive market pressures provide ample incentive for energy efficiency improvements and investment in new replacement technologies leading to reduced GHG emissions.

[3] Utility rate boards or other similar governance structures cannot restrain utilities from passing such costs on without also violating their prime directive to maintain electricity supply to consumers. Although resistance may be possible, ultimate pass through must be achieved or both the utility and the utility board fail.

competitive. CIBO acknowledges that manufacturers of certain products do have the ability to pass through some cost increases, but that ability is very specific to the products involved and the relative competitive positions and diversity of the manufacturer. It is apparent, however, that all costs of a cap and trade program cannot be passed through. IPP power generators, for example, may have fixed price contracts that do not allow for GHG allowance cost recovery. Manufacturers of international competitive commodities who are subject to strong competition (e.g., pulp and paper, chemicals, metals, agricultural products) would be similarly affected by simply losing market share to foreign producers who are not similarly regulated. In many instances, market share shifts such as this would not involve transactions across US borders. Foreign unregulated producers could easily supply lower cost goods to foreign consumers, thereby decreasing US exports. Captive entities such as universities and other institutional energy users must recover their increased costs through other means such as tuition increases, thus setting up differential economic impacts on competitive institutions.

Therefore, to the extent non-utility facilities are controlled under a cap and trade program on a downstream basis, allocation policies would need to provide adequate allocations to non-utility covered entities or allocation methodologies would need to balance unrecoverable compliance costs, and thereby shield non-utility entities from extreme allowance auction price impacts that will be driven by electric utility and any other upstream energy suppliers trying to cover their emissions requirements.

Non-utility entities would be at a competitive disadvantage if they needed to compete with electric utilities in a competitive auction in order to obtain necessary allowances. Utilities and any other covered upstream energy suppliers would have market power and adequate resources; non-utilities would need to try to compete, but likely be saddled with higher and higher costs. This would severely impact their ability to compete globally and survive. Good jobs and U.S. economic health could suffer under such a competitive situation, such as seen with current escalating energy prices and escalating costs of goods and services. CIBO believes that if a downstream cap and trade system with a common across-the-board auction was imposed, a competitive quantity of allowances would need to be allocated to non-utility industrial/institutional entities for a long enough period of time to allow a gradual transition to a restricted GHG state.

Rather than requiring non-utility entities to compete as minor players in an auction to obtain allowances to cover allowed emissions, use of proper allowance allocation methodologies would allow non-utility entities such as universities and manufacturers of globally competitive products like chemicals and pulp and paper to more productively spend their available capital on improvements in energy efficiency or productivity improvements. Compliance cost is then limited to what it takes to achieve energy and GHG emissions improvements or to buy reduction credit offsets as discussed previously, rather than also imposing the transaction costs of obtaining allowances through an auction.

It generally takes 20 years or so to invent, develop, demonstrate, and implement new technologies. During the time required for availability of truly low-carbon technologies, industry and institutions will be limited in their response to either the purchase of offsets or implementing energy efficiency and productivity improvement projects. Providing effective allowance allocation quantities under a downstream approach can allow non-utility entities to invest in new technologies while capturing market efficiencies and minimizing inequities that may arise from differences in equipment age or technologies. An even more effective approach would be with upstream regulation coupled with a generous allowance for offsets that can serve as an incentive for industrial/institutional energy efficiency improvements.

4. Regional infrastructure limitations need to be considered.

Some consideration also needs to be given to regional infrastructure differences within the U.S. that can result in differential competitive positions and economic impacts. For example, some regions of the country have a well established natural gas transmission and distribution system so that transitioning to increased natural gas use will not be severely limited by transmission/distribution absence or restrictions. In other locations, natural gas is simply not available, and would be dependent on first establishing a transmission/distribution infrastructure. These differential impacts need to be considered and appropriate policies included to mitigate those impacts and/or provide similar flexibility.

5. Energy efficiency opportunities are available to industry/universities. However, there are inherent limitations due to capital constraints and external hurdles.

Current energy prices obviously impact the ability of all entities to not only survive, but to be able to make investments and changes to improve energy efficiency and reduce greenhouse gas emissions. The current energy supply/demand imbalance is impacting all energy sources and severely limits entities' cash flow position and investment capability. Incentives and financial/tax structures could help advance installation of energy efficiency improvements and increased use of cogeneration/integrated energy facilities as an example.[4]

Cogeneration or Combined Heat and Power (CHP) applications provide the highest energy efficiency possible compared to conventional industrial steam generation with separate electric utility generation/grid power arrangements. In many cases, electric utility interconnection and rate structures make it very difficult to install economically sized cogeneration facilities. If utilities had an interest in providing

[4] While in general CIBO members are proponents of free trade, it appears only the simplest of cap and trade systems would fall within free trade criteria and even then only if applied globally in a consistent manner. Since the climate responses being discussed in some ways deviate from free trade principles, limited subsidy and investment incentive is appropriate to stimulate action and minimize inequities.

integrated generation/thermal energy facilities, instead of only conventional electricity generation facilities, there could be a significant improvement in the overall CO2 emissions footprint of the country. Optimum use of every Btu is needed in the declining supply/increasing demand situation that results from rising energy prices and developing climate policy.

6. Available GHG abatement measures and their costs vary significantly depending on site specific and other factors.

Figure 4 of the May 2008 White Paper provides the McKinsey abatement curve. This curve provides a very useful comparison of alternative options for reducing greenhouse gas emissions. However, CIBO cautions that the costs indicated are relative in nature and appear to not include total implementation costs. Actual costs of actions are necessarily dependent on site specific factors and can without a doubt vary considerably between applications. CIBO agrees with the White Paper statement that the cost estimates are illustrative rather than definitive.

7. Allowance allocation methodologies could be used to support continued viability of industrial/institutional entities.

As stated previously, CIBO does not support auction methodology for non-utility allowance distribution and would rather allow non-utility entities to focus their efforts and investments on energy efficiency improvements and emissions reductions rather than purchase of allocations as the basis for a cap and trade system. Nevertheless, if an auction is pursued, it will be necessary to reimburse non-utility entities for at least some portion of the cost extracted. Such reimbursement should ideally cover the cost of allocations in total. While there is a limited ability to pass through cost increases by some entities, the inherent cost of the declining cap is more than enough burden on non-utility entities to drive emissions reduction actions. Depending on the stringency of the reduction requirements, additional balancing of unrecoverable compliance costs may be needed for manufacturers of globally competitive products to avoid dislocation of production capacity and jobs overseas and the associated leakage of greenhouse gas emissions to un-regulated economies.

Sectoral agreements may provide a means for defining allocation strategies suitable for certain individual industrial sectors (e.g., cement, steel). Impacts will be sector specific and remedies could be likewise. In fact, in international dialogues, sectoral agreements among companies in major industry sectors are being pursued as a transitional tool to aid technology transfer to developing countries and to garner GHG emissions reductions in the interim period before fully functional international agreements and common “global” carbon trading systems can be established, e.g., the Asia-Pacific Partnership. CIBO believes that sectoral agreements may be able to aid this purpose for a limited number of sectors and is supportive to that end. However, many industrial sectors, particularly those that use energy to manufacture materials and goods and that are subject to international competition (e.g., global commodities like industrial chemicals and feedstocks, pulp and paper, agricultural products, etc.), are at significant risk from sectoral agreements as they are currently envisioned.

An exception may be sectoral agreements based on individual site historical emissions benchmarks and site-specific energy efficiency/GHG emissions improvement goals. However, inherent in any sectoral approach is the artificial creation of winners and losers by the imposition of constraints outside normal market forces and low-cost manufacturing strategies. Losers are defined principally by location and age of manufacturing assets, with prohibitive disadvantages where low-carbon fuels (e.g., natural gas) are not available and in mature industries where manufacturing processes have evolved. The result could be closures in regions constrained to using high-carbon fuels (e.g., coal), stranding of existing working capital, and inefficient application of new capital as replacement capacity is built in regions with low-carbon fuels or an absence of carbon constraints (e.g., developing countries). CIBO believes sectoral agreements are appropriate only where they can be applied without creating economic displacement. Currently envisioned sectoral agreements based on universally applied energy efficiency benchmarks do not accomplish this objective in all manufacturing industries; they therefore, are not currently supported by CIBO, except to the limited extent mentioned above.

8. Flexibility is needed in any climate change policy framework.

CIBO believes that maximum flexibility must be provided in any climate change program in order to minimize cost and dislocation of industry and jobs. Using multi-year compliance approaches (e.g., a 3-year compliance period, using allowances from 2012, 2013, or 2014 to meet 2012 compliance obligations, with the 3 year period rolling forward) could provide a degree of flexibility. The first three years or so would be the most critical when entities would be trying to learn how the systems work and how market forces affect allowance pricing. As time goes on, it is believed entities will better understand how the system works and more effectively use program provisions to optimize their approaches. However, at the declining cap rates currently being discussed, the first ten years are likely to be problematic, particularly as natural gas demand increases and prices soar without commensurate supply additions. After that time and until low-carbon energy sources are developed and implemented, the energy efficiency improvements that are necessary to meet the declining cap requirement will become harder to find and more expensive to achieve. Effective cost containment mechanisms are needed to protect against significant entity level or economy-wide economic harm while ensuring the environmental integrity of the program.

9. CCS issue resolution and technology development can be accelerated through applications in the industrial sector.

Carbon capture and sequestration (CCS) is currently implemented and being further pursued by industrial entities (including CIBO members) focused on enhanced oil recovery applications. There are many legal, liability, and technical issues that need to be resolved prior to massive scale electric utility application. The value of using industrial scale facilities for CCS development and pilot scale applications should be recognized and incentives provided to allow greater application to industrial scale and thereby provide more rapid large scale demonstration and deployment of technology. Piloting new technology on industrial facilities has proven to be an economical path to accelerate technology development, an example case being the use of fluidized bed combustion boilers. While some electric utilities are pursuing side stream CCS projects, industrial facilities tend to pursue technical resolutions more quickly due to competitive pressures.

10. Electric "utility unit" definition under a climate change cap and trade system should mirror that used in the successful Acid Rain Program.

As indicated above, it is critical that the inherent efficiencies of cogeneration facilities (CHP) be recognized and their use advanced under climate change policies since that technology provides a major increase in overall energy efficiency and CO2 emissions reduction compared to conventional electric utility fossil fuel fired power generation and separate industrial boiler steam production. The Acid Rain Program (and the promulgated CAIR rule) both limited utility units to those with generator capacity >25MW, but also specifically recognized the importance of cogeneration efficiency and excluded from the definition of "utility unit" those units serving a generator with a nameplate capacity of more than 25 MW that cogenerates steam and electricity and supplies more than one-third of its potential electric output capacity and more than 25 MW electrical output (219,000 MWH per year) to any utility power distribution system for sale. As also noted in the CAIR rule preamble, these electricity sales criteria apply only to electricity that actually flows to a utility power distribution system from the unit. Electricity produced from the unit and used on site by the facility does not count, including simultaneous purchase/sales back to the facility under agreement with the utility under PURPA. Similar approaches should be included in potential climate change utility unit definitions.

In addition, since renewable energy power generation is essentially "carbon-neutral," units generating electricity from renewable energy sources (e.g., biomass, landfill gas, and other bio-based materials) should also be directly excluded from utility unit and any other potential emissions cap requirements. This was also provided in the Title IV Acid Rain provisions "unit" definition being a fossil-fuel fired combustion device.

Further, consideration of other environmental benefits provided by energy use and electricity generation should also be used to justify exclusion from utility unit requirements of those units combusting waste coal. Such units provide greatly improved water quality due to acid runoff reduction as well as improved waste management. The Title IV Acid Rain provisions recognized such entities which were "qualifying small power production facilities."