

Report of the Illinois Climate Change Advisory Group



Submitted to
Governor Rod R. Blagojevich
Appendices Volume 2

Appendices – Volume 2
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**COMMENTS RECEIVED FROM
AMEREN**

Honorable Douglas P. Scott
Director
Illinois EPA
P.O. Box 19276
Springfield, IL 62794-9276
/Filed By Electronic Mail/

Re: Comments on “Draft Strategies to Reduce Greenhouse Gas Emissions in Illinois” Report

Dear Director Scott:

Ameren is pleased to submit comments on the “Draft Strategies to Reduce Greenhouse Gas Emissions in Illinois November 28, 2007” report, to be submitted to Illinois Governor R.R. Blagojevich.

Ameren has previously submitted comments on the Illinois Climate Change Advisory Group proposals, activities, and associated documents and requests that those comments be included in the final report. In general, our comments on the report are tempered by the lack of the report appendices which were not included in the report distribution and we believe that without the appendices we cannot provide complete comments on the concepts and strategies discussed. We are also unable to provide complete comments due to the lack of a completed version of the “Climate Change Strategy Modeling for the State of Illinois” by ICF International. The ICFI document was to provide documentation on the modeling that was performed and the assumptions used in that modeling effort and without this important information, we cannot truly comment on the economic claims made in the report.

Our ability to comment on the strategies is also limited by the broad nature of many of the strategies and that the method of implementation of the strategies can result in a broad range of impacts on the regulated community and the cost of compliance. We support the development of a standing committee to assist the State and its Agencies in refining and implementing these strategies with a higher percentage of the regulated community involved in the process. The committee can also review the effectiveness of implemented strategies as well as the development of new strategies to help meet Illinois’ greenhouse gas reduction goals.

As a provider of energy services to approximately 2.4 million electric customers and nearly one million natural gas customers across 64,000 square miles in Illinois and Missouri, we recognize the important role that Ameren has in the climate change issue. Ameren advocates a national approach that incorporates the following principles:

- Recognition of the significant economic impact of GHG policies on consumers and businesses in regions now dependent on coal.
- Compliance timelines consistent with development and deployment of advanced technologies.
- Provisions for significant research funding.
- Provisions for an effective cap-and-trade program.
- Allowances for GHG offsets.

- Removal of potential regulatory and financial barriers.
- Broad-based CO₂ regulation.
- A national/global policy approach.

We recognize that although the major emphasis of a global climate program must be on a national level, many issues have regional, state, and local aspects.

COMMENTS

Ameren has supported energy conservation and efficiency programs in the past and supports much of the 19 strategies identified in the report. Concern may arise with the “no dissent” strategies depending on how they are implemented and how realistic expectations are assigned to those strategies. An example would be establishing high standards for energy efficiency of equipment which seems like a strategy that should not be opposed; however, if the standards are set beyond the potential limits of a product or they raise the cost so that they are not purchased the standard will not result in the desired results. Another concern with the “no dissent” strategies is who will pay for the new equipment, vehicles, rail upgrades, and renewable power that are being required in order to meet the Governor’s goals? We also wonder whether the economic impact of managing the equipment being replaced by more energy efficient equipment will be incurred and the possible environmental costs of having to deal with a growing number of mercury containing fluorescent bulbs.

Policy scenario results: economic impacts

On page 37, the text describes the positive economic outcome from Scenarios #2 and #3, describing how Scenario #3 leads to a 0.81 % increase in personal disposable income compared to the reference case. An increase of this size could just as easily be explained as within the range of error for the model. The issue comes when you examine Figure 12 which only focuses in on the uppermost portion of the bar graph giving the false impression of a significant benefit from the 3 scenarios compared to the reference case. This same technique is used in the graphs comparing the 3 scenarios impact on jobs (Figure 10) and gross state product (Figure 11) to create an impression of much greater benefits of the scenarios than the less than 1% increase in these two economic indicators. The economic impact of these scenarios should be more accurately portrayed in order to avoid misleading claims of their benefits. Unfortunately, the numeric results of the economic modeling done on Scenario #4 (high oil and natural gas prices) were not provided, but the results may have provided useful information on the impact of reduced availability of those fuels. Some interesting information on Scenario #4 was that it alone would have lowered CO₂ emissions by approximately 16 million tons compared to the reference case (pg 40).

State-level cap and trade program

We have stated previously and continue to believe that for a cap and trade program to truly be effective it must be at a national level. The State-level cap and trade program has been identified as the one that “...would generate the most GHG reductions...” roughly 46 to 48 million tons from Scenarios #3 and 2, respectively. And, “... that the Governor’s goal cannot realistically be

met with out it.” (pg 50) This means that the burden for more than half of the GHG reductions in the Governor’s goal (81 million tons) would come from the capping of emissions from fossil fuel power plants and relatively large commercial and industrial sources. This unfair imposition of this level of reductions is contrary to the basis for policy selection (i.e., “balance among sectors/emissions sources”, pg 23) and statements made by IEPA personnel during group meetings about fairness of reduction goals.

We are also concerned about the reality of linkage with other programs. The RGGI states are aware of Illinois’ consideration of the purchase of their allowances and companies are concerned of the impact that will have on their prices. This possibility of limited availability of external program allowances could have a significant impact on the economic impacts of Scenario #3. The level of allowances provided to generators should also be determined based on an accepted formula rather than the 15% value used for which no basis was provided for its establishment. The issue of leakage, considered very significant to RGGI, continues to be mostly ignored in the cap and trade program.

Adopt a carbon capture and storage portfolio standard

The adoption of a carbon capture and storage standard may claim to provide incentives to encourage the development of these technologies, but it seems to ignore the realities that they may not be available until after 2020. Reviewing available timelines for the DOE Illinois Basin Regional Partnership would show that they do not expect completion of their geological sequestration project until after 2017. The likelihood of a commercial facility being fully operational before 2020 is highly unlikely. There are also the problems that there is no commercially available carbon capture technology that is truly viable without significant impacts on plants space (6 acres) and generation (20-40% of plant generation). Obviously we recognize that these technologies may be an important option in dealing with plant emissions, but much work is yet to be done and research and development was identified as outside the scope of the process (pg 14-15).

CO2 emission performance standards for electricity generation and purchased electricity

It is unclear how this strategy will work when the Illinois Power Agency begins purchase power for the load serving entities of the State. We are concerned that due to the limited number of facilities that even currently meet the requirements, that future facilities may impose a high cost for the power generation that may not have been considered in the modeling. The impact of this requirement would be to stop the construction of a coal fired plant (even IGCC) until at least 2025 or later depending on the availability of carbon capture and storage.

Independent Economic Analysis

Ameren employed CRA to assess the potential impacts of the proposed Illinois cap & trade policy and also the CO₂ emission performance standard (attached). CRA made several assumptions on some of the inputs and did sensitivity analyses to evaluate possible policy details that were then used to evaluate the economic impact of these two strategies. CRA’s North American Electricity and Environment Model (“NEEM”) was used for this analysis, so their

modeling results are only for the electric sector. They found that Illinois GHG policies would result in rate increases on Illinois consumers, yet would offer minimal national carbon emission reductions (leakage).

Midwestern Greenhouse Gas Reduction Accord

The recently announced Midwestern Greenhouse Gas Reduction Accord could have an impact on the chosen strategies and it should be reviewed to determine whether the 24 strategies conflict with the Accord. It is possible that strategies developed in Illinois may be used to respond to the Accord and new strategies could be developed in the Accord process that should be implemented in Illinois. Provided leakage issues are resolved the Accord could establish a better framework for a cap and trade program, although we still believe that the best implementation would be a national program.

Advisory Group

Ultimately, many of the strategies will not perform as expected and strategies that were not originally chosen will have to be reevaluated. We believe that decoupling the cost of generating power from the cost of transmission and distribution could act as an incentive for load serving entities to reduce electricity usage resulting in a reduction of carbon emissions. A simple concept like coordinating street lights has the potential for emission reductions by reducing vehicle idling time. The number of alternative strategies that can help Illinois to meet the Governor's GHG emission goals is further justification for a continuation of an advisory group for the State.

Ameren appreciates the opportunity to submit these comments, and would welcome further opportunities to discuss options to meet the Governor's goals.

Sincerely,

/Filed Electronically/

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Memorandum

To: Paul Pike, Ameren

From: Scott Bloomberg, Ira Shavel and Anne Smith, CRA

Date: August 9, 2007

Subject: **PRELIMINARY MODELING RESULTS FOR POTENTIAL ILLINOIS CO₂ POLICIES**

This memo summarizes CRA's preliminary modeling results of the proposed Illinois cap & trade policy (#16) and also the CO₂ emission performance standard (#5). Because the rules are, at this point, somewhat vague, we have had to make several assumptions and have done sensitivity analyses to evaluate possible policy details. CRA's North American Electricity and Environment Model ("NEEM") was used for this analysis. These preliminary results are only for the electric sector.

Another important caveat with respect to these results is that they only assume a CO₂ policy within Illinois. The absence of any CO₂ policy in surrounding states is an important assumption and one that is a key driver of the results (particularly the cap & trade results). If states surrounding Illinois were to impose policies similar to those modeled, the results would be very different, as is described in more detail below.

Preliminary Results

The Illinois cap & trade policy is intended to meet the Governor's goal of capping 2020 emissions covered by the policy at 1990 levels. Since details about the timing of reductions and banking have not been specified, we modeled two possibilities for the cap & trade: 1) a cap in 2015 at 2006 levels, which is reduced to 1990 levels in 2020 and banking is allowed; and 2) the same policy as 1) without banking.¹ The inclusion (or exclusion) of banking as a policy option will impact the timing of when reductions are made and when the more significant costs are incurred. In general, banking leads to lower long-term costs, but higher near-term costs. The absence of banking leads to higher long-term costs, but lower near-term cost because there is not an incentive to abate any more than the cap in a given year.

The performance standard is intended to limit new coal-fired generation in Illinois to those that capture and sequester at least 60% of the carbon, and at the same time limit imports of coal-fired generation to

¹ For the cap & trade policy, we assumed that the cap begins in 2015 at current emission levels, for which we use 2007 modeled emissions from our Business as Usual case for Illinois. The cap remains at this level until 2020, when it is reset to 58.5 million metric tons. This cap level was calculated based on the 1990 level of 72.6 million metric tons (per the description of policy #16) and the current covered emissions from the industrial and commercial sectors. As a conservative estimate, we assumed that the industrial and commercial sectors do not reduce their emissions so the cap level for the electric generators is the 72.6 million metric tons less the assumed 12.9 million metric tons from the industrial sector and the 1.2 million metric tons from the commercial sector (net cap of 58.5 million metric tons). This cap remains in place in the years after 2020 as well. It is not clear if the policy allows banking of allowances from one year to the next year, so we have evaluated the cap policy both with and without banking.

those that meet the same standard. Note that the performance standard provides no disincentives for existing Illinois coal-fired generators.

Table 1 shows the CO₂ emissions from the electric sector in Illinois under each scenario, along with the percentage change from a Business as Usual (“BAU”) case. In the cap & trade cases, the emission reductions in 2015 are 10% and 4%, with and without banking, respectively, which reflects the incentive to make early reductions when it is economic to do so, and bank the resulting allowances. Then in 2020, reductions are larger without banking (45%) compared to the case with banking (36%).

Under the Performance Standard, emissions actually increase slightly in 2015. This is because we have assumed that out-of-state coal can no longer be imported into Illinois since it is highly unlikely that coal-fired units in other states will be equipped with the requisite carbon capture and sequestration capability required to sell power in Illinois. After 2015, there are declines in in-state emissions, but these are modest relative to the cap cases. The declines are relatively small because existing coal-fired generators, the primary source of electric sector CO₂ emissions in Illinois have no incentive to reduce CO₂ emissions under this policy. Reductions are primarily achieved through building combined cycle rather than new coal-fired generation to meet Illinois’ growing electricity demand.

Table 1: Illinois Electric Sector CO₂ Emissions (Million Metric Tons)

	BAU	% Change from BAU					
		Cap & Trade with Banking	Cap & Trade without Banking	Performance Standard	Cap & Trade with Banking	Cap & Trade without Banking	Performance Standard
2006	96.9	96.9	96.9	96.9	0%	0%	0%
2015	100.7	90.5	96.9	103.6	-10%	-4%	3%
2018	103.1	74.8	90.6	101.5	-27%	-12%	-2%
2020	106.0	67.5	58.5	100.6	-36%	-45%	-5%

While the emission reductions required to meet the Cap scenarios are fairly significant, the projected allowance prices are not particularly high (see Table 2). This is because the cost of an allowance is set by the cost differences between Illinois coal-fired generation and out-of-state coal-fired generation, rather than by fuel switching between coal and natural gas or coal and renewable generation, which would result in higher allowance prices that are typically seen in evaluations of national CO₂ policies. This is a unique phenomenon related to the fact that this policy would be imposed only on Illinois, and so it would have more impact on where power is actually generated than on the carbon-intensity of what is generated.

If surrounding states were to have a CO₂ policy of similar stringency, then the Illinois cap would no longer be met by simply reducing coal-fired generation within Illinois and replacing it with coal-fired generation from surrounding states. Today, Illinois coal-fired generation has lower dispatch costs than several out-of-state generators and that is why it is exported. If other states had similar caps, then Illinois coal-fired generation would retain its cost advantage over coal-fired generation in other states. In the case where a CO₂ price only applies to Illinois generators, Illinois generators may no longer have lower costs. However, if surrounding states were to also incur similar CO₂ costs then the order of dispatch would likely be similar to today’s dispatch order and the costs of reducing CO₂ emissions in Illinois would be higher.

Table 2: Illinois CO₂ Allowance Prices (Nominal \$/Metric Ton)

	Cap & Trade with Banking	Cap & Trade without Banking
2015	\$3.71	\$0.83
2018	\$4.63	\$0.00
2020	\$5.36	\$9.24

In the two Cap scenarios, the Illinois emissions reductions are primarily achieved by reducing exports of coal-fired generation. Currently, about one-third of the approximately 93 million MWh of coal-fired generation in Illinois is exported to surrounding states. In the business-as-usual (BAU) case without a cap on Illinois CO₂ emissions, Illinois' coal-fired generation remains economic to export to surrounding states. However, when a CO₂ cap is imposed on Illinois, its coal-fired generators no longer compete with out-of-state coal-fired generation. Illinois generators thus generate less, reducing emissions inside of Illinois down to the cap level. However, total CO₂ emissions do not decrease – they shift to increased coal-fired generation in states surrounding Illinois.

This can be seen in Table 3, which shows the net exports (positive numbers are net exports, negative numbers are net imports into Illinois) for each of the cases. In 2015 there is a very large decline in net exports of electricity from Illinois, and by 2020, Illinois becomes a net importer of electricity. If surrounding states had a similar policy it would no longer be economic to import generation from out-of-state because that generation would cost at least as much as the in-state generation.

Table 3: Illinois Net Exports of Electricity in the Cap & Trade Cases (TWh)

	BAU	Cap & Trade with Banking	Cap & Trade without Banking	% Change from BAU	
				Cap & Trade with Banking	Cap & Trade without Banking
2006	37.29	37.28	37.25	0%	0%
2015	36.52	27.16	33.64	-26%	-8%
2018	32.49	2.89	18.55	-91%	-43%
2020	31.68	(9.37)	(20.10)	-130%	-163%

Because emission reductions are achieved through reduced exports in the two Cap scenarios, the power that was previously provided by the Illinois coal-fired generators must now be supplied by out-of-state generators, which, in most cases, are out-of-state coal-fired generators. This has the consequence of replacing coal-fired generation in Illinois with coal-fired generation from other states, which has little impact on national CO₂ emissions, as shown in Table 4.

Table 4: Total U.S. Electric Sector CO₂ Emissions (Million Metric Tons)

	BAU	% Change from BAU					
		Cap & Trade with Banking	Cap & Trade without Banking	Performance Standard	Cap & Trade with Banking	Cap & Trade without Banking	Performance Standard
2006	2,286	2,286	2,286	2,286	0.0%	0.0%	0.0%
2015	2,678	2,672	2,673	2,677	-0.2%	-0.2%	0.0%
2018	2,922	2,920	2,920	2,919	-0.1%	-0.1%	-0.1%
2020	3,034	3,033	3,032	3,031	0.0%	-0.1%	-0.1%

With the Performance Standard, emission reductions within Illinois are fairly modest, and when offset by higher emissions elsewhere, the national reduction in CO₂ emissions as a percentage of the national CO₂ emissions are almost zero as well.

This is a case of “leakage.” For importing regions such as California and the RGGI states, leakage occurs when: 1) uncapped, high-carbon imported power is used to serve regional demand; or 2) when low-carbon power is imported but high-carbon power that would have been imported absent the policy, is still being produced but is sold elsewhere. For an exporting region such as Illinois, leakage occurs when in-state high-carbon generation is replaced by high-carbon out-of-state generation, with essentially no change in carbon emissions.

The cost to electricity customers in Illinois is a function of the wholesale power prices. Under Illinois deregulation, changes in wholesale electricity prices will directly impact the cost of electricity. Within NEEM, Illinois is comprised of two distinct regions, Northern Illinois and Southern/Central Illinois, and therefore we have different prices in the two regions as well. Table 5 shows the wholesale all-hours (average annual) electricity prices in Northern Illinois and Southern/Central Illinois for each case and the percentage change of each scenario relative to the BAU. By 2020, this amounts to a \$800 million to \$1 billion cost to Illinois ratepayers. This cost would be significantly higher if surrounding states were to enact a similar policy for the reasons described above.

Table 5: Wholesale All-Hours Electricity Prices (Nominal \$/MWh)

	Northern Illinois				% Change from BAU		
	BAU	Cap & Trade with Banking	Cap & Trade without Banking	Performance Standard	Cap & Trade with Banking	Cap & Trade without Banking	Performance Standard
2006	\$49.69	\$49.75	\$49.86	\$49.67	0%	0%	0%
2015	\$50.85	\$51.95	\$51.27	\$50.16	2%	1%	-1%
2018	\$48.78	\$54.47	\$53.27	\$54.37	12%	9%	11%
2020	\$51.11	\$58.35	\$58.60	\$58.22	14%	15%	14%
	South/Central Illinois				% Change from BAU		
	BAU	Cap & Trade with Banking	Cap & Trade without Banking	Performance Standard	Cap & Trade with Banking	Cap & Trade without Banking	Performance Standard
2006	\$48.93	\$49.00	\$49.12	\$48.91	0%	0%	0%
2015	\$47.19	\$49.37	\$48.03	\$46.90	5%	2%	-1%
2018	\$48.11	\$50.85	\$50.02	\$49.40	6%	4%	3%
2020	\$50.70	\$53.65	\$55.57	\$52.40	6%	10%	3%

In summary, a cap on Illinois CO₂ emissions from electricity generation would impose moderate rate increases on Illinois consumers, yet would offer minimal national carbon emission reductions. Achieving greater national carbon reductions would require expanding the policy regionally or nationally, but this would also increase the costs to Illinois and other consumers.

Ameren Comments: July 14, 2007

Ameren would agree with many of the comments made on July 10th by the Caterpillar representative that many aspects of the Climate Change issue can be better addressed at the national level. We support a national cap and trade program, and do not believe that it will be in the State's best interests to develop its own cap and trade system. We have reviewed the comments that have been submitted by Mr. Trisko on July 6th for the UMWA and agree with the points that he has made regarding the ICF's preliminary base case, data and assumptions. We have also reviewed the comments that Mr. Trisko submitted on July 10th for the labor members of the Group and also agree with many of the points raised in that letter.

We also have some comments regarding modeling assumptions and enhancements to the consent strategy EP-20-00 Enhanced Renewable Portfolio standard.

In terms of the base case, we reviewed ICF's standard assumptions on transmission as listed in Appendix E of ICF's assumptions book and believe that we have identified either omissions or modifications of the original EPA source data. The ICF assumptions only have COMD with an interconnection with MRO (610 MW) - EPA documentation says that should be 825 MW. EPA documentation also has interconnects with ECAM (1,620 MW), ECAP (4,500 MW), MANO (2,050 MW), and WUMS (825 MW). The ICF assumptions have MANO with interconnections to MRO (320 MW) [EPA has 405 MW], SPP-N (1,200 MW) [EPA has 1,300 MW], ENTG (910 MW) [EPA has 4,200 MW], TVA (1,550 MW) [EPA has 1,812 MW]. EPA documentation also has links with COMD (1,100 MW), ECAK (200 MW), and ECAM (6,299 MW). Because the Energy 2020 model does not appear to have these interconnections it is not able to export as much power from Illinois as Illinois currently exports and this may explain why the model shows lower than actual coal generation.

In addition, we continue to question the use of historic electricity prices in Section 4.1.2, when the situation in Illinois had included a price freeze followed by the recent increases as the freeze expired. In a response to an earlier question on this issue, we were told:

"We are currently reviewing how to reflect the current state of regulation in Illinois in the model."

However, no additional discussion has been made on this issue which will have impacts on the final cost analysis.

As Mr. Trisko has already discussed in his letter of the 6th, the generation data found in Section 4.1.5 although modified still misstates the EIA data showing higher than actual gas/oil generation and a total that does not add up to the sum of the available sources.

We also note that the Assumptions book includes Appendix D., which identifies plants requiring additional emission controls, but only identifies those requirements for one

company (Midwest Generation). At a minimum, Ameren has generating plants that will be requiring additional emission controls, but they were not included. The cost of these controls has an impact as illustrated in Figure 3.6 of the Assumptions book on the final price that is charged for the electricity being generated and impacts the modeling results.

The consent strategy EP-20-00 Enhanced Renewable Portfolio standard includes an assumption that transmission capacity is not constrained and as we have already commented on, the ICF assumptions already do not seem to include all the transmission information available. We also have already raised the issue in the Group's July 10th meeting, that the presence of transmission lines does not mean that capacity is available. Based on some internal discussions, Ameren does not generally build transmission lines with excess capacity and any new generation source must first obtain access approval from the transmission line system operator (e.g., MISO) who then directs transmission line upgrades or construction based on that generation. The cost of the system modifications is then passed along to the generation developer who then passes it on in the sale price. The issue is not truly one of constraint, but of additional cost and how that will impact model results.

Sincerely,

Paul

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**COMMENTS RECEIVED FROM
CATERPILLAR**



Caterpillar Inc.

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December 10, 2007

The Honorable Douglas P. Scott
Chair, Illinois Climate Change Advisory Group
Director, Illinois Environmental Protection Agency
1021 North Grand Avenue East
P.O. Box 19276
Springfield, Illinois 62794-9276

Sent Via e-mail: Doug.Scott@Illinois.gov

Dear Director Scott:

On behalf of Caterpillar Inc., I would like to extend my sincere thanks for the opportunity to participate on the Governor's Illinois Climate Change Advisory Group. We applaud your efforts to examine and address climate change issues, and acknowledge the efforts of everyone involved.

You may recall when Caterpillar was asked to participate in the ICCAG, we indicated that we firmly believe the only way to address climate change issues is with a federal system that applies consistent nationwide standards. We remain committed to that approach.

While Cat doesn't typically advocate federal mandates, we do believe a single federal set of standards is the only way to ensure that industry is not disadvantaged. State and regional programs are problematic for global companies that do business in multiple state jurisdictions. Companies simply can't operate efficiently if they're required to comply with multiple sets of standards.

We believe the best avenue for Illinois to follow is a reporting program that complements a federal registry of green house gas emissions. Caterpillar does not want the ICCAG individual recommendations to duplicate what we are trying to advance on the national level, or create expensive and inconsistent regulations that will hurt Illinois' economy. We will, however, continue to work on federal proposals that we believe will establish general criteria.

The Honorable Douglas P. Scott
Chair, Illinois Climate Change Advisory Group
December 10, 2007
Page 2 of 2

As we reviewed the list of recommendations, there are some that we believe have merit. But measured against our support of a federal approach, Caterpillar cannot in good faith support the individual proposals that are part of a broader state mandate. Given that, we cannot endorse the group's recommendations and instead, encourage the Governor to support a single federal approach as the most effective way to address the important issue of climate change.

Please include this letter in the appropriate appendices accompanying the official report to the Governor.

Sincerely yours,

Caterpillar Inc.



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JTD/jb

**COMMENTS RECEIVED FROM
CENTER FOR ENERGY AND ECONOMIC
DEVELOPMENT (CEED)**



December 12, 2007

Honorable Doug Scott
Director
Illinois EPA
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Springfield, IL 62794-9276
/Filed By Electronic Mail/

Re: Comments after reviewing the "Final Draft" of the Illinois Climate Change Advisory Group (ICCAG) report to Governor Rod Blagojevich

Dear Director Scott:

For the reasons outlined below, the Center for Energy and Economic Development (CEED) urges the findings of the ICCAG Draft Report to be withdrawn and reanalyzed.

CEED further recommends that no legislative or regulatory action be initiated to implement the utility climate programs considered by ICCAG in view of the clear public need for a comprehensive study of the impacts of the larger regional program that the Governor now envisions.

1.) ***Previous Comments Submitted.*** CEED has previously commented on the ICCAG proposals, and our comments should be contained in the final report appendices.

2.) ***Economic Modeling Is Flawed.*** We reject as unsubstantiated and unrealistic the draft report's claims of state GDP and personal income gains, job increases, and billions of dollars of consumer electric savings due to implementation of the package of 24 recommendations.

For reasons detailed in the points below, the modeling done by the ICF International subcontractor (ICFI) should be withdrawn and reanalyzed with new, more accurate base line data.

3.) ***1800 MW of New Coal Generation Will Not Be Built.*** Attached is an analysis commissioned by CEED with regard to the competitiveness of any new coal based generation assumed to be constructed by the economic modeling done by the ICF International (ICFI) subcontractor.

Briefly, the analysis shows the approximately 1800 MW of new coal based generation built in or assumed by the Energy 2020 modeling done by ICFI, will not be competitive in the Illinois Electricity market under an Illinois-only cap and trade regulatory regime.

The elimination of this new generation would call into serious question the determinations made by ICFI that the five controversial measures would not result in negative economic consequences.

4.) ***Loss Of 36% of Coal Generation Results in Job Losses.*** Last summer, the United Mine Workers of America filed an analysis with the ICCAG that is posted on the working group's website: www.ilclimatechange.org.

On page 7 of that analysis, data is presented by Penn State University concluding that an elimination of one-third (approximately 33 percent) of coal-based generation in the State of Illinois in the year 2015 would result in a reduction in economic output of \$14.5 billion, a loss in household income of \$6 billion and a loss of 73,000 jobs in the State of Illinois.

As detailed in the ICCAG "Final Draft," 36 percent of existing coal based generation would be delimited under these proposals. Drawing upon the data submitted by the UMWA, this elimination by one-third of coal based generation will negatively impact the economy as detailed by the Penn State analysis.

By all accounts, this data was not taken into consideration by ICFI in their modeling and further discredits that analysis.

5.) ***Sanford Bernstein: Natural Gas Will Displace Planned Generation.*** CEED remains convinced the utility cap & trade, allowance auction and offset requirements pose a severe threat to the development of clean coal resources in southern Illinois.

Attached is a recent analysis of coal plant cancellations by Sanford Bernstein that supports these concerns. This analysis shows that with less than a \$25/ton CO₂ allowance cost, new combined cycle gas generation is estimated to cost less than advanced coal generation.

In the absence of a safety valve price in Illinois, the plants currently projected to be constructed in Illinois are at risk of cancellation under the recommendations contained in the ICCAG "Final Draft."

6.) ***Midwest Governor's Accord Renders IL-only Program Obsolete.*** CEED views the pending development of the Midwest Governors' Climate Accord as rendering moot all of the economic modeling performed for the ICCAG.

The development of a multistate cap-and-trade program among Illinois and adjacent and non-adjacent states would profoundly alter generation dispatch

economics and wholesale power exchanges in all affected states, while improving the competitive positions of generators in nonparticipating states.

The effects of any proposed multistate cap-and-trade program must be rigorously modeled using IPM or an equivalent model to assess the impacts of new Midwestern climate change programs on consumer electric rates, jobs, greenhouse gas emissions, fuel costs, the demand for coal, gas and other generation inputs, and new plant construction in participating and nonparticipating states.

Until the details of the proposed Midwest cap-and-trade program are more fully developed, and such modeling can be conducted, it is premature to assess the impacts of any of the ICCAG utility climate options on Illinois ratepayers or generators.

Respectfully submitted,

/Filed Electronically/

Scott Wiseman
Vice President Midwest Region
Center for Energy and Economic Development

Attachments (2):

- (1) CEED Analysis of New Coal Generation under IL C & T Proposal;
- (2) Bernstein Research on Coal Plant Cancellations



September 25, 2007

Honorable Doug Scott
Director
Illinois EPA
P.O. Box 19276
Springfield, IL 62794-9276
/Filed By Electronic Mail/

Re: Comments on Illinois Climate Change Advisory Group Final Package of Options

Dear Director Scott:

I am writing on behalf of the Center for Energy & Economic Development (CEED) regarding the options for Illinois climate change initiatives under review by the Governor's Climate Change Advisory Group (ICCAG). We would appreciate having these preliminary comments posted on the ICCAG website, and plan to submit additional comments on the final report prepared for the Governor.

CEED is a national membership organization representing major U.S. railroads, coal producers, electric generating firms and numerous other industrial interests. CEED members have direct and substantial interests in the generation of electricity and the production and transportation of coal used for electric generation throughout Illinois.

Summary of Comments

CEED supports many of the energy conservation and efficiency programs identified in the initial set of more than 80 policy options presented to the ICCAG. Our primary concerns with the ICCAG process relate to its proposed carbon limits on electric generating units (EGUs), in the form of a "cap-and-trade" program with emission allowance auction requirements, and

carbon dioxide (CO₂) offset or similar requirements for new or existing coal-based generation units.

Acting alone or in concert with other states, Illinois cannot meaningfully affect the global trend of increasing greenhouse gas emissions and GHG concentrations. This year, China will surpass the United States as the world's largest greenhouse gas (GHG) emitter. In the 1997 Kyoto Protocol negotiations, China and other major developing nations refused to accept any limits on the growth of their emissions.

Illinois' ratepayers and consumers will bear the burden of higher electric prices only to see in-state electric generation and emissions replaced by generation (and emissions) elsewhere. Emission reductions achieved by a state-only cap-and-trade policy will only be offset by a shift in electric generation outside Illinois.

CEED has *five* basic objections to the proposed ICCAG cap-and-trade and emission offset requirements for EGUs:

1) ***Adverse Impact on Generation Costs.*** The proposed cap-and-trade and offset policies would increase electric generation costs and reduce the competitiveness of Illinois electric generators, with insignificant environmental benefits. The restructured Illinois electric generation industry requires a level playing field to compete against firms in nearby states that are not proposing state-based climate change programs similar to Illinois. These states stand to gain industry and jobs at Illinois' expense if ICCAG's options for electric utility CO₂ cap-and-trade or offset programs were implemented. The ICF/Energy 2020 modeling results confirm that the "leakage" of electric generation associated with the cap-and-trade program would offset all of the reductions achieved in Illinois.

2.) ***Increased energy costs harm Illinois ratepayers.*** Modeling of the package of policy recommendations contains several flawed baseline inputs. Modeling analyses of measures similar to those approved for the final report indicate increased energy costs for consumers and industries. Models done in other states and jurisdictions show that job creation and retention is discouraged to the detriment of the economy. Illinois has lost hundreds of thousands of high-paying manufacturing jobs over the past decade, and needs to pursue policies that will attract, not repel, prospective new industrial facilities and jobs. A third party, independent analysis of the

policy recommendations should be ordered by the Governor to give his administration a true picture of the nature of these measures.

3.) ***Risk of duplicative state/federal allowance auctions.*** An Illinois a cap-and-trade program with a CO₂ allowance auction risks duplication of federal and state auction requirements. Virtually all federal climate proposals include allowance auction programs, typically on a graduated basis leading to 100% auctions. There is no assurance that Congress will exempt sources subject to state climate auctions from participation in a national emission control program. Thus, an Illinois CO₂ auction – projected by World Resources Institute (WRI) to impose a carbon tax of more than \$1 billion annually on Illinois electric consumers - could impose a double taxation on each ton of CO₂ emissions affected by both state and federal requirements. Doubling the cost of obtaining emission allowances would have a devastating effect on existing and prospective in-state electric generation, forcing electric providers to seek lower cost power from other states.

4.) ***Limiting energy growth options in southern Illinois.*** Illinois has 105 billion tons of coal reserves, and is in position to benefit substantially from investments in major new energy conversion projects for electricity and ultra-clean fuels. The ICCAG initiative already may have contributed to the loss of some of the 8,000+ megawatts of proposed new capacity in southern Illinois. If implemented by the legislature, a state-based cap-and trade program or offset requirement with limits on new sources would deter new investments in southern Illinois, shifting new plant developments to other states. Such risks are less acute with federal climate legislation, because Illinois would compete against other states under the same rules, having the advantage of substantial low-cost coal reserves and a capable workforce.

5.) ***Potential adverse impacts on electric reliability in Illinois.*** We are concerned about the potential adverse impacts of ICCAG’s EGU control options on electric reliability, and suggest further evaluation of this issue by experts at the Regional Transmission Organizations operating in the State of Illinois: PJM and MISO and/or the staff of the Illinois Commerce Commission.

Adverse impacts on generation costs and competitiveness

ICF International is using the “Energy 2020” model to assess the economic impacts of the cap-and-trade and other EGU control options under

consideration by ICCAG. Preliminary findings suggest that implementation of a cap-and-trade program limiting EGU emissions to 1990 levels by 2020 would:

- Decrease generation from coal-fueled EGUs in Illinois by approximately 22% by 2020, with a 36% reduction from conventional coal plants; and
- Substantially increase coal-based generation in states outside Illinois, entirely offsetting the reductions achieved in Illinois.

Increasing power production costs through an emission allowance auction and cap-and-trade emission reductions would harm the competitiveness of Illinois electric generators, as well as the overall state economy. We note in this regard that Illinois did not place among the top-10 states ranked for competitiveness of new industrial facilities in the influential *Site Selection* assessment of state economic competitiveness. However, several nearby states – Indiana, Ohio, Kentucky and Iowa – rated in the top-10 based on the following ranking criteria:

- Total new and expanded facilities per 1 million population in 2006;
- Total capital investment in new and expanded facilities per 1 million population in 2006;
- Total new jobs created at new and expanded facilities per 1 million population in 2006;
- Total actual number of new and expanded facilities in 2006;
- Percentage growth in new and expanded facilities from 2005 to 2006;
- Three- year growth change (from 2003 to 2006) in new and expanded facilities;
- Ranking in *Site Selection's* annual business climate survey;
- Number of top 100 metros in the annual ranking of top metros;
- Number of top 100 small towns in the annual ranking of small towns; and
- Number of 100- plus- job projects per one million population in 2006.¹

Increased energy costs harm Illinois ratepayers

Illinois is struggling to cope with rapidly escalating energy costs and the loss of well-paying industrial jobs. Since 1990, Illinois has lost more than 220,000 highly-paid manufacturing jobs.² In the past six years, the median household income in Illinois has dropped by \$6,000, a 12% decline.³

¹ *Site Selection* (May 2007), <http://www.siteselection.com/issues/2007/may/competitiveness/>. The top-10 competitive states in 2007 (in descending order) are AL, NC, IN, GA, OH, KY, TN, VA, IA and OK.

² Northern Illinois University and Center for Tax and Budget Accountability, “State of Working Illinois,” (November 2005).

³ *Id.*

ICF/Energy 2020's preliminary modeling suggests that consumers may save on their monthly energy bills as a result of energy efficiency programs under consideration by the ICCAG. In these calculations, higher electric rates are assumed to be offset by projected reductions in energy use. The impacts of higher electric rates on manufacturing, agricultural and other industrial users have not been disclosed. However, an Illinois CO₂ allowance auction would represent a “carbon tax” on all electric consumers, raising more than \$1 billion in annual revenues according to WRI.⁴

Based on ICF/Energy 2020’s modeling, the net North American CO₂ reduction associated with the cap-and-trade option is just 2 million tons compared to the “all in except cap-and-trade scenario.”⁵ This translates to a cost of \$500 per ton of CO₂ reduced, an order of magnitude or more above the costs of any other option considered by the ICCAG. With declining real wage rates and a shrinking industrial base, imposing a new billion dollar energy tax in Illinois is simply unsupportable, particularly in light of the legislature’s recent actions to provide a billion dollar rate rebate to electric consumers.

We support requests by other stakeholders for the Illinois Environmental Protection Agency (IEPA) to provide estimates of the overall costs of the policies modeled by ICF/Energy 2020. For example, how much more will Illinois consumers pay for low-mercury compact fluorescent light bulbs when standard incandescent bulbs are completely phased out? The macroeconomic modeling results presented by ICF/Energy 2020 do not provide any data on the costs of implementing the policies it has modeled. In this context, we share the concerns of other stakeholders that the baseline economic assumptions provided to ICF/Energy 2020 by the Illinois Department of Economic Opportunity (DCEO) may be overly optimistic.

Risk of duplicative state/federal allowance auctions

CEED is concerned that ICCAG’s proposal to auction 85% of EGU CO₂ allowances eventually would lead to the “double taxation” of carbon emissions in Illinois. All of the principal climate change bills before

⁴ Cite WRI Sep 6 document.

⁵ Cite to ICF/ENERGY 2020 Policy Results Handout Sep. 6, 2007, page 18.

Congress would impose allowance auction requirements, with varying timetables for phasing-in up to 100% auctions.

The prospect of such “double taxation” is even more troubling because ICCAG is not considering any form of “safety valve” to limit carbon allowance price escalation, such as that employed in various Congressional climate proposals.

The risk of having to pay twice for each ton of CO₂ emitted – once to the U.S. Government and once to the State of Illinois – creates a substantial economic disincentive to new energy development in southern Illinois. The costs of both allowance auctions would need to be recouped in higher prices for electricity or fuels. With no limit on the increase of state allowance costs, industry planners would be unable to estimate the future financial liabilities associated with the Illinois auction.

We question the reasonableness of implementing a costly new state bureaucracy to issue climate change allowances, manage a stand-alone state cap-and-trade program, and raise a billion dollars annually through a state carbon auction that may only survive a year or two before it is dismantled in favor of compliance with national legislation.

Limiting energy growth options in southern Illinois

With its 105 billion tons of demonstrated reserves of bituminous coal,⁶ Illinois is the Saudi Arabia of North American coal. Due to sharp increases in the price of natural gas relative to coal, Illinois is well positioned to benefit from new advanced clean coal power and other energy projects using local coal reserves.

The implementation of new state cap-and-trade or carbon offset requirements affecting new sources could severely penalize these future energy projects. To help assess the potential impacts of ICCAG policy options on new energy development projects, CEED has commissioned a study by James Marchetti that we will provide upon its completion. Preliminary findings suggest that the costs of participating in a state cap-

⁶ Illinois State Geological Survey, *Illinois Coal Reserve Assessment and Data Base Development: Final Report*, Open-File Series 1997-4.

and-trade program will shift new energy investments out of southern Illinois to the benefit of nearby states.

Potential adverse impacts on electric reliability in Illinois

Illinois has numerous older, smaller coal-based generating units that are at risk of retirement or reduced utilization if the ICCAG cap-and-trade or carbon offset proposals were implemented. Such units generally have higher operating and maintenance costs than larger and more modern facilities. These smaller plants nevertheless are essential for maintaining electric reliability. Their role in maintaining reliability cannot be replaced by increased imports from other states in the event that carbon control costs lead to their retirement or reduced utilization.

CEED recommends that IEPA seek appropriate consultation with - and input from - PJM, MISO and/or the Illinois Commerce Commission to assess the nature and magnitude of reliability risks posed by the ICCAG cap-and-trade and carbon offset policies. We understand that ICF/Energy 2020's modeling does not impose any constraints on incremental electric transmission from other states, or assess the potential reliability risks associated with plant closures. PJM, MISO and/or the Illinois Commerce Commission should be asked to assess the real-world transmission constraints that could impede the delivery of power to Illinois if in-state generation is unable to satisfy demand.

CEED appreciates the opportunity to submit these comments.

Sincerely,
/s/

Scott Wiseman, Vice President
CEED Midwest Region

Cc: Honorable Rod Blagojevich, Governor of Illinois
Honorable Michael J. Madigan, Speaker of the Illinois House
Honorable Emil Jones, President of the Illinois Senate
Honorable Tom Cross, Illinois House Minority Leader
Honorable Frank Watson, Illinois Senate Minority Leader
Members of the Illinois Climate Change Advisory Group

**ANALYSIS OF NEW GENERATION CAPACITY UNDER SPECIFIC ILLINOIS
CLIMATE CHANGE PROPOSALS**

Prepared for

Center for Energy and Economic Development

Prepared by

**James Marchetti
J. Edward Cichanowicz
Michael Hein**

December 4, 2007

I. INTRODUCTION

This analysis evaluates the implications that specific Illinois Climate Change Proposals (ILCCP) would have upon the competitive position of new Illinois pulverized coal (PC) generating units that are expected to enter commercial operation within the next four or five years. To undertake this evaluation, several regulatory regimes were modeled to measure the changes in generation costs brought about by compliance, and to determine whether a new unit would remain competitive in future electricity markets. The electricity market for these units is composed of those former NERC regions that would make up the Midwest Transmission Independent System Operator – PJM Interconnection (MISO-PJM) wholesale electricity market.¹

The units in this analysis are composed of three PC units, representing almost 1,800 MW of new coal-fired capacity, and are assumed to operate under the *Energy 2020* modeling of the ILCCP policy options, including an Illinois cap-and-trade program for electric utilities. All three of these PC units have received their air quality permits and are expected to be in operation by 2012.

The analysis estimates changes in generation costs brought about by compliance with the following regulatory regimes:

- **CAIR/CAMR** – Compliance with the Clean Air Interstate Rule (CAIR) and the IL Mercury Rule (CAMR), which is the Base Case or BAU scenario;
- **CAIR/S. 280** – Compliance with CAIR/CAMR and the McCain – Lieberman *Climate Stewardship and Innovation Act of 2007* (S. 280);
- **CAIR/S. 280/20% Offset** – Compliance with CAIR/CAMR and S. 280 plus offsetting 20 percent of each unit’s annual CO₂ emissions under the ILCCP;
- **CAIR/S. 280/C&T** – Compliance with CAIR/CAMR and S. 280 plus ILCCP cap-and-trade (C&T) proposal, in which 85 percent of the allowances are auctioned and the remaining 15 percent are allocated “gratis” to covered sources. Also, electric generators would be able to offset 10 percent of their CO₂ emissions that are above over their allocation; and.
- **CAIR/C&T** – Compliance with CAIR/CAMR and the IL C&T proposal.

The analysis evaluates generation costs for the years 2010 through 2020, the same analysis period evaluated by the *Energy 2020* model for the state of Illinois. All monetary values are expressed in 2006 constant dollars.

¹ The NERC regions that are included in the MISO-PJM market area are: East Central Area Reliability Coordination Agreement (ECAR), Mid-American Interconnected Network (MAIN), Mid-Atlantic Area Council (MAAC) and Mid-Continent Area Power Pool (MAPP).

The selection of S. 280 as the example of a national climate program was based upon two critical factors. First, S. 280 contains emission reduction targets and timetables very similar to Governor Blagojevich's proposed climate change goals. S.280 is more aggressive than other climate change proposals now before Congress, and it does not contain "safety valve" or similar provisions to mitigate its economic impacts. The electric generating sector would experience much higher compliance costs under S. 280 than under alternative national climate proposals. In addition, S. 280 has been modeled extensively by both the Energy Information Administration (EIA) and the U.S. Environmental Protection Agency (EPA), producing detailed economic analyses of the compliance effects and costs to the electric generating sector, which can be used as reference points in other analyses.

II. METHODOLOGY

The unit generation costs for these new Illinois units, expressed in \$/MWh, include an annualized capital charge, annual fuel costs, annual fixed and variable O&M costs, plus any SO₂, NO_x and CO₂ allowance costs to comply with a specific regulatory regime. The inclusion of a capital component in these new unit generation costs illustrates the total dollars that have to be recovered in future electricity markets in order for these units to be profitable. It should be noted that all capital, fuel, fixed & variable O&M costs, as well as future generation and financial assumptions, were provided by the project developers.

The wholesale energy price metrics used in this analysis were estimated by the EIA *National Energy Model System (NEMS)* for both the **CAIR/CAMR** (Base Case) and **CAIR/S. 280** regulatory scenarios.^{2/3} The EIA annual regional generation costs cover the years 2010 through 2020, and can be considered a proxy for future wholesale energy prices in the ECAR, MAIN, MAAC and MAPP regions. EIA adjusts these generation costs to reflect regulated and non-regulated states within these four regions. Since we are considering four regions that would compose a future wholesale electricity market, we present these regional generation costs as a range or band. Therefore, if a unit's generation costs fall above the band, that unit would be deemed un-competitive in that particular electricity market. Also, units with generation costs entirely below the band will be competitive in all regions, and those units within the band will be competitive in some of the regions.

² See EIA *Annual Energy Outlook 2007* regional generation costs for CAIR/CAMR. The CAIR/S. 280 regional generation costs were provided by EIA and taken from their analysis entitled *Energy Market and Economic Impacts of S. 280, the Climate Stewardship and Innovation Act of 2007 (July 2007)*. The regional S. 280 generation costs were from the S. 280 Core Case.

³ EIA issued a *Supplement to: Energy Market and Economic Impacts of S. 280, the Climate Stewardship and Innovation Act of 2007 (October 2007)* that addressed the following modeling questions: (i) assumptions with regard to building new coal plants; (ii) additional modeling to restrict the availability of nuclear, biomass and CCS technology; (iii) state and regional detail of modeling outputs; and, (iv) EIA natural gas prices.

SO₂, NO_x and CO₂ Allowance Allocations

The three new Illinois coal units do not receive an SO₂ allowance allocation under CAIR, as spelled out in U.S. EPA's final CAIR (March 10, 2005); however, they will receive a NO_x allocation under IL CAIR NO_x allocation procedures (*35 IL. ADM. Code 225 – Control of Emissions from Large Combustion Sources, Subparts A, C and D*). Initially, these new units would receive a NO_x allocation under a New Source Set-Aside (NSSA), until they achieve historical baselines that would allow them to receive an allocation under the main allocation pool.

The S. 280 CO₂ allocations were based upon an interpretation of the allocation language of the proposed legislation, as discussed in the Technical Appendix. Given the assumed allocation procedure used for these new units, they would receive their allocation from a NSSA account from 2012 through 2020. It would not be until post-2020 that these units would receive an allocation from the main allocation pool.

The *ICF Energy 2020 Model* was not able to provide the annual caps for covered sources under the IL C&T proposal, or the fraction of the annual cap assigned to IL electric generating sector. As mentioned earlier, under IL C&T only 15 percent of the CO₂ allowance cap is allocated to covered sources, while the remaining 85 percent goes into a state-wide auction account. The Technical Appendix provides a discussion of the unit CO₂ allocation procedure under IL C&T.

SO₂, NO_x and CO₂ Allowance Prices

The **CAIR** (SO₂ & NO_x) and **CAIR/S. 280** (SO₂, NO_x and CO₂) annual allowance prices for 2010 to 2020 were based upon EIA *NEMS* simulations of both **CAIR** and **CAIR/S. 280**. The annual CO₂ allowance prices for the IL C&T proposal that were incorporated into the **CAIR/S. 280/C&T** scenario for the years 2010 to 2020 were estimated by *ICF Energy 2020*. In addition, the CO₂ offset price used in the **CAIR/S. 280/20% Offset** scenario was based upon the ICF assumption of \$5.00/metric ton of CO₂e. However, this offset value is in 2008 dollars and was converted to 2006 dollars, which translates in \$4.84/metric ton.

III. IMPLICATIONS FOR PROPOSED NEW GENERATING UNITS

All New Units would be Competitive under S. 280

All units under **CAIR/CAMR** would be competitive in future electricity markets, as shown in Figure 1. Even the inclusion of S. 280 (**CAIR/S. 280**), along with CAIR/CAMR compliance, does not threaten the viability of any of the three new PC units (Figure 2). EIA modeling indicates that the new units in IL, under a **CAIR/S. 280** regime, would not suffer any loss in generation; consequently, these new units would operate at the same level under S 280 as in CAIR/CAMR.

FIGURE 1
NEW UNIT GENERATION COSTS UNDER CAIR/CAMR
(2006 \$)

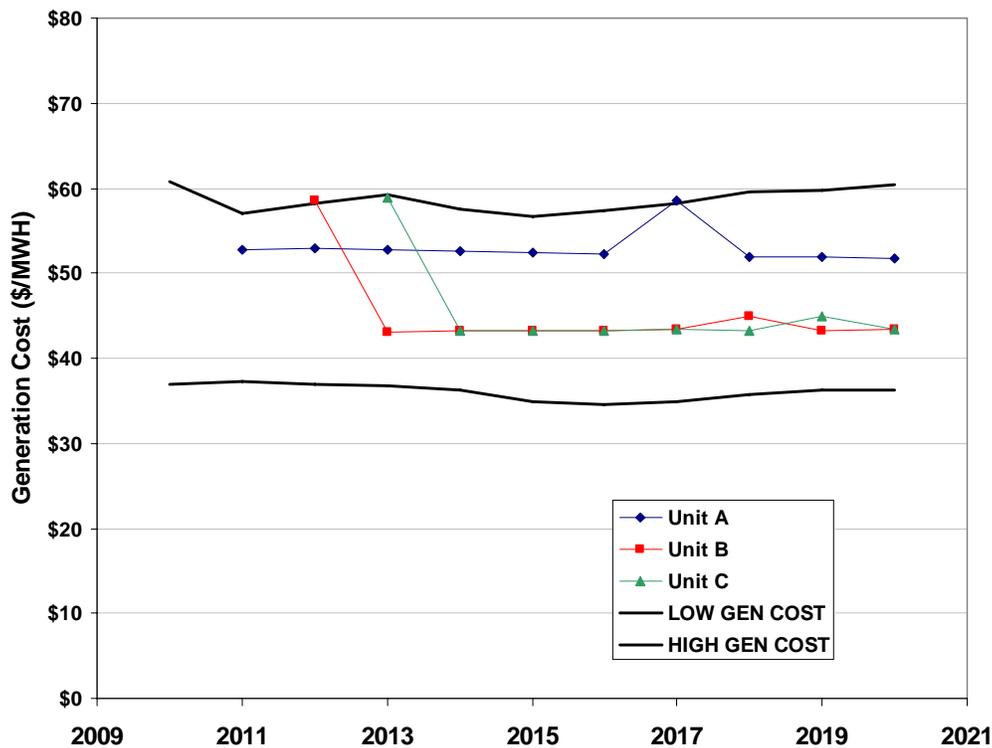
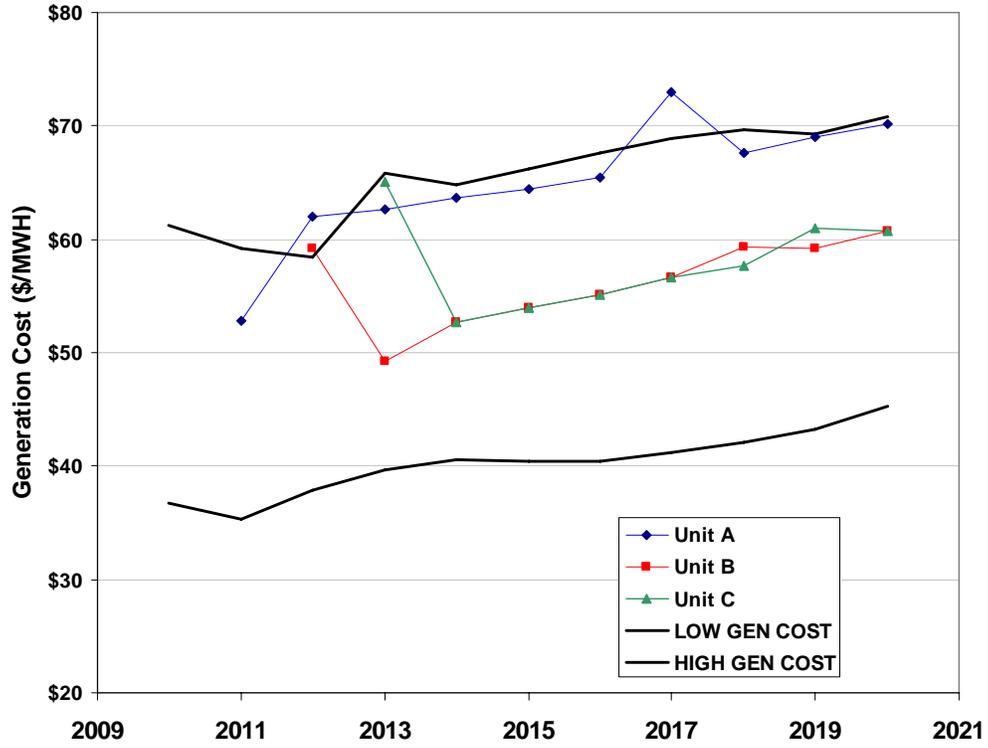


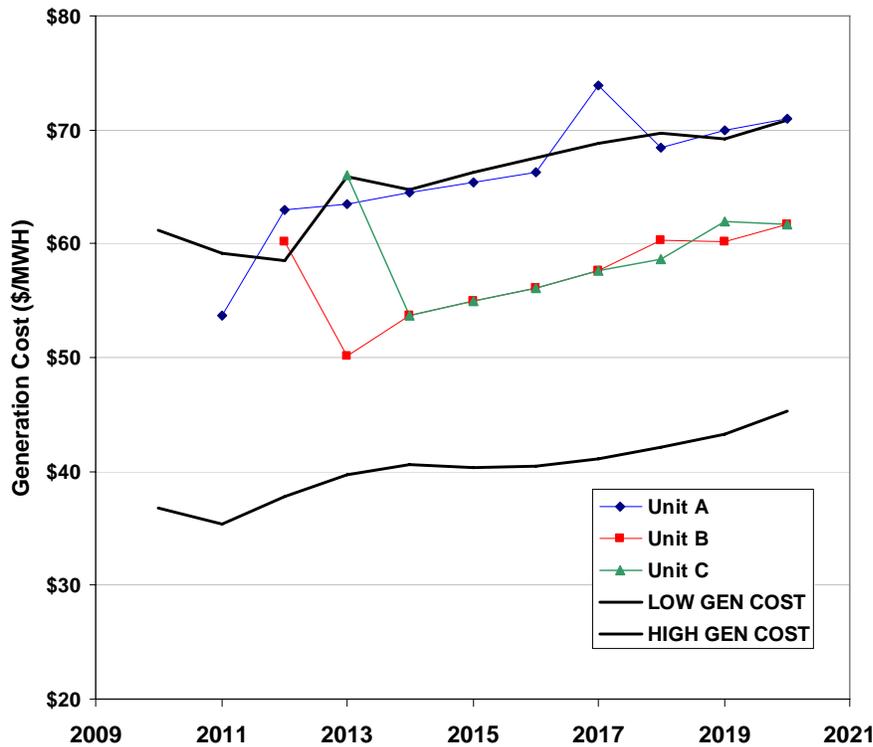
FIGURE 2
NEW UNIT GENERATION COSTS UNDER CAIR AND S. 280
(2006 \$)



Twenty Percent Offset Requirement May Threaten One Unit

As shown in Figure 3, the 20 percent offset requirement (CAIR/S. 280/20% Offset) in addition to CAIR/S. 280 costs, does begin to threaten the viability of one of the new PC units.

**FIGURE 3
NEW UNIT GENERATION COSTS UNDER CAIR, S. 280 AND 20
PERCENT OFFSET
(2006 \$)**

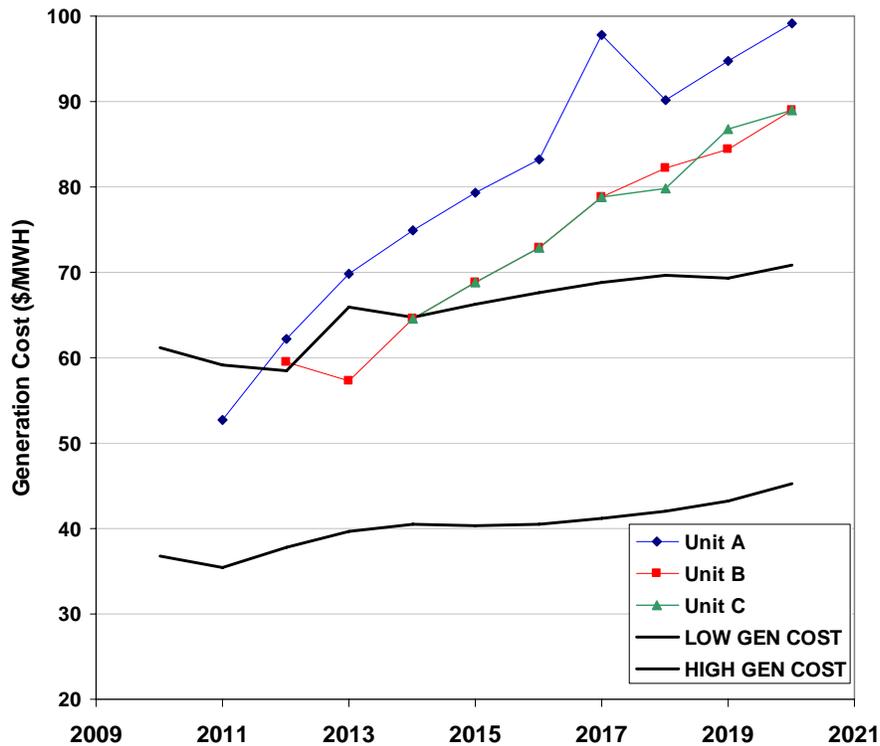


IL C&T Threatens the Competitiveness of All Three Coal Units under Any Regulatory Regime

As shown in Figure 4, the addition of the IL C&T proposal on top of a national climate change program (CAIR/S. 280/C&T), threatens the economic viability or competitiveness of all three new coal units. Specifically, one unit crosses over the upper band in 2012, while the two remaining units lose their competitive position in 2015. What drives these units into an early un-competitive position? The addition of the IL C&T allowance costs/offset costs, coupled with a projected drop in future generation it reduces the number of MWhs available to recover the annualized costs of these new units.⁴

⁴ Under the ILC&T proposal new unit generation was proportional adjusted downward based upon *Energy 2020* projected coal-fired generation in IL for existing units for the years 2010 to 2020. We undertook this

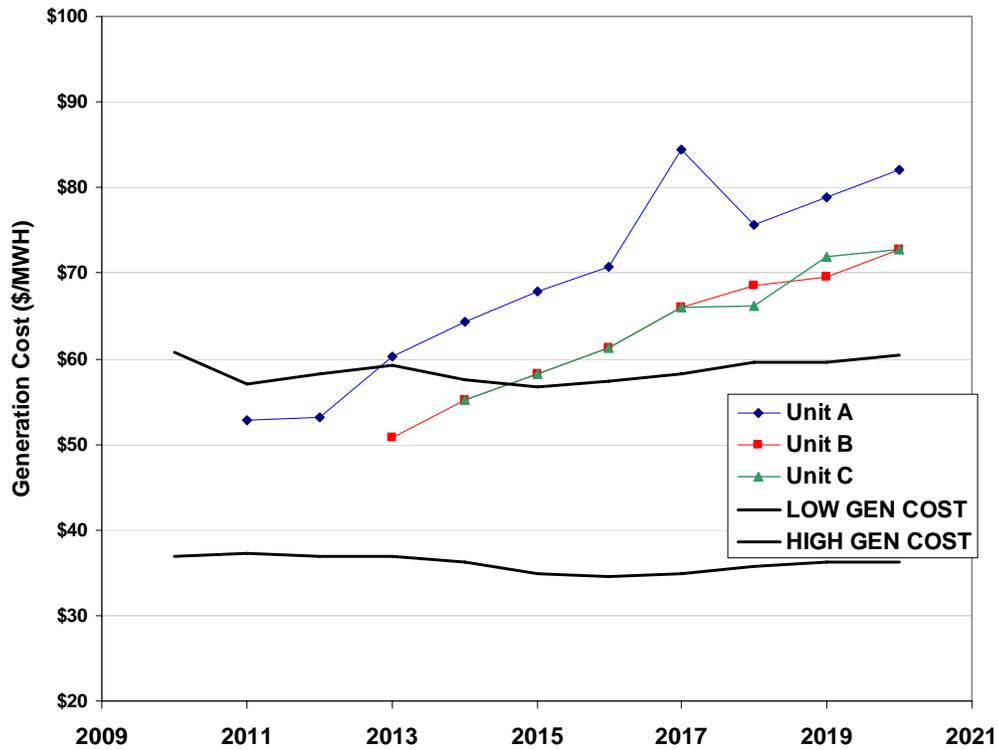
FIGURE 4
NEW UNIT GENERATION COSTS UNDER CAIR, S. 280 AND IL C&T
(2006 \$)



Even without national climate legislation, new IL coal generating sources would face a significant competitive disadvantage under a stand-alone IL C&T proposal, even under the conditions of relatively low allowance prices (\$12 to \$18/metric ton). As shown in Figure 5, under **CAIR/IL C&T**, one PC unit would become un-competitive in 2013, while the remaining two units would become un-competitive in 2015.

uniform adjustment because *Energy 2020* was not able to provide unit specific generation information under the IL C&T proposal.

FIGURE 5
NEW UNIT GENERATION COSTS UNDER CAIR AND IL C&T
(2006 \$)

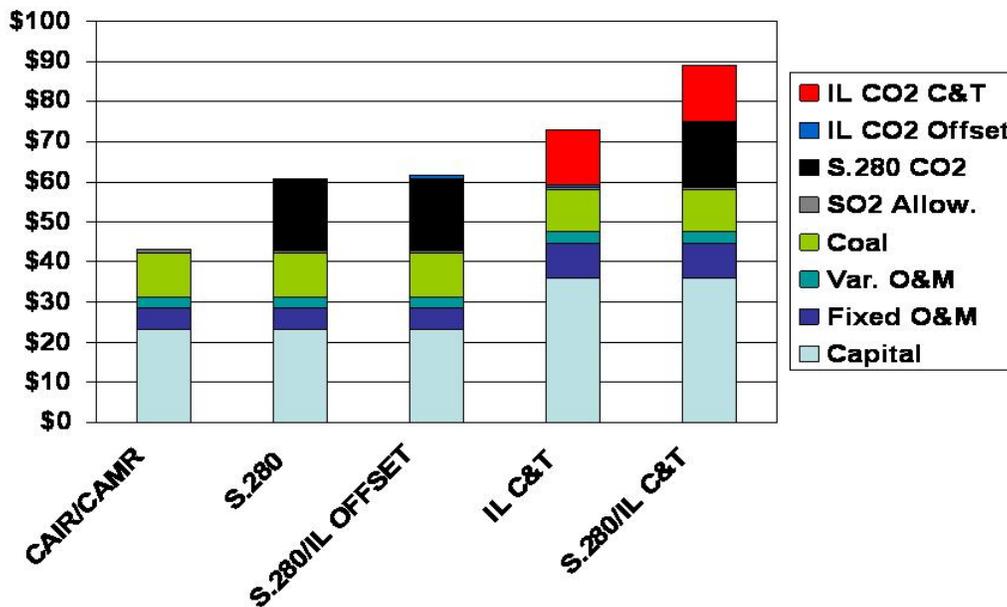


In evaluating these results, it is apparent that the imposition of a separate Illinois C&T program, on top of a federal program such as S. 280, would dramatically increase projected generation costs, making all of the proposed new IL units uncompetitive (compare, for example, the \$60-\$70/MWh estimates for 2020 in Figure 2 with the ~\$90-\$100/MWh estimates for 2020 in Figure 4. This represents, in large part, the additional costs for acquiring Illinois CO₂ allowances through a state auction.

IL C&T Proposal is a Form of a Double Tax

As shown in Figure 6, the inclusion of both the IL C&T allowance and offset costs increases a new unit's generation costs by \$14.00/MWh. These additional costs, when added to allowance costs from a national climate program, represents a "double tax" on the IL electric generating sector to control CO₂ emissions.

**FIGURE 6
ILLUSTRATIVE 2020 NEW UNIT GENERATION COSTS BY COST
COMPONENT AND REGULATORY REGIME
(2006 \$/MWH)**



The CCS Portfolio Standard Would Result in a Significant Subsidy to Those Generating Units

The ILCCP calls for the implementation of a 5 percent Carbon Capture & Storage (CCS) portfolio standard for new power plants that capture and sequester carbon.⁵ Under this proposal, electric utilities in IL would be required to purchase 5 percent of their demand from these units, irrespective of price. However, given the high capital cost of IGCC technology (generation costs in excess of \$90/MWh without CCS under S. 280), we evaluated a more economical PC unit with CCS.

As shown in Table 1, the installation of CCS (amine-based CO₂ capture technology at 80% removal) on one of these IL coal units under **CAIR/S. 280/C&T in 2020, based upon current costs and assumed performance**, would result in IL ratepayers paying a direct subsidy of \$12 to \$37/MWh, since this electricity would be non-competitive in future electricity markets.⁶

**TABLE 1
HYPOTHETICAL PC/AMINE UNIT WITH 80 PERCENT CO₂ CCS: 2020
(2006 \$/MWh)**

	CAIR/S. 280	CAIR/S. 280 w/CCS	CAIR/S. 280/C&T w/CCS
Generation Cost	60.71	67.60	82.42
Market Low Price	45.30	45.30	45.30
Market High Price	70.87	70.87	70.87

Note: The PC unit is assumed to operate at a 70% capacity factor, which is the same capacity factor as the IGCC units modeled by *Energy 2020*.

⁵ See *Policy Paper #9 – Policies to Encourage Carbon Capture and Storage (July 3, 2007)*.

⁶ The incremental capital, fixed and variable O&M for CCS, as well as the unit heat rate change were based upon cost and performance data from DOE/NETL *Cost and Performance Baseline for Fossil Energy Plants (May 2007)* for a supercritical coal unit (with and without CCS) that is expected to come on-line in 2010. However, this data assumed a 90 percent capture of CO₂. To adjust to an 80 percent carbon capture, the incremental costs were linearly adjusted based upon data presented on slide 31 of DOE/NETL *Outlook for Carbon Capture from Pulverized Coal and Integrated Gasification Combined Cycle Power Plants (April 20, 2007)*. The change in heat rate was based upon interpolating a change in heat rate between 70 and 90 percent capture (Table 3-65) of DOE/NETL *Carbon Dioxide Capture from Existing Coal-Fired Power Plants (November 2007)*.

Summary

Our study finds that the IL C&T proposal would jeopardize the viability of any new coal-fired unit built within the state. However, several important compliance and policy implications arise in meeting state and national climate proposals for new coal-fired generating sources in IL. These include:

- National climate legislation does not appear to threaten the planned IL PC units over the 2010 to 2020 time frame;
- The addition of the IL C&T proposal, or the addition of IL C&T to national climate legislation, threatens the viability of new coal units in IL;
- The purchase of CO₂ allowances and offsets under a IL C&T proposal on top of CO₂ allowance purchases under a national climate change program results in a “double tax” on CO₂ emissions; and,
- The CCS Portfolio Standard would result in a significant subsidy to those generating units.

TECHNICAL APPENDIX A

A-I METHOD TO DETERMINE S. 280 ALLOWANCE CAPS AND ALLOCATIONS

The first part of this appendix illustrates the national and electric generating sector annual CO₂ caps under S. 280. Table A-1 illustrates the annual S. 280 national cap (allowances) for covered sources, the fraction allocated to both covered entities and the electric generating sector, and the electric generating sector allocation. These caps and fractions were determined by EIA in its modeling of S. 280 using *NEMS*. As shown in the table, the allocation or “gratis” allowances to covered entities decreases each year, with the remaining allowances moving into an auction account.

**TABLE A-1
S. 280 ALLOWANCE ALLOCATIONS TO THE ELECTRIC GENERATING
SECTOR
(million metric tons of CO₂e)**

Year	S280 National CO ₂ Cap	Fraction Allocated to Covered entities	Fraction of allowances to Electric Generating Sector	Electric Generating Sector Allocation	Electric Generating Sector Main Allocation Pool	NSSA
2012	5,432	0.700	0.432	1,641	1,559	82
2013	5,432	0.667	0.432	1,563	1,485	78
2014	5,432	0.633	0.432	1,487	1,413	74
2015	5,432	0.600	0.432	1,408	1,337	70
2016	5,432	0.567	0.432	1,329	1,263	66
2017	5,432	0.533	0.432	1,248	1,186	62
2018	5,432	0.500	0.429	1,166	1,108	58
2019	5,432	0.467	0.429	1,086	1,032	54
2020	4,462	0.433	0.429	829	788	41

For this analysis we assumed that under S. 280 the main allocation pool would contain 95 percent of the total electric generating sector allowances, with the remaining 5 percent being earmarked for a NSSA pool. As mentioned above, the three new coal-fired units in IL would receive their allocation from the NSSA pool between 2012 and 2020. The allocation of the NSSA to units was based upon determining the proportion of a new unit’s annual heat input to the projected national annual heat input of all new fossil generating sources estimated by *NEMS* under S. 280. The new unit’s annual proportional value is then multiplied by the total NSSA pool for that specific year to yield the unit’s NSSA allocation.

A-II METHOD TO DETERMINE IL EGU CAPS

This section outlines the procedure used to determine the CO₂ EGU caps under the IL Climate Change Proposal (ILCCP) for the years 2012 and 2020 for new coal-fired generating sources. As discussed in *Policy Paper #16 – State Level Cap and Trade Program*, the 2020 CO₂ cap for covered emissions at 1990 levels is approximately 72.6 million metric tons of CO₂e, which was assumed to be the end point or 2020 cap.

The initial task was to determine the 2012 CO₂ cap for covered emissions, since there is no published level. The 2012 CO₂ cap is based upon 2011 emissions for covered sources and the cap is reduced gradually each year until the 2020 cap, based upon 1990 emissions, is achieved. It should be noted under McCain-Lieberman (S. 280), the caps between 2012 and 2019 remain constant, based upon 2004 emission levels, and do not drop to 1990 levels until 2020. The first step was to determine the level of IL 2011 CO₂e emissions. The document entitled *Illinois Greenhouse Gas Emissions Inventory and Projections (February 22, 2007)*, indicated in Table 6, that IL 2011 CO₂e emissions would be 296,396,000 metric tons. The next step was to determine the fraction of these 2011 emissions that would be covered under the ILCCP. This estimation was based upon data on 2005 covered CO₂e emissions contained in Table 1 of *Policy Paper #16*. According to Table 1, estimated covered CO₂e emissions in 2005 were 108,022,143 metric tons. Dividing this by the state's 2005 projected CO₂e emissions of 279,915,000 metric tons (from Table 6 *Greenhouse Gas Inventory*) yields a covered fraction of 0.3859. Assuming this fraction of 0.3859 of covered emissions to total state emissions remains constant through 2011 this would yield a 2012 CO₂e emission cap of 114,379,000 metric tons.

The second task was to determine what fraction of this cap that would be allocated to EGUs as part of the 15 percent “gratis” allocation to covered sources. Therefore, both the 15 percent gratis allocations to covered sources were determined from both 2012 (114.4 million metric tons) and 2020 (72.6 million metric tons) state emission caps. This calculation yielded “gratis” allowances to covered sources of 17,157,000 metric tons in 2012 and 10,890,000 metric tons in 2020. The next step was to determine what fraction of these total “gratis” allowances would be allocated to the state's electric generating sector. Again, Table 1 of the *Policy Paper #16* allows us to compute a 2005 fraction of electric generating sector (93.9 million metric tons) to total covered (108.0 million metric tons) emissions. This calculation yields a fraction of 0.8697, and assuming this fraction remains constant through 2020, the following estimated “gratis” allowance allocations for EGU under the ILCCP Cap-and-Trade Policy are presented in Table A-2 for the years 2012 to 2020.

TABLE A-2
EGU ALLOWANCE ALLOCATIONS UNDER THE ILCCP CAP-AND-TRADE POLICY: 2012 TO 2020

Year	EGU Allowance Allocation (million metric tons of CO ₂ e)
2012	14.9
2013	14.2
2014	13.6
2015	12.9
2016	12.2
2017	11.5
2018	10.8
2019	10.2
2020	9.5

Since the *Energy 2020* model did not identify a NSSA pool, as well as a specific unit allocation procedure, annual unit allocations for both existing and new units came from the electric generating sector pool in Table A-2. Individual unit allocations were based upon a unit's proportional share of the previous year's total sector CO₂ emissions.



Why are Utilities Cancelling Coal Plants, and What Does it Mean for Profits?

Hugh Wynne
Sanford C. Bernstein & Co.
November 12, 2007

SEE THE DISCLOSURE APPENDIX OF THIS REPORT FOR ANALYST CERTIFICATIONS AND IMPORTANT DISCLOSURES

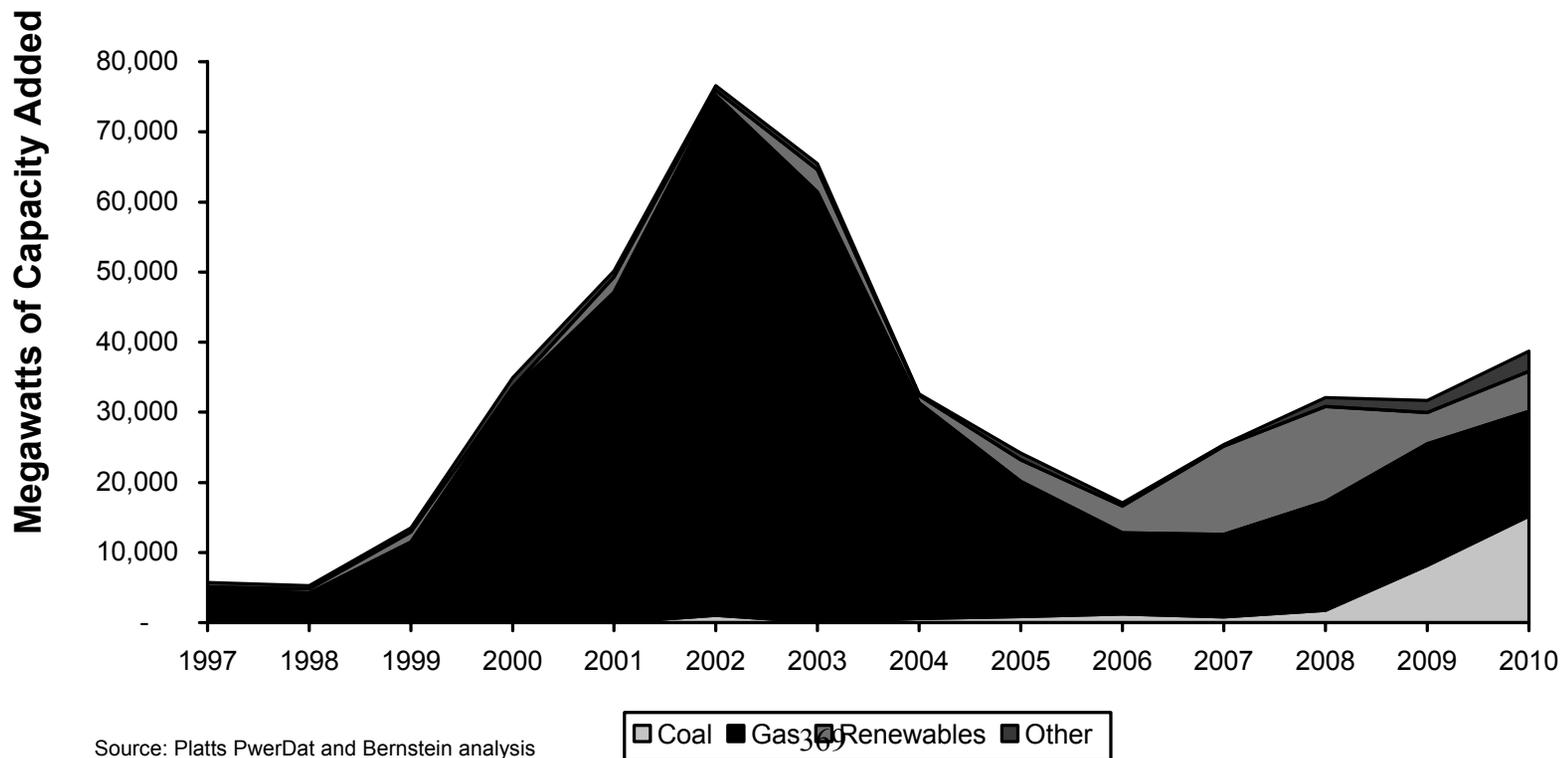
Agenda

- Capacity additions by fuel, 1997-2006
- Recent resurgence of coal fired power plants
- Coal plant cancellations in 2007
- Factors contributing to the cancellations
- Implications for rate base growth of regulated utilities
- Implications for wholesale power prices and the profits of unregulated generators

1997-2006: Gas Dominates

Over the ten years from 1997 through 2006, gas fired power plants accounted for almost 80% of all U.S. capacity additions. Combined cycle gas turbines (CCGTs) were preferred over coal plants due to their lower cost, shorter construction times and environmental benefits.

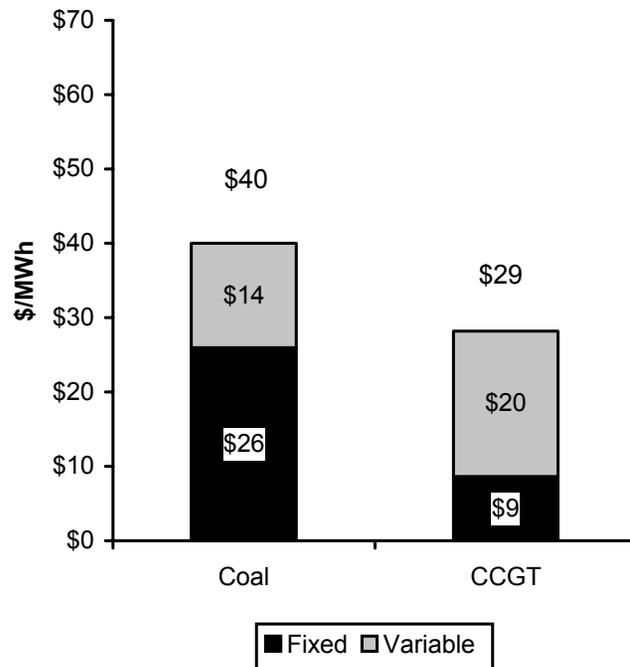
Capacity Additions by Fuel in MW



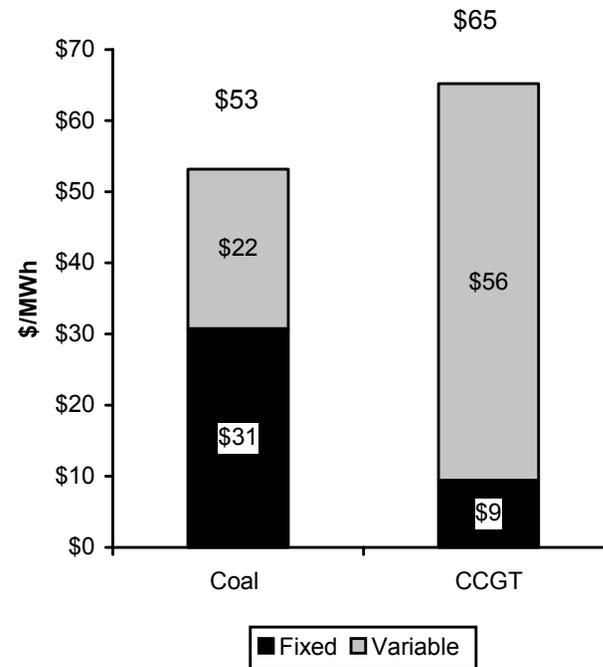
But High Gas Prices have Brought Coal Back into Favor

In the 1990s, when gas prices averaged less than \$2.00/MMBtu, the all-in cost of power from a CCGT was well below that of a coal plant. But by 2006 higher gas prices had tipped the scales in favor of coal.

1997 Capital & Fuel Costs
(\$2.50/MMBtu gas & \$25/ton coal)



2006 Capital & Fuel Costs
(\$8/MMBtu gas & \$50/ton coal)

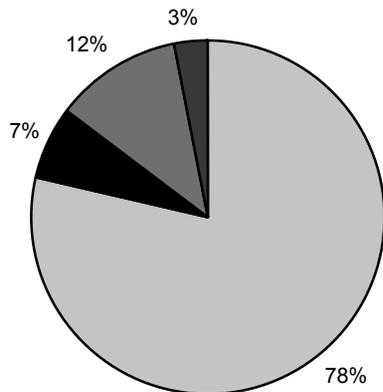


Source: Source: DOE, Cost and Performance Baseline for Fossil Energy Plants and Bernstein analysis

But High Gas Prices have Brought Coal Back into Favor

Reflecting these shifting economics, 34% of the generation capacity under construction in the U.S. today is coal fired, up from 7% from 1997-2006.

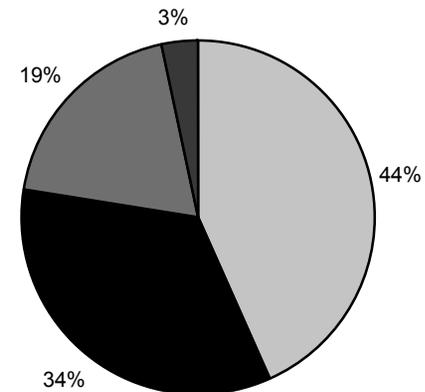
Capacity Additions by Fuel Type, 1997-2006



■ Gas ■ Coal ■ Renewables ■ Other

Source: Platts PowerDat and Bernstein analysis

U.S. Power Plants Under Construction by Fuel Type



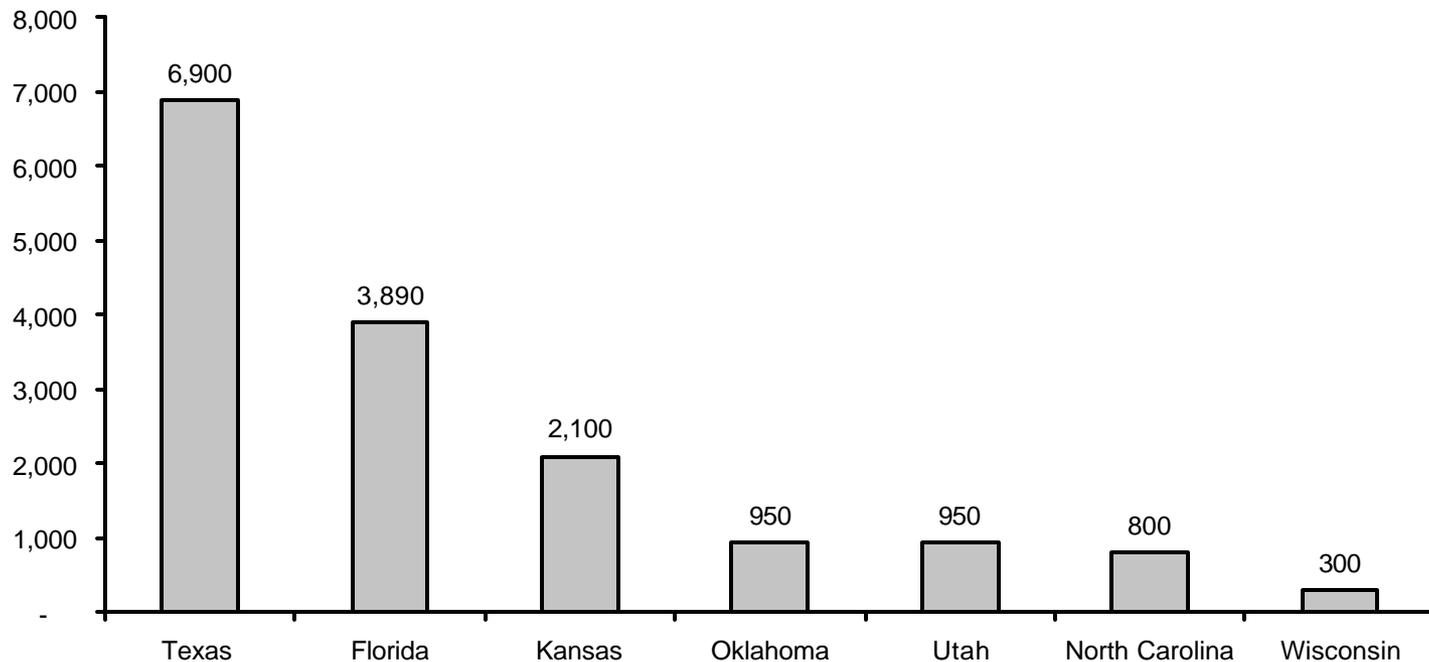
■ Gas ■ Coal ■ Wind ■ Other

Source: Platts PowerDat and Bernstein analysis

But this Year, 16,000 MW of Coal has been Cancelled

Despite the cost advantages of coal, and utilities' resurgent interest in the fuel, 2007 has seen a series of coal fired power projects stopped in their tracks. 16,000 MW have been cancelled, half by TXU in Texas, half by regulated utilities in Florida, Kansas, Oklahoma, Utah, North Carolina and Wisconsin.

Coal Fired Power Projects Cancelled in 2007

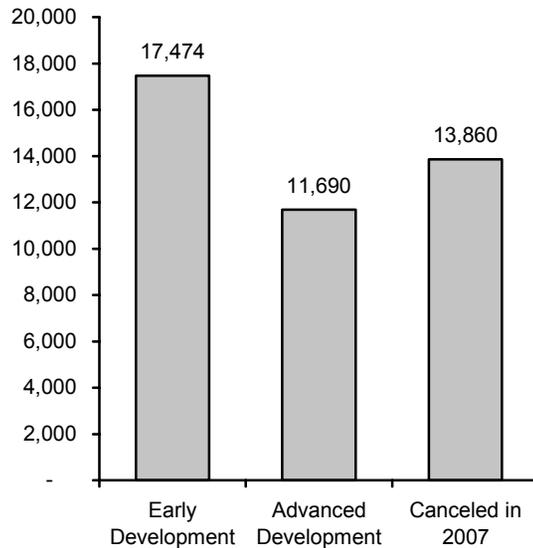


Source: Platts PowerDat and Bernstein analysis

Coal Capacity Cancelled Exceeds that Under Construction

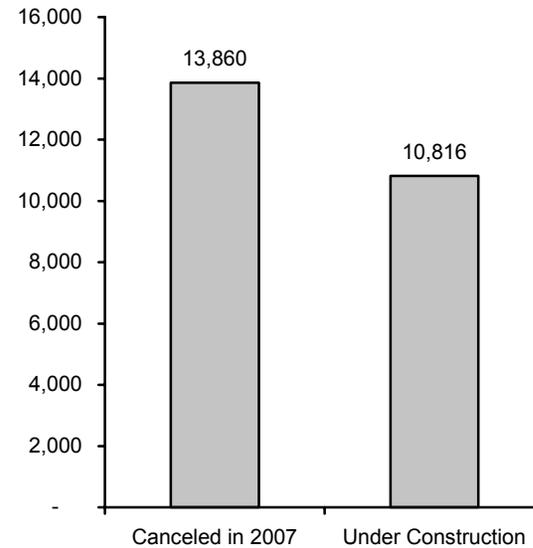
The coal fired capacity cancelled in 2007 is equal to almost half the coal fired capacity under development in the United States, and exceeds the capacity currently under construction.

Coal Plants Cancelled vs. Those in Development



Source: Platts PowerDat and Bernstein analysis

Coal Plants Cancelled vs. Those in Construction



Source: Platts PowerDat and Bernstein analysis

Cancellations Reflect Rising Construction & CO2 Compliance Costs

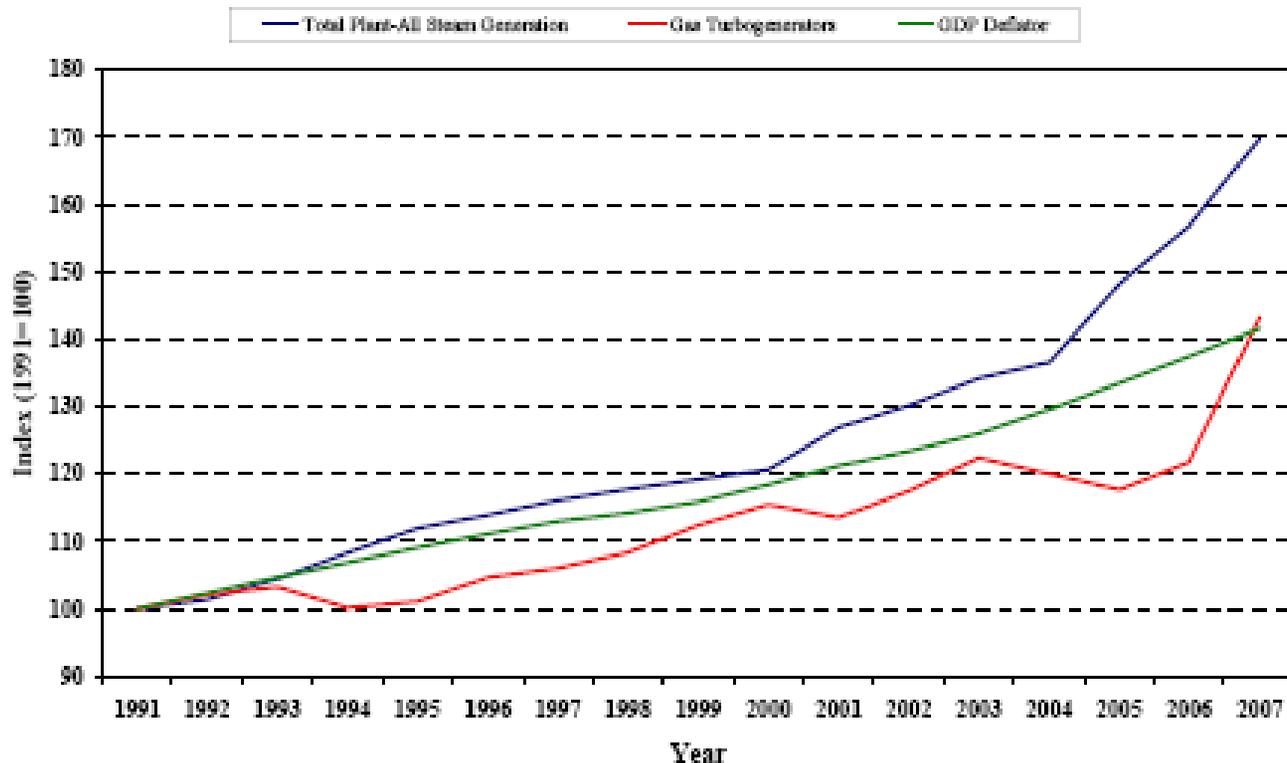
Contributing to the cancellations has been sticker shock among developers and regulators over rising construction costs – reflecting increases in the cost of steel, copper, aluminum, concrete and highly engineered generation equipment.

In large part, this reflects the massive expansion of generation capacity under way in China, which has added 100,000 MW of coal fired capacity – equivalent to a third of the U.S. coal fired fleet – in the last year alone.

In other cases, such as Florida and Kansas, state governments have taken the decision to deny permits to coal fired plants out of a desire to limit emissions of CO2.

Uncertainty as to the cost of compliance with future CO2 emissions control legislation has aggravated concerns as to the cost of coal fired power plants.

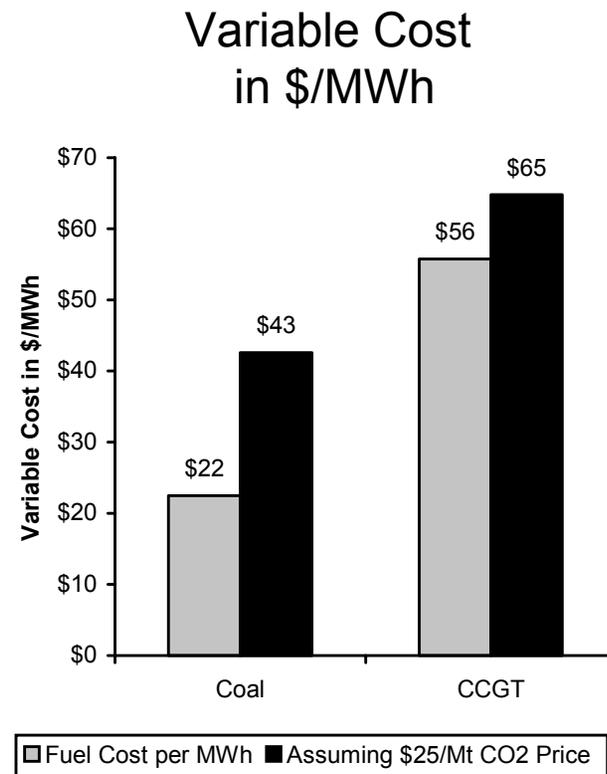
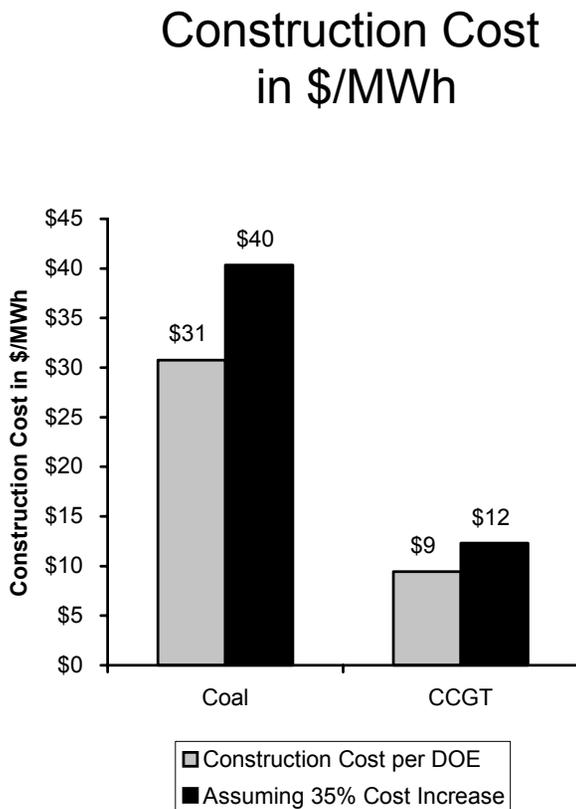
An Edison Foundation study prepared by the Brattle Group and published in September found increases of 25% to 35% in the cost of steam-generation plant over the three years from 2004 through 2006.



Sources: The Handy-Whitman® Bulletin, No. 165 and the U.S. Bureau of Economic Analysis.
Simple average of all regional construction and equipment cost indices for the specified components.

Source: *Rising Utility Construction Costs: Sources and Impacts*, prepared for the Edison Electric Institute by Marc W. Chupka and Gregory Basheda of The Brattle Group, September 2007

While construction and CO2 cost increases will also affect CCGTs, the impact on coal plants is worse. As construction costs are 60% of the cost of power from a coal plant, vs. 15% at a CCGT, a 35% increase in construction cost raises the cost of power from a coal plant by \$9/MWh vs. \$3/MWh at a CCGT. And because coal plants emit twice as much CO2, a \$25/Mt allowance price raises costs by \$19/MWh vs. \$9/MWh at a CCGT.



376
 Source: Source: DOE, Cost and Performance Baseline for Fossil Energy Plants

Rising Construction Costs are Pushing the Cost of Power Higher

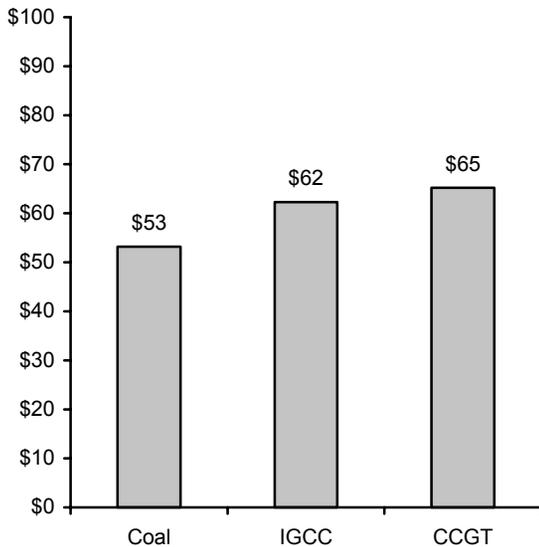
The rising cost of building and operating new coal fired power plants implies a commensurate increase in the long run marginal cost of electricity (LRMCE) – the price at which a utility can recover both the operating cost as well as the capital invested in a new plant.

- Assuming DOE construction cost estimates, the LRMCE of electricity from a coal fired power plant can be estimated at \$53/MWh.
- Based on the construction costs of recent projects, however, a more accurate estimate may be \$65/MWh.
- Finally, assuming a CO₂ emissions allowance price of \$25/Mt – the average price under the EU's Emissions Trading Scheme since it was introduced on January 1, 2005 – the LRMCE from a coal fired power plant rises to \$85/MWh. At this level, coal fired generation is no longer competitive with gas.

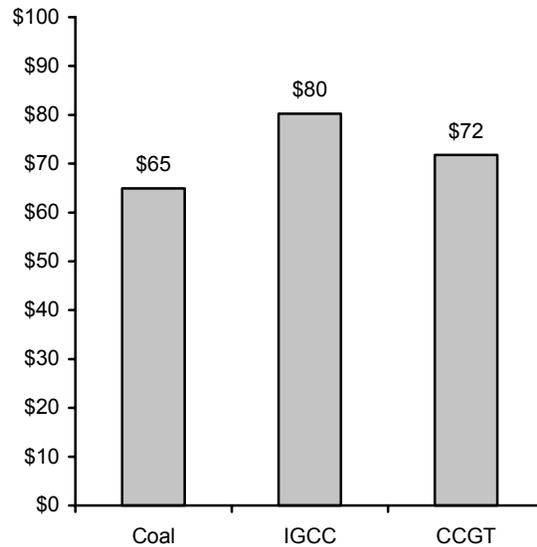
Rising Construction Costs are Pushing the Cost of Power Higher

The charts below compare the all-in cost of power from different types of power plants as estimated by the DOE using historic engineering data; Exelon, based on recent construction projects; and Sanford Bernstein, incorporating the cost of CO2 emissions allowances at a price of \$25/Mt.

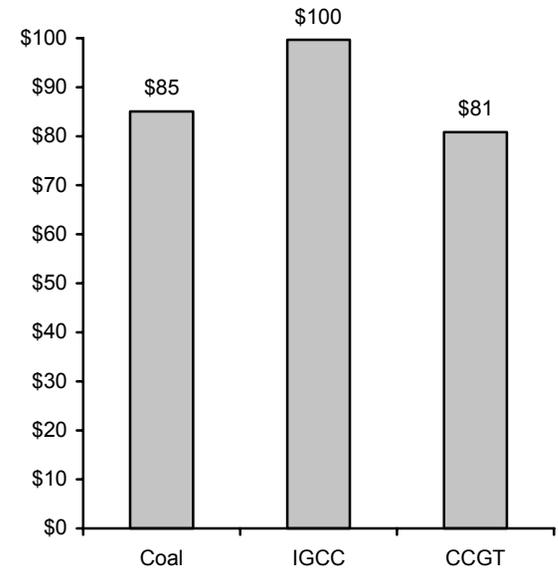
LRMCE per DOE Study



LRMCE per Industry



LRMCE @ \$25 CO2



Source: DOE, Cost and Performance Baseline for Fossil Energy Plants, Exelon and Bernstein analysis

Coal Cancellations Slow the Growth of Regulated Rate Base

What are the implications of this year's coal plant cancellations for power prices and generators' profits? For regulated utilities, the failure to complete large coal fired power projects puts at risk planned rate base expansions – constraining the growth of regulated earnings.

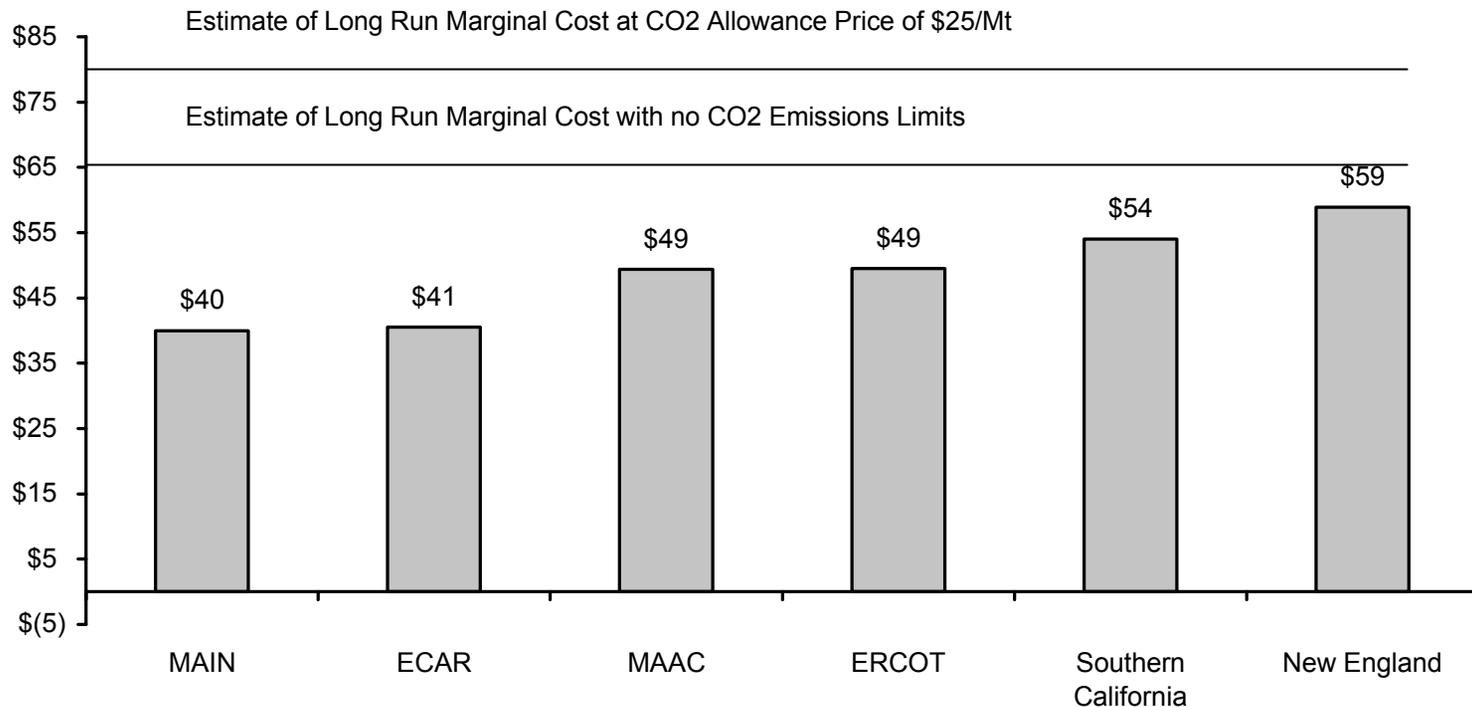
For Alliant, AEP, Otter Tail and PNM Resources, the construction cost of planned coal fired power plants exceeds 10% of invested capital. The substitution of CCGTs would reduce these capital outlays – and their contribution to rate base -- by 55%.

Utility	Coal Plants in Development	State	Capacity	Online Year	Estimated Cost		
					\$ MM	\$/kW	As % of Total Capital (1)
Alliant	Southerland	IA	630	2013	1,000	1,587	24%
Alliant	Nelson Dewey	WI	300	2012	717	2,390	17%
American Electric Power	John Turk Power Plant	AR	600	2011	1,340	2,233	5%
American Electric Power	Mountaineer IGCC	WV	600	2012	2,230	3,717	9%
Dominion Resources	Virginia City	VA	585	2012	1,620	2,769	5%
Duke Energy	Cliffside	NC	800	2012	1,800	2,250	6%
Duke Energy	Edwardsport IGCC	IN	630	2011	2,000	3,175	5%
Otter Tail	Big Stone II	SD	630	2012	1,800	2,857	40%
PNM Resources	Twin Oaks Power III	TX	600	2011	800	1,333	10%
Southern	Kemper IGCC	MS	600	2013	1,800	3,000	6%
Average						2,531	

But Higher Construction Costs Imply Higher Long Run Prices

In unregulated power markets, the rising cost of adding new capacity implies significant upside potential for power prices. In the long run, power prices in unregulated markets must rise to the LRMCE if new generation capacity is to be built. Specifically, a LRMCE of \$65/MWh implies long-run price increases of 60% in the Midwest, 30% in Texas and the Mid-Atlantic and 20% in California.

The 24 Hour Price of Power vs. Estimated LRMCE



Source: Platts PowerDat

And Fewer Coal Plants Means Gas Plants will Run More Often

In the shorter term, the failure to add coal fired capacity will force increased reliance on gas fired generation to meet the growth in power demand.

In the eastern United States, the fuel cost to operate a coal fired power plant generally falls in a range of \$25 to \$30/MWh; in the west, where cheaper Powder River Basin coal and Texas lignite are used, fuel costs are less than \$20/MWh.

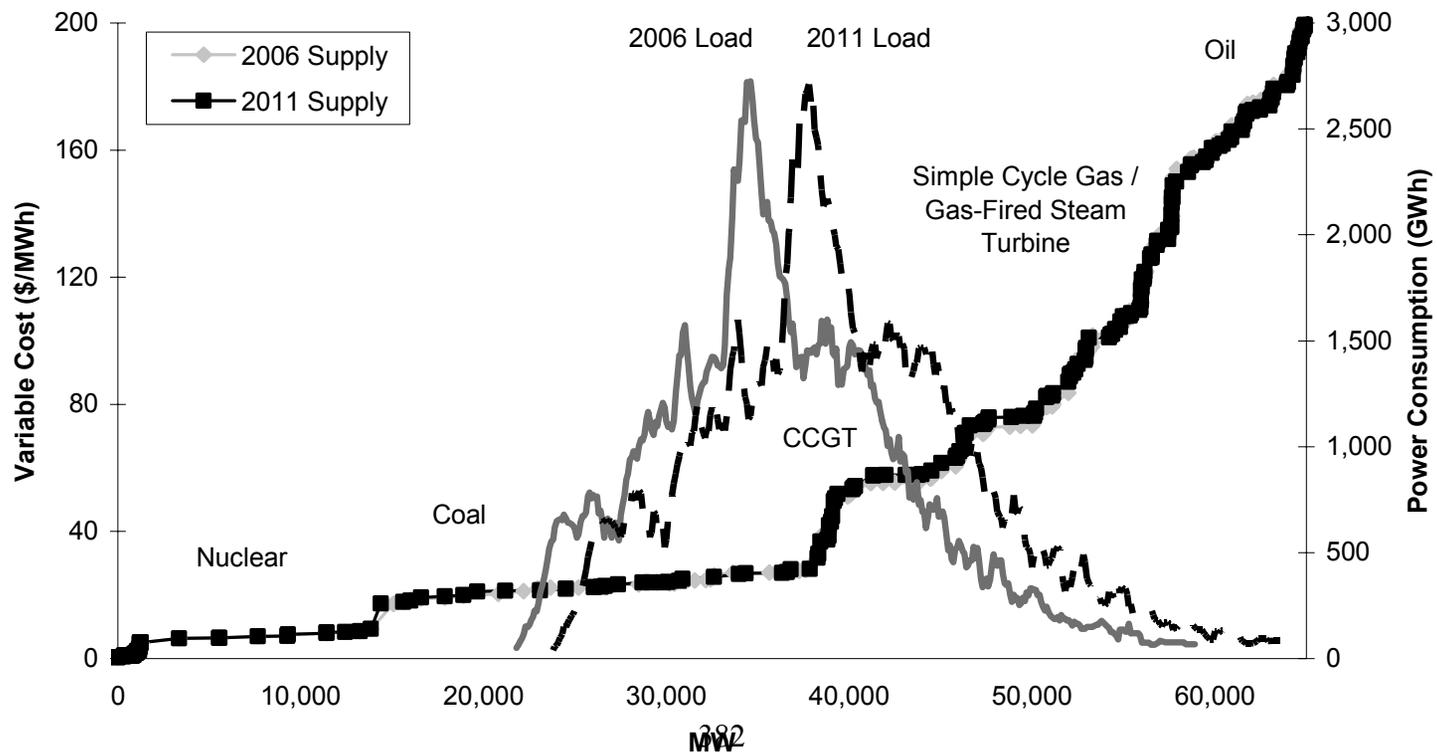
By contrast, the average operating cost of existing combined cycle gas turbine generators is closer to \$60/MWh.

In markets where coal fired generators are today the marginal or price setting units, the transition to higher cost CCGTs will drive power prices and profits significantly higher.

Driving Prices Higher in Markets Where Coal Often Sets the Price

Markets where the bulk of electricity demand is transitioning from the coal fired to the gas fired portion of the curve will face particularly steep increases in the cost of generation. It is in these markets that the most dramatic price increases can be expected to occur.

Power Supply Curve for the Mid-Atlantic Area Council



Source: Platts, NERC, EIA, and Bernstein analysis

Driving Prices Higher in Markets Where Coal Often Sets the Price

Arizona, MRO, SERC, MAAC and WECC (excluding California and Arizona), ECAR and SPP are markets where demand growth is outpacing the growth of base load generation capacity and where, as a result, gas fired generators will need to be dispatched a rising number of hours per year. It is in these markets that we expect the most dramatic increases in the cost of generation and therefore in the wholesale price of power.

Hours per Year that Gas Fired Generators Set the Price of Power

NERC Region	2007	2008	2009	2010	2011	2012	Change 2007-12
Arizona	33.2%	37.6%	39.1%	44.8%	50.6%	56.4%	23.2%
MRO	18.6%	25.2%	26.7%	36.7%	34.0%	38.8%	20.2%
SERC	35.8%	39.2%	39.9%	43.3%	47.9%	52.8%	17.0%
MAAC	75.9%	82.6%	85.9%	87.7%	90.8%	92.2%	16.3%
WECC (excl. AZ, CA)	81.6%	84.3%	85.6%	89.1%	92.9%	94.7%	13.0%
ECAR	6.1%	8.4%	9.0%	9.3%	11.8%	14.3%	8.2%
SPP	64.6%	68.5%	72.2%	75.2%	74.9%	71.0%	6.4%
NEPOOL	98.3%	99.2%	100.0%	100.0%	100.0%	100.0%	1.7%
MAIN	12.2%	12.7%	13.0%	11.5%	11.8%	13.1%	1.0%
NYPP	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	0.0%
California	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	0.0%
ERCOT	100.0%	100.0%	100.0%	100.0%	99.3%	99.8%	-0.2%

Source: SNL Financial, Platts, EIA, NERC, and Bernstein Analysis

Unregulated generators in these markets – particularly RRI, MIR, PPL, CEG, AYE – should enjoy the largest increases in generation gross margin.

Holding Company Name	Ticker	LTM EBITDA	Change in Generation Gross Margin (\$ MM)					Sum Over 2008 - 12	% of EBITDA
			2008	2009	2010	2011	2012		
Reliant Energy, Inc.	RRI	544	105	51	27	51	25	259	48%
Mirant Corp.	MIR	807	44	22	12	21	11	110	14%
PPL Corp.	PPL	2,271	41	20	60	84	39	243	11%
Constellation Energy Group, Inc.	CEG	2,068	76	37	20	35	16	184	9%
Allegheny Energy, Inc.	AYE	1,100	15	4	2	30	21	72	7%
Public Service Enterprise Group, Inc.	PEG	3,577	85	42	22	39	18	205	6%
American Electric Power Co., Inc.	AEP	3,976	42	19	9	78	76	224	6%
FirstEnergy Corp.	FE	4,577	9	49	25	77	56	215	5%
Exelon Corp.	EXC	6,245	76	41	-71	82	100	227	4%
Alliant Energy Corp.	LNT	784	7	2	11	-3	5	22	3%
Edison International	EIX	4,053	43	22	-19	22	31	99	2%
MDU Resources Group, Inc.	MDU	837	6	2	10	-2	5	20	2%
PEPCO Holdings, Inc.	POM	1,145	10	5	3	5	2	25	2%
Dynegy, Inc.	DYN	725	7	4	-19	5	16	14	2%
DPL, Inc.	DPL	505	6	0	0	0	0	6	1%
Duke Energy Corp.	DUK	5,459	13	5	2	22	21	63	1%
Wisconsin Energy Corp.	WEC	1,012	3	1	0	3	3	11	1%
Westar Energy Inc.	WR	510	3	3	3	0	-3	5	1%
Dominion Resources, Inc.	D	5,231	19	8	7	0	13	48	1%
NRG Energy, Inc.	NRG	2,335	10	5	2	-15	16	19	1%
Ameren Corp.	AEE	2,059	9	5	-25	6	21	16	1%
AES Corp., The	AES	3,716	12	8	5	3	-1	27	1%
Vectren Corp.	VVC	417	1	0	0	1	1	2	0%
FPL Group, Inc.	FPL	3,770	6	4	3	-1	0	13	0%
Northeast Utilities	NU	743	1	1	0	0	0	2	0%
Integrus Energy Corp.	TEG	444	1	0	0	0	0	1	0%
Entergy Corp.	ETR	3,327	1	1	0	0	0	2	0%
Consolidated Edison, Inc.	ED	2,520	1	0	0	0	0	2	0%
OGE Energy Corp.	OGE	632	0	0	0	0	0	0	0%
Black Hills Corp.	BKH	293	0	0	0	0	0	0	0%
Calpine Corp.	CPNLQ	488	0	0	0	0	0	0	0%
CMS Energy Corp.	CMS	766	0	0	0	0	0	0	0%
DTE Energy Co.	DTE	1,722	0	0	0	0	0	0	0%
Energy East Corp.	EAS	976	0	0	0	0	0	0	0%
Xcel Energy, Inc.	XEL	2,131	0	0	0	-6	4	-2	0%
TXU Corp.	TXU	4,200	0	0	0	-25	18	-7	0%

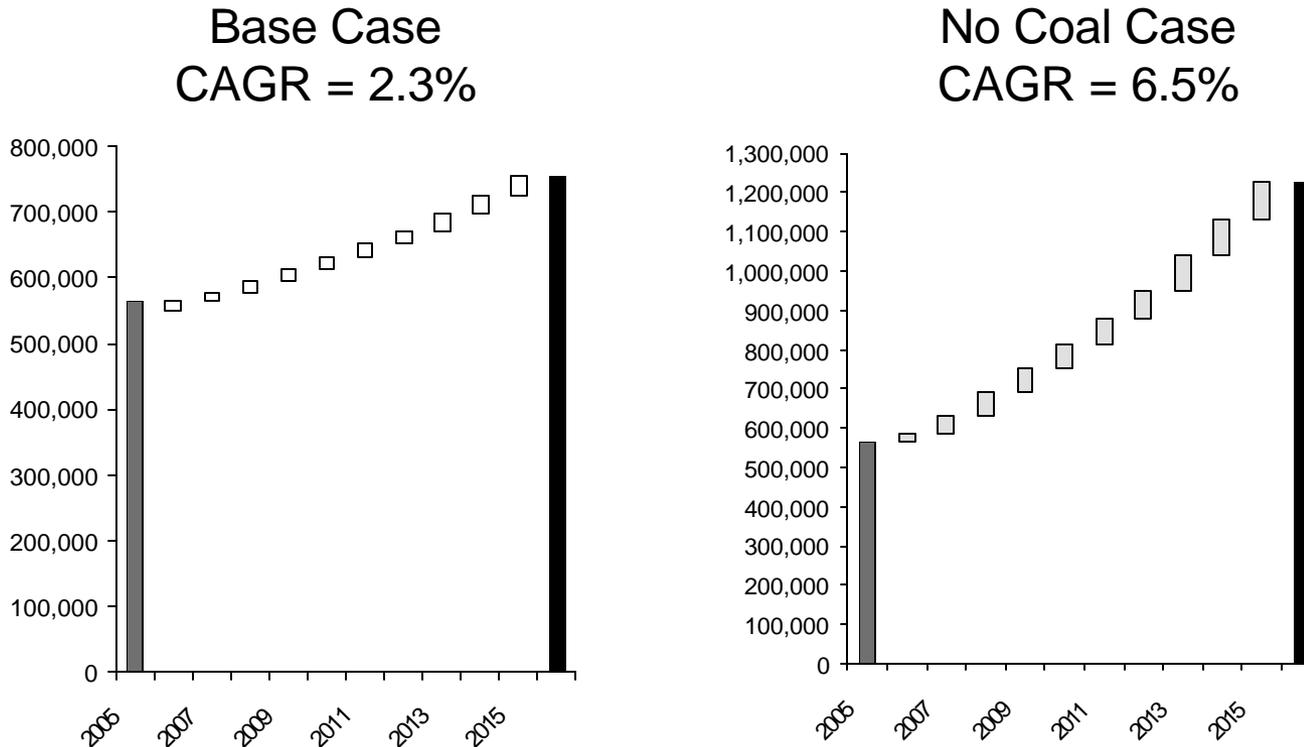
Source: SNL Financial, Platts, EIA, NERC, and Bernstein Analysis

Note: The grey areas designate years in which utilities currently subject to retail rate caps are assumed to be allowed to transition to market-based retail electricity prices.

Fewer Coal Plants will Also Raise Utility Demand for Gas

The failure to add coal fired power plants will also affect utility demand for gas. In a scenario where all planned coal fired capacity expansions are replaced with gas fired power plants, we calculate that the rate of growth in utility demand for gas will accelerate from 2.3% to 6.5%, p.a.

Forecast of U.S. Gas Fired Generation (GWh)



385
Source: SNL, NERC and Bernstein analysis

Summary

After a decade in which gas fired power plants comprised 80% of U.S. capacity additions, today coal fired plants account for 34% of capacity under construction.

In 2007, however, 16,000 MW of planned coal fired capacity additions have been cancelled – more than are currently being built.

Contributing to the cancellations have been rapidly rising construction costs and uncertainty over the cost of compliance with future CO2 emissions limits.

Rising construction costs are pushing the long run marginal cost of power to \$65/MWh. A LRMCE of \$65/MWh implies long-run price increases of 60% in the Midwest, 30% in Texas and the Mid-Atlantic and 20% in California.

In the shorter term, the failure to add coal fired capacity will force increased reliance on gas fired generation. In markets where coal is often the price-setting fuel – including much of the West, Midwest, Southeast and Mid-Atlantic -- the transition to gas will drive power prices and profits higher.

For regulated utilities, the failure to complete large coal fired power projects puts planned rate base growth at risk – constraining the growth of regulated earnings.

U.S. ELECTRIC UTILITIES

Analyst Info

Coverage

<u>Company</u>	<u>Rating</u>	<u>Target Price</u>	<u>Recent Close</u>
American Electric Power (AEP)	M	\$ 45.00	\$ 46.28
Dominion Resources (D)	M	\$ 96.00	\$ 90.10
Duke Energy (DUK)	M	\$ 21.00	\$ 19.03
Edison International (EIX)	O	\$ 67.00	\$ 57.42
Exelon (EXC)	O	\$ 90.00	\$ 81.66
First Energy (FE)	O	\$ 77.00	\$ 66.88
PG&E Corp. (PCG)	O	\$ 52.00	\$ 45.66

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- As of 10/10/2007, Bernstein's ratings were distributed as follows: Outperform/Buy - 41.5%; Market-Perform/Hold - 47.1%; Underperform/Sell - 11.5%.
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July 15, 2007

Honorable Doug Scott
Director, Illinois Environmental Protection Agency
Chair, Governor's Climate Change Advisory Group
DELIVERY VIA ELECTRONIC MAIL

Dear Director Scott,

The Center for Energy and Economic Development (CEED) has been participating as a voting member of Governor Rod R. Blagojevich's Illinois Climate Change Advisory Group (ICCAG) and appreciates the opportunity to provide input via the stakeholder process established by the Governor's Executive Order creating this group.

Policy Recommendations and Modeling. It has become clear to CEED members that a more exhaustive process is needed to model and to evaluate the policies under consideration. In fact, after reviewing the material presented at the meeting in Chicago on July 10, 2007, it is apparent that a number of the modeling base case assumptions bear no real relationship to the reality of energy production and consumption in Illinois, or to the actual costs that will be felt by ratepayers and other energy consumers in Illinois.

The proposed approach of bundling together a majority of the policy options for modeling runs will make it impossible to identify the costs and other impacts of individual policies. Moreover, ICF has acknowledged that its model is not constructed to model the PJM system and, to make matters worse, it includes only two transmission nodes. This shortcoming will undoubtedly prevent the modelers from accurately predicting generation "leakage" thus precluding any ability to estimate the costs and benefits of the policies related to the electric generation sector. The selection of the policy options was, at best, a random selection with little study provided to back up conclusions provided in straw proposals. Even policy options that were rejected had little substance attached to them, providing for almost no evaluation.

Cap and Trade. CEED believes it is unfair to impose a disproportionate share of greenhouse gas emissions reductions on the energy generation sector relative to its share of total greenhouse gas emissions in the State of Illinois. Sector equity should be a basic tenet of any solutions recommended to the Governor.

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This fact is most apparent in the discussion to create an “Illinois-only” cap and trade program to achieve emission reductions in accordance with the Governor’s announced goal. This policy will exaggerate electric rate shock already present in Illinois without achieving any reduction in ambient greenhouse gas concentration because of generation leakage to surrounding states, even perhaps from areas outside the Midwest footprint. Cap and Trade ensures that out-of-state generators, who couldn’t compete against Illinois generators prior to implementation of cap and trade, will supply the power that is needed at higher prices to Illinois consumers.

Arbitrary Inclusion of Policies. Based upon the process thus far, it appears there will be measures contained in the final report with which a number of panel members disagree. These measures are being included not because they make sense, but merely because they meet an assigned reduction value that is based on what other states are doing (as opposed to peer-reviewed research as to the environmental benefit derived from certain state-only reduction programs).

CEED strongly recommends that the policy options being considered by the Governor undergo further detailed study. Other states and multi-regional groups have only undertaken similar initiatives with the benefit of more detailed economic analyses than will be provided to the ICCAG. Illinois ratepayers deserve to have all of these proposals reviewed under the same kind of microscope.

Final Report Comments. In the interest of providing Governor Blagojevich with all of the data necessary to arrive at a sound policy on climate issues, we would like to make certain our comments are made part of the final report, even if our views disagree with what the agency forwards to the Governor’s desk. At your earliest convenience, if you could detail for the ICCAG the process for how these comments will be attached to the final report, it would be greatly appreciated.

Sincerely,

//electronically submitted//

Scott Wiseman
Vice President Midwest Region
Center for Energy and Economic Development (CEED)

CC: Illinois Climate Change Advisory Group Panel Members
Ron Burke, Associate Director, IEPA
Steve Frenkel, Office of Governor Rod R. Blagojevich

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**COMMENTS RECEIVED FROM
CHICAGO TRANSIT AUTHORITY (CTA)**

**Public transit's critical role in Illinois climate change mitigation
May 2007**

- In October 2006, Governor Blagojevich issued an Executive Order to reduce Illinois greenhouse gas emissions to 1990 levels by 2020.
- Transportation emissions, which make up a quarter of statewide totals, rose nearly 20 percent between 1990 and 2003 and continue to grow faster than other sectors.
- A business-as-usual approach will accelerate climate change, as vehicle miles traveled are projected to increase 14% by 2020.
- Reducing emissions from transportation is a necessary component in achieving the Governor's emission reduction goals and mitigating climate change.

Public transit is a proven strategy for emissions and congestion reduction

- In 2005, Chicago-area transit's relative efficiency directly lowered CO₂ emissions by about 1.2 million tons compared to equivalent auto traffic. By reducing congestion, transit indirectly lowered emissions by about 400,000 additional tons.
- In 2005, transit in northeastern Illinois emitted two-thirds less carbon dioxide than a comparable auto trip, equivalent to achieving average auto efficiency of 60 mpg.
- Electric-powered transit is particularly efficient in reducing emissions: in 2005, an electric rapid transit trip produced one-fifth the CO₂ of an equivalent auto trip.

Increased transit share is achievable more quickly than emerging technology

- With supportive land use and densities, transit captures approximately 60% of work trips to downtown Chicago and up to 70% of peak-hour trips in key corridors. Urban densities offer potential for greater mode share in off-peak periods.
- If Chicago-area transit attained London's current mode share of regional transit trips, then Illinois would achieve nearly half of the required 10.2 million-ton reduction from the transportation sector. Roughly half of this benefit would be from reduced congestion, a benefit not offered by alternative fuels and technological change. With additional investment, transit service can be expanded and/or enhanced to further mitigate congestion and decrease emissions from the transportation sector.
- As noted in the Executive Order, climate change could become irreversible in less than a decade, so reductions must be accomplished as quickly as possible. Compared with emerging technologies, increased transit service (especially off-peak service and bus service) can be implemented relatively quickly with sufficient funding.

Transit emission reductions can be realized through incremental policies

- Short-Run: Provide sufficient operating and capital funding to increase transit service to boost ridership to levels required to meet state emission-reductions goals. Greater London's per-capita funding for transit operations is almost five times greater than in the Chicago region.
- Medium-Run: Promote market-based mechanisms to encourage efficient use of limited fuel resources and road space (e.g., congestion pricing, increased parking fees, and expansion of road tolling, as described in RTA's *Moving Beyond Congestion*).
- Long-Run: Create economic incentives for and reduce legislative impediments to compact mixed-use development (particularly in concentrated employment centers),

DRAFT FOR DISCUSSION

to reduce travel demand, produce durable infrastructure benefits, and create densities to support high-quality transit throughout the Chicago region and the state of Illinois.

**COMMENTS RECEIVED FROM
DOMINION RESOURCES SERVICES**

Pamela F. Faggert
Vice President and Chief Environmental Officer



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Phone: 804-273-3467

December 12, 2007

Mr. Doug Scott
Director
Illinois Environmental Protection Agency
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P.O. Box 19276
Springfield, Illinois 62794-9276

Re: Dominion Kincaid Comments on Draft Report: Strategies to Reduce Greenhouse Gas Emissions in Illinois

Dear Mr. Scott:

Dominion is one of the nation's largest producers of energy. Dominion owns and operates electric generating facilities in ten states, including the 1250 megawatt coal-fired Kincaid Generation LLC power plant, located in Kincaid, Illinois. Dominion also owns a 50% interest in the 1400-megawatt natural gas-fired Elwood Energy, LLC combustion turbine plant, located in Elwood, Illinois. Dominion has been participating as an observer in the development of the greenhouse gas (GHG) emissions reduction strategies that have been proposed by a majority of the members of the Illinois Climate Change Advisory Group (ICCAAG), and we offer the following comments on the draft report: "Strategies to Reduce Greenhouse Gas Emissions in Illinois."

Dominion has a long record of environmental commitment. Dominion's Kincaid plant has compiled an exemplary environmental compliance record. Since Dominion purchased the plant in 1998, the plant has received no environmental violations, has cut sulfur dioxide and nitrogen oxide emissions drastically from pre-1998 levels, and has taken steps to minimize opacity and particulate levels. For the second time in three years, Kincaid Station has been nominated by the Illinois Environmental Protection Agency for "Best Operated Wastewater Treatment Works." Kincaid Station was one of only four facilities nominated out of 1,594 facilities statewide.

Dominion is committed to doing our part to address climate change. To meet this challenge, we start from a strong base. We produce 18 percent less carbon than the typical U.S. power producer for every megawatt we generate. Other sectors of the economy will have to do their share as well. But we're not waiting for others to act. We're making plans to address the global warming challenge.

As such, Dominion supports federal legislation to address climate change that:

- Regulates greenhouse gas emissions economy-wide;
- Establishes a system of tradeable allowances;
- Slows the growth of GHG emissions in the near term and reduces GHG emission in the long term;
- Sets a realistic baseline year and schedule of compliance;
- Promotes technology development; and
- Includes a safety valve to protect customers from dramatic rate increases.

The company's overall strategy for addressing climate change has five elements. The first is conservation. We are aggressively promoting energy conservation within our company and with our customers.

The second element of our strategy is renewable energy. We have a 50 percent interest in a major wind farm project near our Mt. Storm Power Station in West Virginia. Our share of the project will generate 132 megawatts of power – enough electricity to serve the equivalent of 33,000 homes. We are currently seeking proposals from developers for additional projects powered by renewable energy – projects that will use resources such as wind, solar, wave and tidal action, biomass and geothermal energy.

The third element of our strategy is advanced nuclear technology. We're a leading operator of emission free nuclear power stations and we're actively considering building a third nuclear unit—using an efficient, modern, and simplified design—at our North Anna Power Station in Louisa County. We are now seeking the permits that we will need if we decide to build the unit. On November 27, we filed an application with the U.S. Nuclear Regulatory Commission for a combined license to build and operate another reactor at North Anna. This is commonly known as a COL – for Combined Operating License. The project would produce more than 1,500 megawatts of electricity – enough to supply the needs of 375,000 homes.

Fourth, we believe coal can continue to play a role in power generation while we reduce carbon emissions. We're partnering with researchers at Virginia Tech to develop ways to store power plant carbon emissions underground, in coal seams.

Finally, we're planning to expand our use of clean-burning natural gas to produce power. This will include extremely efficient combined cycle units – that capture waste heat and recycle it to produce more electricity. We recently announced plans to build one of these units in Buckingham County, Virginia.

Having said all of this, we do have comments on ICCAG's proposed strategies for reducing greenhouse gas emissions in the state.

Our primary comment is that we do not believe that Illinois should move forward on its own with comprehensive rules and regulations to address climate change but should wait for Federal action. Only with a national program can we ensure a fair distribution of the economic impacts carbon constraints are likely to create. We strongly urge the State of Illinois to re-direct the extensive resources that are currently being expended in pursuit of an Illinois-specific climate change program to a concerted effort to better position the State of Illinois for a national greenhouse gas program.

With that said, there are a number of recommendations put forward by ICCAG that are clearly the purview of state government and could be pursued to supplement comprehensive federal action on climate change. For example, many of the transportation focused initiatives

such as smart growth initiatives, expanding mass transit and improving the energy efficiency of state owned facilities and vehicles are all matters where state policy making can result in real greenhouse gas emission reductions. We support state pursuit of these initiatives. We also supports a number of the energy efficiency measures put forward in the report such as increasing the efficiency standards for appliances and equipment and improving energy conservation and efficiency programs for existing state facilities. In Virginia where we have retail electric customers, Dominion recently announced nine pilot programs to help a wide array of customers save energy and we are partnering with Home Depot to offer significant discounts on 1.4 million energy-saving compact fluorescent lights. If all of these CFLs are installed, they would help our customers in Virginia save more than \$74 million on their electric bills.

We do not support ICCAG’s recommendation for a state only cap and trade program. The program proposed by ICCAG is not in line with the following elements we believe are essential to a cap and trade system for greenhouse gas system.

Regulates greenhouse gas emissions economy-wide

By definition an Illinois program cannot be economy-wide in the United States. While we support ICCAG’s decision to broaden the proposed program beyond power plants, a state level program that includes dozens of sources will not be as cost-effective as a national program where thousands of facilities can trade in order minimize compliance costs. To that end, we support ICCAG’s preference for linking with other states particularly Midwest states for development of a cap and trade program if one is pursued.

Slows the growth of GHG emissions in the near term and reduces GHG emission in the long term

Sets a realistic baseline year and schedule of compliance

We ask ICCAG to reconsider the targets and timetable advanced in the draft report for the early years of a program, particularly the cap and trade program. The proposed reduction of greenhouse gas emissions to 1990 levels by 2020 will be nearly impossible for existing coal-fired generation in the state. There are currently no viable back-end control technologies to cost-effectively reduce CO2 emissions from power plants, and it will take time and huge investments to develop them or to replace existing generation with new generation.

Promotes technology development

Includes a safety valve to protect customers from dramatic rate increases

We recommend a price control mechanism for the Illinois cap and trade program if it is adopted. As discussed previously, there are currently no viable back-end control technologies to cost-effectively reduce CO2 emissions from power plants. Without such technology and with limits on the amount of offsets a facility can use to meet compliance obligations, payment of a “safety valve” fee may be a facilities **only** compliance option.

In addition, development of a safety valve will facilitate an orderly transition to a new program and, while it would not avoid rate impacts, it would provide affected companies and their ratepayers greater rate stability. Additionally, a price cap would provide a necessary mechanism for government funding of technology research and development, conservation and demand side reduction programs, provided the necessary steps are taken to ensure that the funds collected are secured for their intended purpose.

Robust and unrestricted opportunities for offsets acts as a safety valve in a greenhouse gas cap and trade program. ICCAG's recommendation that offsets can only be used by a source to meet up to 10% of its compliance obligation a year essentially eliminates offsets as a compliance option. Given the lack of emissions reduction technology and the lack of a safety valve in the proposal, eliminating offsets as a meaningful compliance option could expose customers to dramatic rate increases.

We do not support ICCAG's other policies for new fossil fuel power plants in Illinois to include:

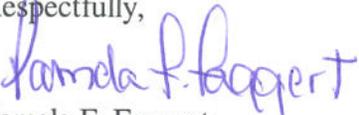
- Requirements that new facilities meet a CO₂ emission standard equal to that of a typical new natural gas combined cycle power plant and for utilities/load serving entities to have to purchase power from new power plants that meet this standard.
- Requirements that new fossil fuel fired power plants be required to offset 20% of their carbon emissions.
- Requirements for Illinois electric utilities and alternative retail electric suppliers to purchase up to 5% of their peak electric load from power plants that sequester carbon, once this technology is commercially available.

We do not support these proposals because we do not believe that Illinois should move forward on its own with comprehensive rules and regulations to address climate change but should wait for Federal action. As stated previously, only a national program can ensure a fair distribution of the economic impacts carbon constraints are likely to create.

We look forward to continuing to work closely with the ICCAG in the context of evaluating how Illinois can influence and then best comply with a national GHG reduction program. To the extent state-level options are pursued, only options such as the in-state energy conservation and efficiency options under consideration by the Advisory Group and energy efficiency measures of the Governor's energy plan, that would not place Illinois at an economic disadvantage relative to surrounding states, should be considered in advance of a national GHG program.

Thank you for your consideration of these comments. If you have any questions, please contact Robert Asplund at (804) 273-3012.

Respectfully,


Pamela F. Faggert

Cc: Mr. Ron Burke
Associate Director
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July 27, 2007

Mr. Doug Scott
Director
Illinois Environmental Protection Agency
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Springfield, Illinois 62794-9276

Re: Dominion Kincaid Comments on Illinois Climate Change Advisory Group

Dear Mr. Scott:

Dominion is one of the nation's largest producers of energy. Dominion owns and operates electric generating facilities in ten states, including the 1250 megawatt coal-fired Kincaid Generation LLC power plant, located in Kincaid, Illinois. Dominion also owns a 50% interest in the 1400-megawatt natural gas-fired Elwood Energy, LLC combustion turbine plant, located in Elwood, Illinois. Thus, Dominion has a significant stake in the current deliberations of the Illinois Climate Change Advisory Group (ICCAG), which has been charged by Governor Blagojevich's Executive Order 2006-11 with the task of presenting to the Governor its "findings and recommendations" to reduce statewide greenhouse gas emissions. This Advisory Group must develop these recommendations in only four months "after fully considering the full spectrum of policies and strategies regarding climate change."¹

Although Dominion is not an official stakeholder member of the ICCAG, we have been closely monitoring the progress of the ICCAG through participation under "observer" status in the group meetings and various subgroup conference calls. Since the ICCAG has not established a specific mechanism for "observers" to provide direct input into this process, we are submitting the following comments on the Advisory Group process as it has progressed so far. We would also like to take this opportunity to request that the ICCAG establish a more formal mechanism for all stakeholders to provide timely input into the process as well as an opportunity to comment on any recommendations the group ultimately proposes to the Governor for possible consideration.

Comments Pertaining to the Development of an Illinois State-Level Climate Change Program

- 1. Dominion urges Illinois to consider how best to prepare for a national climate change program in lieu of developing a state-specific program.**

¹ "Executive Order on Climate Change and Greenhouse Gas Reduction", 2006-11, Executive Department, State of Illinois, October 5, 2006.

Climate change is one of the most challenging environmental policy issues ever. Rather than pursuing a one-state program, Dominion urges the State of Illinois to develop a well-researched, fully documented program that allows the citizens and industries of Illinois to be fully prepared for what we believe is inevitable – a national greenhouse gas (GHG) reduction program. Only with a national program can we ensure a fair distribution of the economic impacts any carbon constraining program is likely to create. States should focus on: (1) developing comprehensive greenhouse gas emission inventories in order to fully understand and evaluate current sources of GHG emissions as well as past and future anticipated trends of GHG emissions; (2) study the potential impacts of climate change on the state, and evaluate strategies, in coordination with all impacted entities, that can be reasonably and cost-effectively deployed in terms of addressing GHG emissions and adapting to climate change outcomes, if needed, and; (3) influencing the development of federal policies that will address climate change concerns.

These are complex, long term issues and while we applaud Illinois for getting started, we strongly urge the State of Illinois to re-direct the extensive resources that are currently being expended in pursuit of an Illinois-specific climate change program to a concerted effort to better position the State of Illinois for a national greenhouse gas program.

2. **As part of a state response to expected federal climate change legislation, Illinois should identify state-specific strategies that focus on how Illinois can best achieve the expected reductions.**

Illinois Executive Order 2006-11 directs the ICCAG to “provide recommendations to the Office of the Governor regarding climate change policy” and to “present proposals to the Governor to reduce statewide greenhouse gas emissions”.² The ICCAG has chosen to expand this charge from providing policy recommendations and emissions reductions proposals to focusing on specific reduction targets and timetables, choosing reduction options from a pre-prepared list by taking a popular vote of the ICCAG members.

Dominion believes the citizens of Illinois would be better served by an Illinois GHG program that devoted its initial deliverables to a high-level review of the areas of the Illinois economy that are likely to be most impacted by the expected federal climate change legislation and identifying those areas best equipped to achieve the expected GHG reductions in the most cost effective manner.

For example, Dominion has been carefully monitoring the federal climate change debate and believes a national climate program should include:

1. Programs and incentives to promote energy efficiency, conservation measures and renewable power;
2. Incentives to increase nuclear capacity;
3. Continued development and deployment of clean coal technology, and;

² IBID

4. Phased-in targets and timelines that slow and stop the growth of GHG emissions in the near term to allow adequate time for the development of the advanced technologies that will be needed to reduce GHG in the longer term.
3. **A well-researched state climate change program will need more time to develop and should be conducted in concert with federal legislation.**

Dominion has significant first-hand experience in working through the problems inherent with developing a regional greenhouse gas reduction program since Dominion owns and operates three fossil power plants in New England that will be subject to the Regional Greenhouse Gas Initiative (RGGI) – the ten-state Northeast regional greenhouse gas program. It has been noted throughout these initial discussions in the ICCAG that it took much longer to finalize the RGGI program than the four months allocated for the Illinois program. New York’s Governor Pataki proposed what eventually became known as “RGGI” in April 2003. Though a final Model Rule was issued in September of 2006, states are not expected to fully adopt the program until sometime in 2008 with implementation in 2009 – 6 years after the initial announcement. Furthermore, some of the outstanding policy issues raised in RGGI, such as how to effectively address leakage, have yet to be resolved. We also note that the State of North Carolina was commissioned through legislation that passed in June 2002 to undertake a comprehensive 2-year study to evaluate climate change impacts to the state and to develop recommendations to address greenhouse gases. It wasn’t until September 2005 that the Final Report was issued, more than three years later.

Dominion believes there is too much at stake here from an economic and electric reliability perspective to fit the currently contemplated timeline. The issue deserves a thorough review of the many impacts this program will have on the citizens of Illinois. We respectfully request the group be given at least a year, or longer, to more fully evaluate the policy options and the impacts of this undertaking.

As you are aware, the ICCAG has decided to prioritize the number of policy options for consideration towards achieving the Governor’s objectives by having the ICCAG members “vote” on their “top five” policies they believe should be included. Decisions this critical that will inevitably have a profound impact on the economy of Illinois require that the policy options be thoroughly evaluated and considered by experts in this field, and only after careful, objective, economic and scientific review and an open stakeholder process.

Comments on State-Level Cap-and-Trade Program (Policy #16)

1. **The “straw proposal” for a cap and trade program targets only electric generating units (EGUs) and large fossil fuel fired combustion units. A fair cap and trade program would include all sectors of the economy – including all generators of**

greenhouse gases as well as all end-users of the products provided by these generators.

It is clear that the focus of the group is “fossil fuel fired electric generation units“ and “large fossil fuel fired combustion units” as the original cap and trade proposal called for reductions from these sources to be “equal to the difference between the Governor’s 2020 goal and the cumulative projected reductions from the other strategies recommended by the ICCAG.” In other words, under this cap and trade option, EGUs (and “large fossil fired combustion units”) will make up the difference between the reductions that all the other options achieve by 2020 and the projected 88 million metric tons of reductions needed by 2020. We support the ICCAG decision to abandon this option and we agree with the reasons given by the IEPA staff at the July 10 meeting that this approach would be “unfair”.

The cap and trade option now under consideration by the ICCAG would target the same sources but would cap GHG emissions from these sources at 1990 levels, beginning with a freeze in 2012 at 2011 levels and then a gradual reduction to 1990 levels by 2020. According to IEPA’s “best guess” projections, GHG emissions from Illinois sources will increase to 326 million metric tons by 2020. The ICCAG estimates that this cap and trade option would cap GHG emissions from these sources at 72.6 million metric tons in 2020, and about 56 million metric tons for EGUs. If you assume the EGU sector comprises 30% of the total, the 2020 GHG emissions from EGUs could be estimated at about 98 million metric tons, meaning EGUs would need to reduce GHG emissions by 42 million metric tons – or almost 50% of the expected 2020 reduction.

Illinois is a coal-rich state, and the Governor has pledged to revitalize the Illinois coal industry, which has been in steep decline since implementation of the federal acid rain program in the 1990s. The current cap and trade “straw proposal” would severely impact coal-fired facilities in Illinois. A recent Massachusetts Institute of Technology (MIT) study of the economic impacts of a range of cap and trade proposals introduced in the U.S. Congress indicates cap and trade proposals similar to the one suggested for Illinois (reduce GHG emissions to 1990 levels by 2020) could increase coal prices by 207% above 2005 levels.³ Imposing these levels of control within the timeframes proposed would not be commensurate with a goal to revitalize the Illinois coal industry. The targets and timetables do not meet the proposal’s objective of “reducing emissions **gradually** to meet the 1990 level target in 2020” (emphasis added) since they would require reductions up to 50% by 2020.

Any greenhouse gas program should take into account the time and funding required to develop and implement the technologies that will be necessary to reduce greenhouse gas emissions. There are currently no viable back-end control technologies to cost-effectively reduce CO₂ emissions from power plants, and it will take time and huge investments to develop them or to replace existing generation with new generation. There is also a

³ S. Palsev *et al.*, “Assessment of U.S. Cap-and-Trade Proposals,” (MIT Joint Program on the Science and Policy of Global Change, report No. 146, April, 2007.)

question of how the reductions will be achieved – no strategy should be developed without examining the potential solutions.

- 2. The cap and trade proposal suggests that 85% of the credits should be auctioned. EGUs would then have to reduce greenhouse gas emissions (or secure credits) to 1990 levels as well as finance the ability to operate at 85% of 1990 levels. This may jeopardize the long-term economic viability of many EGUs currently operating in Illinois.**

The Illinois allowance pool should not be cut by 85% through a public benefits auction or other set-asides. Requiring generators to purchase a significant number of allowances is an unproven policy mechanism, which could be enormously costly for the electric sector and consumer rates. We suggest starting slowly with a small percentage of auctioned allowances at the onset of the program with a gradual transition to the levels being considered over time. This would provide an opportunity to adequately evaluate the impacts of auctions and the time needed to develop mitigation measures and to modify or adjust the program if needed to address deficiencies.

To the extent allowances are set aside, they should be made available to the market immediately. Auctions should be conducted in a timely manner, well in advance of the allowance “vintage year” in order to provide generators time to procure the allowances needed to meet their compliance obligations and provide certainty to business planning. States should work very closely with their ISO’s concerning the structure of an auction process and seek input from all interested stakeholder in its development process.

In addition, auctions should be limited, at least at the start of the program to generators to prevent potential market manipulation by third party entities without compliance obligations. Generators could be provided a “right of first refusal” for auctioned allowances. Trading entities would be able to participate in any trading that occurs afterwards.

The MIT report also estimates allowance prices for a GHG reduction program like the one envisioned for Illinois could be as high as \$50 by 2020.⁴ If the cap and trade program envisioned by the ICCAG included 40 million of the 65 million metric tons from EGUs after implementation of the Governor’s Energy Independence Plan, it could cost Illinois EGUs as much as \$2.0 billion per year – just to get down to 1990 levels (assuming the credits were even available). The 1990 levels of greenhouse gases from EGUs were 56.3 million metric tons (according to the Illinois data). If EGUs need to secure 85% of this total through auctions, it would cost EGUs another \$2.4 billion – for a total of \$4.4 billion each year.

- 3. The cap and trade proposal expressly excludes any price caps on allowances “to ensure that the Governor’s reduction goals are met”. To provide some allowance**

⁴ IBID

price protection for facilities subject to the Illinois GHG program, a price control mechanism should be established.

Dominion would recommend a price control mechanism for any cap and trade program that may be considered. This will facilitate an orderly transition to a new program and, while it would not avoid rate impacts, it would provide affected companies and their ratepayers greater rate stability. An allowance and offset price control mechanism, which acts as a "safety valve" is critical to protect consumers, operators and the reliability of the market until technology can provide a cost-effective solution, particularly since technology currently does not exist on the necessary scale to capture and store CO₂ from power plants or industrial sources economically.

Additionally, a price cap would provide a necessary mechanism for government funding of technology research and development, conservation and demand side reduction programs, provided the necessary steps are taken to ensure that the funds collected are secured for their intended purpose. Finally, proceeds from a safety valve could also be used to fund efficiency upgrades, technology R&D and demonstration projects at facilities subject to the program.

4. Any ICCAG proposal must include robust and unrestricted opportunities for offsets.

Any mandatory GHG reduction program must allow a robust menu of offsets including unit shutdowns, biomass fuel burning, beneficial use of coal ash and coal bed methane capture. Offsets are critically important to minimize compliance costs, particularly in programs that do not cover all greenhouse gases, because they provide realistic compliance options. A program focused exclusively on the electric generation sector should allow GHG reductions achieved through off-system projects such as reducing leaks in natural gas transmission and distribution systems to qualify as offsets.

In addition, offset criteria and eligibility requirements should be well clarified in advance of the program and crediting allocation periods must be of sufficient length to both incentivize and justify project financing.

We commend the ICCAG for its general recognition that the program should allow for a wide range of eligible offset projects. However, the amount of offsets that can be used for compliance in each compliance period should not be limited as proposed. Nor should there be any geographical constraints imposed on the source or use of offsets, allowing Illinois companies the opportunity to acquire the most cost effective offsets while still ensuring real, verifiable, and quantifiable carbon reductions.

5. The cap and trade "strawman" includes recognition for early action. These provisions should be as flexible as possible and be designed to award measures dating back to the time period from which the program's established reduction targets are based on.

We are pleased that the “strawman” proposal will award covered sources for GHG reductions they have achieved prior to implementation of the program. To the extent the target for GHG reductions is to reduce to 1990 levels, the early action credit provisions in the ICCAG proposal should allow credit back to 1990 for investments in voluntary measures companies made to reduce emissions. They should include reductions reported or registered in established GHG reporting programs or GHG registries, such as 1605(b). Unrestricted early compliance banking and exchange between parties subject to the program is also essential to ensure market liquidity and preserve system reliability.

6. Linkage

The “strawman” proposal appears to favor an independent cap-and-trade program separate from other state-level or regional programs. As stated previously, we believe the scope of any domestic climate change mitigation policy should be at the national level and that a more reasonable approach would be for the efforts of the ICCAG to evaluate and determine how to influence the development of a national program that would address GHG emissions while protecting the state’s interests. To the extent that Illinois does pursue state-level action, the program should provide some means of linking with other state and/or regional GHG emissions markets in order to provide additional compliance flexibility for affected sources and minimize compliance costs.

7. Leakage

The “strawman” proposal appropriately recognizes the likely potential for emissions leakage and indicates that subsequent to the recommendations of a leakage workgroup, steps would be taken to minimize emissions leakage during program design and implementation. To the extent that Illinois does embark on a state-level GHG emission mitigation policy, we strongly encourage the Agency to adhere to an approach that would thoroughly evaluate the potential impacts of emissions leakage and means of addressing leakage through a stakeholder workgroup process during the design phase of the program. It is important that measures to address leakage be in place in parallel with the implementation of the state climate program so that any near term reductions achieved in state are not compromised by emissions increases from neighboring states.

8. Modeling the economic impacts of a regional GHG reduction program is critical prior to decision making.

At the time of these comments, the ICCAG Modeling Subgroup has less than 45 days to finalize results of modeling the impacts expected from implementation of the GHG reduction scenarios selected by the other subgroups. In mid-May, the Modeling Subgroup selected ICF International to conduct the modeling and on May 21, ICF submitted the model documentation for the ENERGY 2020 model, “an integrated multi-region energy

model that provides complete and detailed, all-fuel demand and supply sector simulations.”⁵

The May 29 ICCAG Cap and Trade Subgroup conference call was devoted entirely to a discussion of a long list of input questions apparently prepared by ICF, which was sent to a limited number of IEPA and WRI staff shortly before the call. No other subgroup participants were provided a copy of these input questions. There was not sufficient time provided for participants to prepare to respond to these questions. This is not commensurate with the “transparent” process WRI and IEPA assured the ICCAG at the outset of these meetings.

Illinois citizens and stakeholders deserve a careful review of the predicted impacts of this program. The ICCAG needs more time for a more comprehensive discussion of this critical part of the process.

Comments on the Carbon Offset for Electric Generation Proposal (Policy #12)

1. The ICCAG proposal for carbon offset for electrical generation (Policy #12) will create a disincentive for development of new coal-based technologies in Illinois.

The ICCAG Cap and Trade Subgroup has been discussing Policy #12 – Carbon Offsets for Electric Generation. This policy option would require that all GHG emissions from new electric generating facilities and from existing electric generating facilities that undergo “modification” be offset by approved credits. The subgroup has derived this option from the State of Washington program. However, instead of the 20% offset requirement of the Washington program, the Cap and Trade Subgroup is considering a 100% offset requirement for affected sources.

A new 630 megawatt coal-fired IGCC (integrated gasification combined cycle) design power plant, like the Taylorville facility recently announced in central Illinois⁶, is estimated to have CO₂ emissions of about 1673 pounds per megawatt-hour.⁷ At this rate, CO₂ emissions would equal approximately 3.8 million metric tons per year. If 100% of these emissions must be offset, and the price for these offsets are not capped, and the offset prices rise as high as the MIT report estimates, securing offsets could add another \$188 million to the annual operating costs of the new plant (or \$37.6 million if 20% of the CO₂ emissions must be offset). Even if an allowance price cap were set at \$10.00/metric ton CO₂, the costs for offsetting 100% of the CO₂ emissions from a 630 megawatt IGCC plant would be \$38 million per year.

⁵ “Climate Change Strategy Modeling for the State of Illinois”, ICF Consulting Canada, Inc., Toronto, ON, May 21, 2007.

⁶ Illinois Government News Network, Press Release, “Gov. Blagojevich announces landmark air permit for clean-coal gasification power plant in Taylorville”, June 5, 2007

<http://www.illinois.gov/PressReleases/ShowPressRelease.cfm?SubjectID=1&RecNum=6017>

⁷ “Integrated Coal Gasification Combined Cycle (IGCC) Power Plants and Geologic Carbon Sequestration”, Presentation by Joe Chaisson, Clean Air Task Force, April 21, 2004.

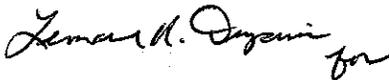
A recent DOE report provides the latest estimates of IGCC operating costs.⁸ The estimated average of the annual levelized costs (excluding capital) is approximately 33 mills per kilowatt-hour. At a 90% capacity factor, these annual costs would be expected to be approximately \$164 million. Developers seeking to locate in Illinois will no doubt have to weigh very carefully the costs associated with a CO₂ offset requirement that could cause their annual operating costs to increase by more than 20% or even to double the annual operating costs that would be expected in other states.

Concluding Remarks

Section 15 of Chapter 415 of the Illinois Compiled Statutes prohibits adoption of new rules to address climate change.⁹ Regulatory action on GHG emissions will require legislative action to modify this current statute. Dominion looks forward to continuing to work closely with the ICCAG in the context of evaluating how Illinois can influence and then best comply with a national GHG reduction program. To the extent state-level options are pursued, only low-cost options, such as the in-state energy conservation and efficiency options under consideration by the Advisory Group and energy efficiency measures of the Governor's energy plan, that would not place Illinois at an economic disadvantage relative to surrounding states, should be considered in advance of a national GHG program.

Thank you for your consideration of these comments. If you have any questions, please contact Bob Asplund at (804) 273-3012 or Lenny Dupuis at (804) 273-3022.

Respectfully,



Pamela F. Faggert

⁸ "Cost and Performance Baseline for Fossil Energy Plants", DOE/NETL-2007/1281, May 2007.

⁹ "Restrictions on State rules related to greenhouse gas emissions.

(a) Effective immediately, the Environmental Protection Agency and the Pollution Control Board shall not propose or adopt any new rule for the intended purpose of addressing the adverse effects of climate change which in whole or in part reduces emissions of greenhouse gases, as those gases are defined by the Kyoto Protocol, from the residential, commercial, industrial, electric utility, or transportation sectors. In the absence of an Act of the General Assembly approving such rules, the Director of the Environmental Protection Agency shall not submit to the U.S. Environmental Protection Agency or to any other agency of the federal government any legally enforceable commitments related to the reduction of greenhouse gases, as those gases are defined by the Kyoto Protocol."

Cc: Mr. Ron Burke
Associate Director
Illinois Environmental Protection Agency
1021 North Grand Avenue East
P.O. Box 19276
Springfield, Illinois 62794-9276

Bob Asplund - Dominion

**COMMENTS RECEIVED FROM
DYNEGY**

Dynegy Generation
A Division of Dynegy Inc
3890 North Illinois Street
Swansea, Illinois 62226

October 4, 2007



Honorable Doug Scott
Director, Illinois Environmental Protection Agency
Chair, Governor's Climate Change Advisory Group
1021 N. Grand Avenue East
P.O. Box 19276
Springfield, IL 62794-9726

Dear Director Scott:

As you know, Dynegy has had the privilege of participating as a voting member of Governor Rod R. Blagojevich's Illinois Climate Change Advisory Group (ICCAG). The Governor's commitment to the environment and energy security of the State are noteworthy and laudable. Dynegy appreciates the Governor's dedication to this issue, the opportunity to serve as a member of the ICCAG and the opportunity to offer comments in this regard. We would appreciate having these comments posted on the ICCAG website.

Dynegy strongly believes that a Federal approach to the issue of global climate change is the only path that will truly attain significant environmental protection, while preserving an economic and reliable power supply. This is not to say that Illinois policymakers should not take other significant steps to protect the environment and Dynegy believes that the vast majority of the policy recommendations approved by the ICCAG are steps in the right direction. Furthermore, the Governor should be commended for his recent approval of the renewable energy and energy efficiency policies contained in SB 1592.

There are several recommendations of the ICCAG about which Dynegy has some concerns. Generally speaking, Dynegy concurs with many of the issues raised by Ameren, CEED, Dominion, Midwest Generation, IBEW, and AFL-CIO representatives on ICCAG. We offer the following specific additional comments regarding cap-and-trade and emission offset requirements for Electric Generating Units:

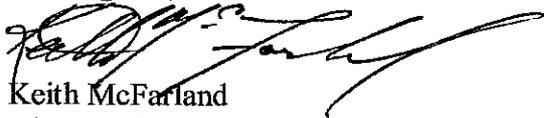
- **An Illinois-only program would place in-state generation at a competitive disadvantage with out-of-state generation companies.** As indicated by ICF's modeling efforts, out-of-state generators would increase their sales of electricity into the Illinois marketplace, entirely offsetting any CO₂ reductions achieved in Illinois. The present modeling confirms such an outcome, commonly referred to as "leakage." The preliminary findings of the model used in this process indicate that coal-fired EGU generation would decrease approximately 22% by 2020. This would negatively impact the associated jobs, taxes and economic development provided by the in-state generation. The net change would be no decrease in CO₂, while losing Illinois jobs and tax revenues, and increasing the price of power.

- **The ICCAG process appears to be moving forward in a way that would place an inequitable share of the greenhouse gas reduction burden upon the combustion sectors (power and industrial).** The non-combustion sectors contribute forty-eight percent of the State's greenhouse gas emissions, and yet the policy recommendations approved for submittal to the Governor from these sectors would achieve only fifteen percent of the required reductions goal thru 2020, with the remaining compliance burden falling upon the combustion sectors. Sector equity should be a basic tenet of any solution recommended to the Governor.
- **An Illinois-only program would increase the price of power for all Illinois consumers, but would most severely affect those who can least afford it, by negatively impacting in-state coal fired generation, which is the cheapest and most reliable fuel source presently available.**

While we support our country's need to address the issue of carbon dioxide, the climate change challenge before Illinois is complicated with very serious economic implications. It is dangerous for Illinois to rush this process, especially given the significant role that coal plays in our energy portfolio. In conjunction with submitting recommendations to Governor Blagojevich that satisfy its charge, Dynegy encourages the ICCAG to highlight to the Governor the risks associated with the expedited process. We would encourage Governor Blagojevich to extend the timeline for considering the recommendations to allow thorough study of the policy implications and to create a program that will work in concert with a national approach when one is adopted.

Should you have any questions please do not hesitate to contact me at 618-257-7055, Jeff Ferry, our Director of Government Affairs, at 217-757-2500 or Natalie Locke, our Manager Environmental Health and Safety, at 217-872-2359. Thank you for your time and consideration.

Best regards,



Keith McFarland
Vice-President
Midwest Operations

Cc: Honorable Rod Blagojevich, Governor of Illinois
Honorable Michael J. Madigan, Speaker of the Illinois House
Honorable Emil Jones, President of the Illinois Senate
Honorable Tom Cross, Illinois House Republican Leader
Honorable Frank Watson, Illinois Senate Republican Leader
ICCAG panel members
Ron Burke, Associate Director, IEPA
Steve Frenkel, Office of the Governor

**COMMENTS RECEIVED FROM
ENVIRONMENTAL GROUPS**

Comments of Environment Illinois, Environmental Law and Policy Center, Sierra Club Illinois Chapter and Union of Concerned Scientists

Re: September 7, 2007 Recommendations of the Illinois Climate Change Task Force

December 12, 2007

It has been our pleasure to serve as members of the Illinois Climate Change Advisory Group at Governor Blagojevich's invitation. We commend the chairs, the staff of Illinois EPA and the World Resources Institute for conducting the process in an efficient, open, fair and informed manner. We look forward to working with all interested parties to advance the policies recommended in the report.

Global warming poses a profound threat to America's future. Addressing solutions at every level of our society – the individual, the city, state, and federal governments and the international level – is vital. Indeed, we believe that curbing global warming to avoid its most severe consequences is increasingly likely to become the dominant priority and key operating principle for all human communities as the effects of global warming become increasingly disruptive.

This process has helped to illuminate a key element of the global warming story – that if we adopt smart policies to reduce our pollution, we can achieve dramatic global warming pollution cuts while *improving* our economy in very concrete terms relative to the business-as-usual case. Some have argued that there is a trade-off between taking action to prevent catastrophic climate change and continuing economic growth. The ICF International analysis of the suite of policies recommended to the Governor squarely rebuts this argument for Illinois. ICF concludes that under even the most aggressive carbon reduction strategy, our economy is stronger than it would be absent the pollution reductions. Specifically, relative to a do-nothing approach, a strong global warming pollution reduction plan as recommended increases employment, increases gross state product, decreases electricity bills, and increases personal income.

Nonetheless, we have already heard from some critics that Illinois should forego these benefits – arguing that China or even neighboring states will not follow suit, or might in fact offset our emissions reductions by increasing theirs. These arguments have been made, and have failed to prevail in the 9 states that have adopted limits on global warming pollution from the electric power sector, the 13 states that have adopted limits on global warming pollution from automobiles, and the three states that have adopted mandatory economy-wide emission limits. As the U.S. Supreme Court stated in its *Massachusetts vs. U.S. EPA* decision:

While it may be true that regulating motor-vehicle emissions will not by itself reverse global warming, it by no means follows that we lack jurisdiction to decide whether EPA has a duty to take steps to slow or reduce it. ... Because of the enormity of the potential consequences associated with man-made climate change, the fact that the effectiveness of a remedy might be delayed during the (relatively short) time it takes for a new motor-vehicle fleet to replace an older one is essentially irrelevant. Nor is it dispositive that developing countries such as China and India are poised to increase greenhouse gas emissions substantially

over the next century: A reduction in domestic emissions would slow the pace of global emissions increases, no matter what happens elsewhere.¹

Continuing to point the finger at other jurisdictions is a recipe for delay, and can no longer be tolerated.

A. Policy Recommendation #16: State Cap-and-Trade Program

We strongly support policy #16, the proposal to adopt a state level cap-and trade system for fossil fuel combustion units with a nameplate capacity of 25 MW or greater. As documented in the ICF modeling report, only those policy scenarios that include a statewide emissions cap achieve the Governor's global warming pollution reduction target²

1. How it Works

Under the recommended policy, a statewide emission limit would be set for these sources in aggregate. For each ton of pollutant allowed under the cap, one "allowance" would be made available to polluters. Each year, each covered source would be required to produce an allowance for each ton of carbon dioxide emitted. If a source over-complies and has additional unused allowances, it can sell those allowances to another source. The cap would take effect in 2012, at 2011 levels, and would decline between 2012 and 2020 to 1990 levels.

2. Why cap and trade?

Cap-and-trade policies have been fairly widely embraced as cost-effective and highly reliable policy tools for reducing emissions of carbon dioxide.³ There are two critical benefits of the cap-and-trade approach: First, the cap ensures that our environmental goal is achieved. In this case, the goal set out by Governor Blagojevich is to reduce emission to 1990 levels by 2020. By contrast a tax or technology incentives help to encourage pollution reductions, but leave vast and unacceptable uncertainty with respect to the ultimate level of global warming pollution emitted over any period of time. Secondly, cap-and-trade policies can be very successful in achieving their goals at much lower costs than anticipated.

The two scenarios considered by the task force that include the cap-and-trade policy, coupled with the aggressive deployment of energy efficiency, will both (1) achieve the environmental goal of reducing emissions to 1990 levels by 2020, and (2) improve our economy. As referenced earlier, under the cap-and-trade approach, either with or without linkage to the northeast states, relative to business-as-usual:

- The average household electricity bills go down by 20 percent;⁴
- Statewide employment increases by 7-8 percent;
- Our personal income increases by 7-8 percent; and
- Gross state product increases by more than 8 percent.

¹ *Massachusetts v. EPA*, 127 S. Ct. at 1462.

² ICF Powerpoint presentation entitled "Illinois Governor Rod R. Blagojevich Change Advisory Group, Modeling of Policy Proposals," September 6, 2007, slides 14-16.

³ It should be noted that our organizations do not support cap-and-trade policies for toxic air emissions or other pollutants that cause localized health impacts near emitting facilities.

⁴ ICF presentation at slide 19.

These numbers do not include the additional economic benefits of avoiding the dangerous consequences of global warming such as drought, increased prevalence of vector-borne disease, and reduced availability of water.

Allowance Allocation Through An Auction

The proposal calls for distributing the bulk of the carbon dioxide allowances using an auction, whereby global warming pollution sources would purchase allowances and the revenue would be used to invest in energy efficiency, renewable energy, low-income assistance programs, and other solutions. We urge that the auction approach be used for 100% of the allowances.

The public has many options for how to manage common resources. It can allow them to be used by private individuals under certain conditions, for example, through licensing of broadcasters, or it can lease or rent those resources, as we do through leases of public lands for extraction. Auctioning allowances is more equitable than giving that shared public resource to emitters. Moreover, it reduces the societal cost of achieving emission reductions compared to giving allowances to polluters for free, and promotes a transition to a clean energy economy. As an attachment to these comments, and for fuller discussion of the merits of an auction approach, we submit two reports entitled: “*Some Guidance on Designing Auctions for Illinois’ Greenhouse Gas Permits*” and “*Cleaner, Cheaper, Smarter: The Case for Auctioning Pollution Allowances in a Global Warming Cap-and-Trade Program*.”⁵

In the Northeast, where 10 states have agreed to reduce global warming pollution from power plants through the Regional Greenhouse Gas Initiative, all of the states have committed to auctioning a significant share of allowances, and four states have committed to auctioning 100 percent of pollution allowances.

Pollution “Leakage”

A discussion has begun about the potential for “pollution leakage” – the potential for electric generation to shift from sources subject to the cap, to sources out-of-state that are not subject to the cap. While the potential for leakage should not be viewed as a cause for inaction, minimizing leakage will clearly enhance the environmental benefits of the cap.

There should be an ongoing process established for assessing the extent of the potential for leakage, and adopting leakage mitigation strategies to accompany the state cap-and-trade policy.

Fortunately, we can rely upon the groundwork of policymakers and regulators in other states who have confronted the leakage dilemma. Most notably, last March the Regional Greenhouse Gas Initiative (RGGI) staff working group on leakage presented a detailed report to the RGGI agency heads describing a suite of leakage solutions.⁶

⁵ Warren Lavey & Rakesh Vohra, September 2007, available through Environmental Law & Policy Center; U.S. PIRG, Summer 2007, available at <http://www.uspirg.org/home/reports/report-archives/global-warming-solutions/global-warming-solutions/cleaner-cheaper-smarter-the-case-for-auctioning-pollution-allowances-in-a-global-warming-cap-and-trade-program>

⁶ Potential Emissions Leakage and the Regional Greenhouse Gas Initiative (RGGI): Evaluation Market Dynamics, Monitoring Options, and Possible Mitigation Mechanisms, March 14, 2007 <http://www.rggi.org/emisleak.htm>

We recommend the following as next steps to address leakage:

- Establish a leakage workgroup to continue to assess the problem and research solutions;
- Work with other states' agencies, building on the momentum of the Midwestern Greenhouse Gas Accord announced in mid-November, to expand the cap-and-trade program throughout the Midwest to limit the uncapped areas;
- Encourage Illinois's Congressional delegation to work quickly to adopt science-based emission caps applicable to stationary sources nationwide; these caps should be at least as stringent as the most aggressive state policies now being enacted.

Use of Offsets

The proposal allows for broad flexibility for polluters like coal plants to use offsets for 10% of their compliance requirements in any given year. One example of an offset would be for a coal plant, which is a capped source of global warming pollution, to pay for an uncapped polluter to eliminate a ton of pollution rather than eliminating the ton of pollution at the coal plant. Another example is that a source may be able to preserve carbon sinks that will absorb a roughly equivalent amount of global warming pollution.

The use of offsets threatens the integrity of the cap, unless stringent tracking and enforcement mechanisms are in place. There is considerable uncertainty with respect to the efficacy of using offsets to meet emission targets.

Therefore, the Illinois Climate Change Advisory Group should develop a set of recommendations, via a subgroup, to establish accounting standards, verification protocols and enforcement mechanisms to ensure that any offset offered in lieu of an emission reduction to meet the cap is –

1. Permanent, in other words, if the emitter claims that it has avoided a ton of CO₂ by investing in a new forest, that the trees are not cut down soon thereafter, thus releasing all stored carbon dioxide anyway;;
2. Additional, in other words, that the forest would not have been planted anyway, such that the emitter's financing of the planting made no difference in pollution levels;
3. Verifiable, in other words a regulator can confirm that the forest was planted and remained intact;
4. Real; and
5. Enforceable – including effective policing against offset suppliers selling offsets to more than one regulated entity.

POLICY #12 – Carbon Offset Requirement for New or Expanding Fossil Fuel Plants, with reference to POLICY #5 – Carbon Performance Standards for New Fossil Plants and Load-Serving Entities

Modeled on legislation enacted by Washington State in 2004, this policy would require any fossil fuel plant to offset at least 20% of new carbon dioxide emissions. If Illinois' law were to duplicate Washington's, those plants generating 25 MW or greater, and powered in whole or in part by fossil fuels, would be covered by the law. Washington is actually the second state to enact an offset mandate. Oregon adopted a 17% requirement in 1997.

Together with the cap-and-trade program and carbon performance standards, the carbon offset requirement provides an additional degree of climate protection. While cap-and-trade imposes an overall ceiling on emissions, and the performance standards establish carbon metrics for both new fossil plants and load-serving entities, the carbon offset requirement applies both to new fossil plants and existing fossil-fueled facilities looking to expand. In addition, unlike both cap-and-trade and carbon performance standards, an offset requirement can be implemented quickly. All that's needed for companies to begin offsetting a portion of their emissions is a set of offset projects certified for eligibility.

Indeed, to be effective, carbon offset legislation must clearly define an eligible offset. In addition to the criteria specified above for offsets in the cap-and-trade program, we also believe offsets must be located in Illinois, which is a concept not included in Oregon's or Washington's regulations. Even better would be a project that also provides economic benefit to Illinois farmers and/or businesses. Another advantage of this criterion is that an offset project occurring outside Illinois is usually credited to the geographic area where the project is taking place, thus depriving Illinois of the actual reduction in carbon dioxide pollution.

In addition to concerns about how the offset program would be designed and enforced, we also would suggest increasing the offset requirement. As written, a 20% offset requirement only slows pollution growth; a 100% rule would stop growth in its tracks. We are endorsing the 20% rule only because this policy is being recommended in tandem with cap-and-trade and the carbon performance standards. Were the 20% offset requirement to be suggested as a stand-alone policy, we would require the percentage to be significantly higher, in all probability 100%.

Despite this endorsement, it must be noted that we are troubled by the fact that an offset program does nothing to encourage innovation in power plant technology. This emphasizes the importance of making an offset program only one component of an overall global warming pollution reduction strategy.

#9 Policies to Encourage Carbon, Capture & Storage

We support the Governor's Energy Plan goal of encouraging Carbon, Capture and Storage (CCS); however, we do not believe utilities and alternate retail electric suppliers (ARES) should be required to purchase 5% of their power from plants that sequester carbon.

This policy would prohibit a company from meeting its customers' needs using only clean renewable energy. There are very good policy reasons for a utility or an ARES to decide not to use any fossil fuels in their portfolio at all, including the health and environmental impacts of fossil fuel extraction. We cannot support a policy that would prohibit this course of action.

A secondary factor is timing. The CCAG policy recommendation's estimate of CCS technology becoming available by 2015 is very overly optimistic. The technology for wide scale sequestration could be many years away. In the meantime, the state and federal government should invest in or provide incentives for CCS demonstration projects.

Finally, there remains considerable uncertainty regarding the long-term effectiveness of carbon storage and the capacity to store carbon on a scale enabling this technology to play a major role in addressing the threat of global warming. Our organizations believe that commercial scale demonstrations, providing much-needed experience, must precede a mandate for its use.

#18 Greenhouse Gas Emission Standards for Cars

The transportation sector accounts for about 30% of Illinois' greenhouse gas emissions. Adopting clean car standards is the largest single transportation strategy to help meet the Governor's goal of reducing global warming pollution to 1990 levels by 2020 and 60% below 1990 levels by 2050. Thirteen states have adopted the vehicle emissions standards.

Various studies show that the LEV II and Pavley standards would cut global warming pollution here by 9-10 million metric tons every year. Furthermore, there are ways to reduce global warming from vehicles without affecting fuel economy. Advanced air conditioning systems with less polluting refrigerants, or biofuels with lower carbon content, are two examples. The fact that greenhouse gas reduction often leads to fuel efficiency improvement is a welcome side benefit to the legislation. In addition, the Supreme Court, in the previously cited *Massachusetts v. EPA* decision, said in discussing these two sets of standards, "But that DOT sets mileage standards in no way licenses EPA to shirk its environmental responsibilities...the two obligations may overlap, but there is no reason to think the two agencies cannot both administer their obligations..." We agree with Ford and other CCAG members that a national policy is preferable and would support national adoption of the LEV II/Pavley program.

Feasibility. The California Air Resources Board (CARB) has developed a list of modifications that in various combinations would ensure compliance with the LEV II/Pavley program. Many technologies, which can be found in the California Air Resources Board's 2004 Initial Statement of Reasons, already exist to ensure compliance with the LEV II/Pavley program. That list, prepared in consultation with automotive engineers, was designed to reduce global warming pollution—a goal that does not conflict with the federal CAFÉ program. Thus if current lawsuits are decided in the states' favor, the standards could become the law of those states in a matter of months, not years. We believe it is far more risky for the state of Illinois to choose not to adopt a program that would so effectively reduce global warming pollution.

Benefits. The LEV II/Pavley program would provide significant air quality benefits to Illinois. According to the Illinois EPA, the California standard would reduce emissions of volatile organic compounds (VOCs) by 4.0 tons per day and emissions of nitrous oxides (NOx) by 6.6 tons per day compared to the Tier II federal program. These pollutants are the major contributors to Illinois' ozone pollution problems. According to the California Air Resources Board (CARB), greenhouse gas emissions will fall 18% by 2020 and 27% by 2030 there under the LEV II/Pavley program.

By studying various combinations of available technologies, CARB has estimated a maximum cost effect of the LEV II and Pavley program of just over \$1,000. Whether a vehicle would be purchased in cash or via a normal 5-year car loan, buyers would recoup the additional cost in less than two years because of greater fuel efficiency, and achieve net savings thereafter. In regards

to the vehicle choice question, the state of Maryland, the most recent adopter of the LEV II/Pavley program, found no evidence that availability of virtually any model would be jeopardized, including the type of vehicles listed in Ford's comment.

Vehicle choice would not be affected. The program helps bring to market vehicles with advanced hybrid, hydrogen, and electric propulsion technology. In California since 2001, more than 70,000 different hybrid vehicles have been sold including the GMC Sierra, the Toyota Prius, and the Ford Escape Hybrid. Not as well publicized is the most significant success of the program in California—500,000 “partial” zero emission vehicles (PZEVs) sold; these are cars/light-duty trucks with standard gasoline internal combustion engines but that produce cleaner emissions than a pure electric vehicle when taking into account the source of the power used to charge it. Plus, these PZEVs produce no evaporative emissions.

**COMMENTS RECEIVED FROM
FORD MOTOR COMPANY**

**ILLINOIS CLIMATE CHANGE ADVISORY GROUP
SUBGROUP: TRANSPORTATION**

FORD MOTOR COMPANY COMMENTS

1. Incentives for Fuel Efficient Vehicles

- Ford supports incentives for fuel efficient vehicles. Feebates however, penalize and disadvantage certain vehicles and customers. For example, IL farmers, large families, and other small business owners who use pick up trucks and larger vehicles during their day to day operations would be disadvantaged by this kind of policy.
- As an alternative, the state could place a feebate on non-low carbon fuels and set up a fund with the money collected to offset the higher cost of E85. Increasing the use of E85 could have a larger impact on GHG reductions.

2. Fuel Efficiency and/or low carbon fuel requirements for government vehicles

- Not all hybrids are created equal. As manufacturers produce mild and full hybrids, the fuel savings in this category could be substantially different. While a full hybrid will result in the greatest fuel savings, fleets will soon have numerous mild hybrid options. Any state policy in this area should distinguish between the technologies.

3. GHG Emissions Standards for Cars (CA Vehicle Emissions)

- The ways to decrease CO₂ from autos are to drive less or use less fuel. Therefore **greenhouse gas (GHG) standards are functionally equivalent to fuel economy standards**. To the extent that GHG standards are considered, they must replace (not overlap with) the Corporate Average Fuel Economy Program (CAFE) and they must be administered at the Federal level. Automakers need a consistent national policy, and this nation-wide policy cannot be written by a single state or a group of states.
- Auto manufacturers believe that CA Standards preempt the federal CAFE program. The recent Supreme Court Decision referenced in Policy Paper #18 does not address the issue of Federal preemption regarding fuel economy standards and therefore CA (nor any of the other states adopting CA standards) currently has the legal ability to enact regulations related to fuel economy. This issue will ultimately be decided in law suits filed by all automobile manufacturers in California, Rhode Island and Vermont challenging the GHG regulations. A resolution to this issue could take years. **Choosing this policy as one of the main ways to achieve IL's GHG reduction goals is risky as implementation could be significantly delayed or never receive approval.**
- In addition, the calculations in policy paper do not assume that the auto industry will achieve future fuel economy improvements. Currently the President has proposed a 4% increase per year through 2017 (equivalent to 36 mpg for cars). The industry is currently working with legislators in Washington to propose Federal fuel economy improvements that are based on technology, value and safety. The CA standard (46 mpg for cars) is a proposed mandate that is not based on economic feasibility.

- **No** auto manufacturer in the industry has said that they will be able to meet the CA standard because it is not technologically viable.
- Adopting CA standards in IL will :
 - provide no environmental benefits above and beyond the federal program. CALEV is virtually equivalent to the U.S. EPA's Tier II" motor vehicle standards. By adopting California's standards, IL will lose flexibility the Federal regulations provide. By adopting CA standards, IL will be committed to taking regulatory action to adopt all future changes that CA makes to its own program.
 - increase the cost of a new vehicle by an average of \$3,000 and has the potential to eliminate several popular models of pick-up trucks, sport-utility vehicles, vans, minivans and cars. Ultimately, adoption of the CA standards will result in reduced towing capacity, hauling ability, off-road capability, cargo space, passenger room and horsepower. Last year, more than half of all new vehicles sold in the state were minivans, pickups, vans and SUVs. These vehicles are a necessity – not a luxury—for many families and business owners.
- The National Highway Safety Administration when setting “maximum feasible” fuel economy standards for the nation, considers **technological feasibility, safety, affordability, emissions, consumer choice and effects on American jobs**. By contrast, California did not adequately consider any of these factors. A consistent national policy makes most sense to avoid such policy oversights.

WHY ADOPTING PAVLEY IS THE WRONG APPROACH FOR THE TRANSPORTATION SECTOR

Pavley (AB1493) Is A Fuel Economy Law

- Carbon dioxide is synonymous with fuel economy. The U.S. EPA measures carbon dioxide to determine the fuel efficiency labels on new vehicles.
- California has not been able to implement AB 1493 which is currently in litigation because only the federal government can set fuel economy standards.
- Toyota, Mitsubishi Motors, Ford, Chrysler, General Motors, Volkswagen, Mazda, Porsche, and BMW have all testified that implementation of Pavley is too aggressive and not achievable in the given timeframe.

The Bottom Line: States Would Lose Either Way

- If the Courts strike down California's CO₂/fuel economy regulation, no other state can adopt it.
- If the Courts accept the regulation, it would impose an additional cost of \$3,000 on every new vehicle sold in every state that adopts the California regulations.
- The IL Climate Change task force has chosen to model the economic impacts of this policy using data from the California Air Resources Board which places the cost per vehicle at \$600 which is highly inaccurate.

Congress Poised to take action on Fuel Economy Legislation

- Congress gave exclusive authority to the National Highway Traffic Safety Administration (NHTSA) to set maximum feasible fuel economy standards. To do this, NHTSA must balance technological feasibility, affordability, safety, emissions controls, consumer choice, and effects on American jobs.
- The auto industry is currently supporting a 40% fuel economy increase by 2022 (Terry/Hill) and Congress is sure to act on fuel economy legislation this session.

Loss Of Vehicle Choice, Loss Of State Jobs

- Adopting California's program would result in reduced vehicle choice for IL. Automotive dealers would not have the vehicle selection available in neighboring states.
- Loss of vehicle choice would have a ripple effect in the state's economy, causing job losses at auto dealerships, repair shops, and other businesses tied to the industry.
- Chrysler and Ford currently employ over 9,000 employees in the state of IL and billions of dollars are spent on automotive suppliers in IL.

Bad For Trades People

- Consumers who rely on work vehicles, such as farmers, ranchers, and trades people, could lose vehicle functions such as horsepower or cargo room necessary to earn their livelihoods.

Bad for the State's Renewable Fuels Strategy

- Pavley could have a negative impact on the availability of renewable fuel vehicles such as those that run on 85% ethanol. Only the domestic auto industry makes these vehicles today and any unrealistic fuel economy mandate would put producing these vehicles at risk given their lower fuel economy ratings due to ethanol's lower energy content.

What Is the Solution?

- Energy Security and Climate Change reduction policies are inherently linked. We support the U.S. Climate Change Action Partnership principles that cover as much of the economy as possible. This is in recognition that the climate issue is much broader than a single sector or state.
- The most cost effective approach to reducing CO₂ in the transportation sector is a combination of bio-fuels and vehicle technology advancements. Pavley is focused solely on the auto industry without complementary policies that align consumers or the oil industry. Regardless of fuel price or consumer preferences, automakers will be required to meet the Pavley standards creating a disconnect between consumer choice and vehicle availability.

The Alliance of Automobile Manufacturers strongly opposes the recommendation of Pavley (AB1493) to the Governor.

**COMMENTS RECEIVED FROM
ILLINOIS PETROLEUM COUNCIL**

Comments of the Illinois Petroleum Council
July 13, 2007

The Illinois Petroleum Council is very concerned about the apparent plans of the Illinois Climate Change Advisory Group to move forward with a proposal to implement a "Low Carbon Fuel Standard". We are disappointed that the advisory group does not include representation from companies that produce fuel in Illinois and would be most impacted by this proposal. State-by-state biofuels mandates create additional boutique fuels. This proposed mandate would make Illinois a "fuel island" and increase prices for Illinois consumers. More time is needed to consider the implications of this proposal.

We would appreciate the opportunity to further discuss our concerns about the proposal.

**COMMENTS RECEIVED FROM
LABOR GROUPS**

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December 7, 2007

Illinois EPA
Doug Scott, Director
1021 N. Grand Ave. E
P.O. Box 19276

Dear Director Scott:

Please find the attached comments from Labor members of the Illinois Climate Change Advisory Group on the draft "Strategies to Reduce Greenhouse Gas Emissions in Illinois."

Also enclosed is the UAW Region 4's letter dated November 27th to Governor Blagojevich and the IL AFL-CIO's letter to the Governor dated November 30th, 2007.

Additionally, on page 2 of the SRGGE draft Mr. John Johnson's title needs to be changed to read; International Brotherhood of Electrical Workers.

Sincerely,

Michael T. Carrigan
President

MTC/pw
Liuna#362 aflcio

Cc: Gary Butler, UMWA
Mark Haasis, UAW, Region 4
John Johnson, IBEW
Joseph Szabo, IBEW
Gene Trisko, UMWA

Comments of Labor Members of the
Illinois Climate Change Advisory Group
On Draft "Strategies to Reduce Greenhouse
Gas Emissions in Illinois"

December 12, 2007

The labor representatives of the ICCAG, representing the Illinois AFL-CIO, the International Brotherhood of Electrical Workers, the United Mine Workers of America, and the United Transportation Union, are pleased to have the opportunity to comment on the Draft Report on "Strategies to Reduce Greenhouse Gas Emissions in Illinois."

We have commented previously on different aspects of the strategies considered by the ICCAG, and our comments are incorporated in Appendix Volume 2 of the ICCAG Report. We will not reiterate these comments in detail here, but wish to draw attention to the attached November 30th letter from Illinois AFL-CIO President Michael Carrigan to Governor Rod Blagojevich.

President Carrigan's letter focuses on the potential impacts of the recently-announced Midwest Governors' Climate Accords, including a multi-state cap-and-trade (C&T) program for electric utilities, and raises several concerns about this program, including its implications for the relevance of the modeling exercise performed for the ICCAG.

The ICCAG labor representatives believe that the Midwest Governors' Climate Accords render obsolete virtually all of the modeling findings for the electric utility control options included in the greenhouse gas strategies considered by ICCAG. New, regional modeling must be performed for the state and regional control options that may be implemented pursuant to the Midwest Governors' agreement.

Given this fundamental reservation, we offer the following specific suggestions for improving the information and analyses presented in the Draft Report:

- The discussion of prospective emission leakage due to an Illinois cap-and-trade policy for utilities and large industrial sources (pp. 34-36) should include the findings on state, regional, and total North American GHG reductions presented by ICF in its September 6th summary of leakage impacts due to the C&T policy. That analysis shows that the aggregate North American GHG reductions associated with “All in except C&T” amounted to some 78.8 million tons of CO₂ annually, while the addition of the Illinois C&T program increased the total North American reduction by only 2 million tons, with a net increase outside Illinois of 40 million tons of CO₂:

Policy Portfolio (IL-05-00) - "All In" Except Cap and Trade in 2020					
Sector	Illinois	Region	Rest of U.S.	Net - Outside of Illinois	North America as a whole
Residential	(5.84)	(0.00)	-	-	(5.84)
Commercial	(4.35)	-	(0.00)	(0.00)	(4.35)
Industrial	(4.09)	(0.00)	(0.00)	0.00	(4.09)
Agriculture/ Forestry	(1.72)	-	-	-	(1.72)
Passenger Transport	(15.64)	-	-	-	(15.64)
Freight Transport	(1.39)	-	-	-	(0.05)
Power Sector	(0.44)	(19.21)	(24.42)	(43.60)	(44.05)
Waste & Wastewater	(3.01)	-	-	-	(3.01)
Total-	(36.49)	(19.21)	(24.42)	(43.60)	(78.75)

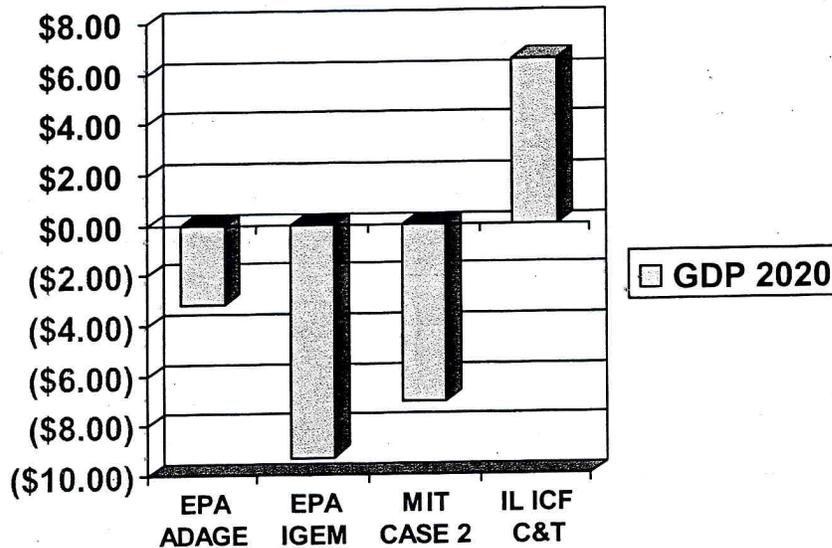
Policy Portfolio (IL-10-00) - "All In" with Cap and Trade in 2020					
Sector	Illinois	Region	Rest of U.S.	Net - Outside of Illinois	North America as a whole
Residential	(5.89)	(0.00)	-	-	(5.89)
Commercial	(4.38)	-	(0.00)	(0.00)	(4.38)
Industrial	(5.65)	(0.00)	(0.00)	0.00	(5.65)
Agriculture/ Forestry	(1.87)	-	-	-	(1.87)
Passenger Transport	(15.78)	-	-	-	(15.78)
Freight Transport	(1.42)	-	-	-	(0.08)
Power Sector	(40.79)	6.18	(9.54)	(3.33)	(44.12)
Waste & Wastewater	(3.02)	-	-	-	(3.02)
Total-	(78.80)	6.18	(9.54)	(3.33)	(80.79)

Source: ICF Policy Results Summary (September 6, 2007).

- We disagree with the assertion (p. 36) that emissions leakage is “mitigated with a link to RGGI.” As the Draft Report acknowledges, RGGI has not taken any definite steps to reduce prospective leakage, and compliance with an Illinois program achieved by purchasing RGGI allowances may simply shift generation from RGGI to non-RGGI states. RGGI is no less susceptible to leakage than Illinois. The RGGI states predominately rely on nuclear and natural gas generation, with coal generation representing a much smaller fraction (~20%) than in surrounding states such as Virginia, West Virginia, Pennsylvania and Ohio. Shifting compliance from RGGI to non-RGGI states through Illinois-based allowance purchasing may lead to a net increase of national CO₂ emissions.

- The Draft Report asserts (p. 10) that net economic and job benefits will accrue to Illinois by adoption of the entire package of GHG strategies, including “61,000 additional jobs per year in 2020,” an increase in state GDP of \$7.5 billion in 2020, and electricity cost savings of “more than \$3 billion dollars per year in 2020.” These estimates assume a “link” to RGGI that reduces compliance costs due to the assumed availability of CO2 allowances from RGGI at \$10 per ton, roughly two-thirds the cost of allowances obtained in Illinois. The Draft Report should point out that there has been no evaluation of the availability or costs of emission allowances from the RGGI states.
- We view the Draft Report’s claims of benefits as dependent upon modeling assumptions that are: 1) no longer relevant in view of the Midwest Climate Accords; and 2) impossible to verify due to the “lumped” nature of the modeling exercise. One cannot determine which policies recommended by the Draft Report may be responsible for positive benefits, or which policies may generate real costs, such as the projected 36% decline in electric generation from conventional coal plants due to the C&T program. Responsible policymakers will require fuller examination of the costs and benefits of individual strategies.
- As ICCAG labor representatives pointed out at the September 6th meeting, in the handout presented below, mainstream macroeconomic analyses of economy-wide GHG reduction proposals (MIT, DOE/EIA, EPA) find significant net costs in reduced GDP and employment and increased energy prices:

Projected GDP impacts in Illinois of returning to 1990 GHG emissions by 2020 (\$ Bil./yr)



Sources: IL estimated at 4.5% of U.S. GDP impacts in U.S. EPA Analysis of S. 280 (July 2007); MIT Cap & Trade Analysis (April 2007); IL GSP in 2020 estimated at \$745Bil (1.7%/yr growth), applied to GSP impacts in ICF IL CCAG Modeling of Policy Proposals (August 2007).

- As we have noted in previous comments, the proposed C&T option puts at risk investments in new coal-based generation in Illinois that ICF modeling assumes will be constructed notwithstanding significant new costs resulting from the C&T and emission offset policies – costs that would not be imposed if such generation were located in competing coal states such as Kentucky and Indiana. To the extent that investments in new coal capacity are included in any of the benefits claimed for the overall package of strategies, the benefits are overstated and misleading.
- We recommend that the employment and GDP impacts of “All-in with C&T” (p. 38) be shown as net of the impacts for “All-in except C&T.” The addition of the C&T policy appears to result in some 20,000 job losses in 2020 relative to All-in except C&T, and a loss of some \$2 billion of GDP. Similar net calculations should be shown for personal disposable income (p. 39), which appears to decline by \$1.5

billion annually when C&T is added to the other policy options. Our interpretation of the graphic findings presented in the Draft Report suggests the following impacts for the Illinois C&T program relative to “All-in except C&T”:

Net Impacts of Illinois Cap & Trade Program
Relative to “All-in except C&T”

Impact		Cost per ton CO2
Net CO2 reduction, 2020	-2,000,000 tons	
Job losses	-20,000	
Illinois GDP loss	-\$2.0 billion	\$1,000
Disposable income loss	-\$1.5 billion	\$750
Allowance auction cost	\$1.0+ billion	\$500

- When viewed at the margin, the net costs of the Illinois C&T program are substantial by any measure. Auction costs of \$1 billion or more annually must be recovered from electric consumers. The costs per ton of CO2 reduced, when leakage is taken into account, are orders of magnitude higher than the costs of offsets on the Chicago Exchange (~\$5/ton), or the costs of allowances in the EU Trading System (~30 Euros). The C&T policy, in short, cannot be justified based on the modeling results presented in the Draft Report.

We appreciate the opportunity that Governor Blagojevich has provided for labor’s participation in the ICCAG process, but note that other labor stakeholders, particularly the UAW, were not afforded an opportunity to participate in discussions concerning the disputed California auto emission standards (see attached letter from UAW Region 4 Director Dennis Williams to Governor Blagojevich.) We expect that these standards, along with utility C&T and related strategies, will receive thorough consideration by the Midwest Governors’ Work Groups.

Attachments:

President Carrigan’s Letter to Governor Blagojevich
UAW Regional Director Williams’ Letter to Governor Blagojevich

Comments of Illinois CCAG Labor Stakeholders On Illinois Climate Change Recommendations

The labor members of the Illinois Climate Change Advisory Group (CCAG) appreciate Governor Blagojevich's inclusion of labor representatives within the CCAG Process. Our CCAG membership includes the Illinois AFL-CIO and several of its member unions that stand to be most affected by federal or state climate change policies: the International Brotherhood of Electrical Workers, the United Transportation Union, and the United Mine Workers of America.

These comments supplement the views we have expressed during the course of the CCAG stakeholder process. We supported adoption of the 19 policy initiatives receiving unanimous approval from the advisory group, but voted against five other policies: California CO₂ standards for automobiles, the "cap-and-trade" policy for Illinois electric generators, and three other policies limiting CO₂ emissions from the electric utility sector. We believe that these utility policies would severely limit prospects for new clean coal energy investments in southern Illinois, in direct conflict with the Governor's goals to advance economic development and job growth in southern Illinois. We have already begun to lobby aggressively against these policies.

Actions We Support to Address Climate Change

The national AFL-CIO is actively supporting the bipartisan Bingaman-Specter bill (S. 1766) to achieve significant reductions in national greenhouse gas emissions. The labor representatives of the CCAG likewise support the enactment of this comprehensive federal legislation as a superior alternative to state or regional initiatives. We believe it is highly probable that federal climate legislation will be enacted within the timeframe required for Illinois to begin to implement most of the policies recommended by the CCAG. We are very concerned about the potential for overlapping or conflicting state and federal climate policies that could harm Illinois' economy and jobs.

We also support the Governor's Energy Independence Plan, and many of the state-level initiatives proposed by the Illinois CCAG, and believe that such programs and policies can have beneficial economic and job impacts

for Illinois workers and consumers. CCAG policy initiatives that we support include:

- Energy efficiency standards for appliances and equipment
- Enhanced residential and commercial energy efficiency construction codes
- Energy conservation and efficiency programs for existing state facilities
- Passenger and freight rail upgrades
- Smart growth initiatives and expansion of mass transit
- Encouraging or requiring reductions of greenhouse gases with high global warming potential
- Expanding the use of no-till farming
- Efficiency standards for commercial and industrial boilers and incentives for efficiency upgrades

These initiatives are particularly appropriate for states to undertake because they require expertise based on state-specific factors, including the availability of complementary policies and programs already in place. Many, such as upgrading mass transit *and expanding the role of passenger and freight rail*, are clear “win-wins” for the environment and jobs. *(It is unfortunate that the proposed funding levels in the Capital Bill currently under consideration woefully underfund mass transit and freight rail needs.)* Other policies, such as improving the energy efficiency of existing state buildings, offer the potential for achieving greenhouse gas reductions at very low cost. None of these actions would lead to job losses or would impair the competitiveness of the Illinois economy.

Process Concerns

The CCAG had only six months to develop recommendations for statewide climate change policies with potentially far-reaching economic consequences for Illinois. In contrast, states in the Northeast Regional Greenhouse Gas Initiative (RGGI) took more than three years to fashion a cap-and-trade program limited to the utility sector. CCAG stakeholders typically received large e-mail transmissions of modeling studies, memoranda and other materials less than a day prior to scheduled meetings, or hours before scheduled conference calls.

Apart from this “rush to judgment,” the CCAG process was flawed in several critical respects, including:

- Overrepresentation of environmental advocates and “community” representatives, ensuring majority support for controversial measures such as the cap-and-trade program;
- Premature “popular voting” for options for further study, effectively stranding many options with substantial reduction potential;
- Failure to establish agreed, verifiable procedures for voting on proposed measures, such as a roll-call vote;
- Failure to advise CCAG members of proxy voting procedures;
- Allowing one ICCAG member to split his vote three ways on three different policies questions while all other ICCAG members were allowed one vote for the same three policy questions;
- Rushed (and frequently illegible) presentations of modeling findings by contractor ICF International.

For these reasons, we cannot recommend the Report of the CCAG as reflective of a deliberative process commensurate with its importance to the citizens of the State of Illinois. We urge careful scrutiny by the General Assembly of the non-consensus recommendations in the CCAG Report, and anticipate active labor engagement in the debates that will accompany any legislative or regulatory proposals to implement these recommendations.

Policies We Oppose

The CCAG policies that labor representatives oppose are in the transportation and electric power sectors, including the proposed “cap-and-trade” policy for restricting future greenhouse emissions from electric generators.

The specific policies that we are not able to support at the state level include:

- GHG emission standards for cars (CA standards)
- Carbon capture and storage portfolio standards for Illinois electric providers

- Natural gas-based CO₂ emission performance standards for electricity generation or procurement
- Carbon offset requirements for existing or new large stationary sources
- State level electric and large industrial cap-and-trade program

Each of these initiatives may be appropriate to pursue through federal legislation, with costs and impacts spread throughout the nation. Implemented in Illinois alone, however, we believe that the proposed electric utility requirements would have adverse consequences for the state's workers, consumers and businesses, with no meaningful environmental benefits.

The electric utility controls recommended by a majority vote of the stakeholders would reduce Illinois electric generation at conventional plants by 36%, according to ICF modeling. This would translate directly to job losses for plant workers and surrounding communities, with negligible environmental benefit due to "leakage" in the form of increased emissions from other states. The emission allowance auction is estimated to cost Illinois generators – and electric ratepayers - more than \$1 billion annually according to World Resources Institute.

The proposed mandates for Illinois electric generators would have several specific adverse effects, including:

- 1) Impeding the development of new IGCC and other clean coal generating capacity in southern Illinois, with its huge potential job benefits, by imposing carbon control costs not required by other states;
- 2) Reducing the competitiveness of Illinois' electric generation in the PJM system stretching from Illinois to New Jersey;
- 3) Creating an open-ended energy tax on electric consumers by an emission allowance auction system, where the price of carbon dioxide allowances is not subject to any "safety valve" price, and where allowance auction costs of a billion dollars or more annually will be passed directly through to electricity users; and
- 4) Failing to realize the potential cost savings of participation in a national or global emissions trading system.

In the case of motor vehicles, we fully agree with the concerns that the United Auto Workers and domestic vehicle manufacturers have expressed about state-level CO2 programs like those in California. We regret that the UAW was not invited to participate as a stakeholder in the CCAG, giving auto workers an opportunity to respond to the views of CCAG’s environmental advocates.

The extreme California vehicle emission control mandates would further penalize workers in the already distressed Midwestern auto manufacturing sector, and lead to substantially higher costs for Illinois consumers – estimated by Ford Motor Company at \$3,000 per vehicle. We believe the better course is a full Congressional debate over national auto efficiency standards, together with the development of proposals for revitalizing the domestic auto industry. These debates are now underway in Washington.

“Leakage” to Other States Undermines CCAG’s Recommendations

The ICF modeling exercise provided useful insights into the impact that “leakage” of emissions reductions would have on the overall emission reductions of an Illinois cap-and-trade program. As summarized by WRI’s September 6th memo distributed at the final stakeholder meeting:

“Emissions leakage is the concept where emissions of greenhouse gases (GHGs) (e.g. emissions from existing and new electric generators and industrial facilities) not subject to carbon controls such as a cap and trade system increase due to mandated GHG reductions in another jurisdiction or sector. As mandatory reductions are under taken, surrounding states increase emissions to meet demand within the carbon constrained jurisdiction. ...

Emissions leakage can reduce the over environmental effectiveness of a GHG reduction policy as reductions in emissions achieved in state can be met with increases in emissions out of state resulting in net reductions that are lower than the initial goals of the program. ...

The table below provides a summary of emission reductions from the 3 primary policy modeling scenarios for both inside and outside Illinois. ...

Table 1. GHG Reductions Achieved under ICCAG Policy Packages (Million Metric Tons CO₂e)				
<i>Total in-state reductions required to meet 2020 target = 81</i>				
Code	Description	GHG Reductions vs. Reference Case		
		Inside Illinois	Outside Illinois	Total
IL-05-00	“All in” with out cap and trade	36	44	80
IL-10-00	“All in” with cap and trade*	84	3	87
IL-11-00	“All in” with cap and trade and link to RGGI**	49	39	88
*5 million metric tonnes of offset reductions are included in Inside Illinois totals for IL-10-00				
**5 million metric tonnes of offsets are included in the Inside Illinois total, 33 million metric tonnes of allowances purchased through RGGI link are not included				

As the ICCAG considers its final policy recommendations to the Governor, emissions leakage is likely to be an important factor. The current straw proposal for cap and trade identifies two points that could be effective in addressing any emissions leakage that may result from that program.

- The pursuit of a regional cap and trade program with other Midwest states is preferred but other interstate cooperation could be explored. A program that includes several other states could allow for all actors to operate under the same emissions constraint thus reducing the electric generation price differential that can cause leakage.
- Create an emissions leakage working group that will consider the issue and recommend appropriate courses of action as a cap and trade program is designed and implemented.”

We disagree with WRI’s optimism about the effects of an expanded regional cap-and-trade program, but agree with the need for further study of the leakage issue. Out-of-state leakage may not be mitigated simply by expanding the number of participating states. Imposing multi-billion dollar costs on regional electric generation would simply invite increased power imports from an even broader group of neighboring states.

ICF’s modeling indicates that the net effect of the Illinois cap-and-trade program, compared to the “all-in without cap-and-trade” scenario, is to reduce North American CO₂ emissions by merely 2 million tons annually, from approximately 79 million to 81 million tons.¹ The reductions achieved in Illinois are swamped by emissions increases in other states. There is no reason to expect substantially different results for a cap-and-trade program imposed on a group of 4 or 5 Midwestern states.

Finally, ICF projects the construction of new, currently unplanned advanced coal units in Illinois using carbon capture and storage technologies (CCS) starting in 2015. These plants would supply power to utilities under a

¹ ICF International, Summary of Policy Results (Powerpoint, September 6, 2007), slide 18.

proposed 5% portfolio standard requirement (i.e., Illinois utilities must buy 5% of their power from CCS-equipped plants if such power is available.) This fictitious projection is a key part of ICF's findings that Illinois coal mining employment would increase under the cap & trade and other utility policies. We do not accept these projections. The Electric Power Research Institute and other experts in CCS technologies do not predict commercial availability of CCS until after 2020.² If this unplanned CCS generation capacity is eliminated from ICF's projections, the amount of CO2 emissions "leakage" from other states would increase further, because out-of-state plants would need to make up the power that is not generated in Illinois.

Benefits of a National Approach

We believe that each of the adverse effects discussed here could be avoided altogether, or substantially reduced, by Illinois' participation in federal climate change programs now under consideration by Congress.

Moreover, in cases such as the proposed auction of emission allowances to electric utilities, there is a clear potential for overlap and conflict with pending federal greenhouse gas control measures. Most of the climate bills before Congress require auctions of emission allowances. If a state such as Illinois independently mandated auction requirements, electric generators could be faced with the prospect of purchasing one state and one federal allowance to cover the same ton of carbon dioxide emissions. Such a conflict could be avoided by direct federal preemption of state cap-and-trade or auction programs, or by state "sunsetting" provisions. The Illinois CCAG labor representatives would strongly support a sunset provision in any legislation implementing an Illinois cap-and-trade program or similar policies.

Need for Further Study

The CCAG had little time and few resources to study the costs and benefits of each of the high-priority options selected at the beginning of the CCAG process. The limited modeling performed by ICF International utilized a relatively simplistic model of the interconnected utility sector, and did not identify the costs and benefits of individual CCAG options. It also

² See, EPRI, Electricity Technology in a Carbon Constrained World, http://unfccc.metastat.com/kongresse/SB26/download/16_SE_wind_1300/1_070515_eprisb_265.pdf

relied on optimistic projections by IDCEO about future economic growth in Illinois.

We believe that the potential adverse job and economic consequences of the CCAG electric utility and automotive options are sufficiently great to warrant further independent evaluation. We recommend that the University of Illinois, Southern Illinois University, or similarly qualified research and educational entities be charged by the General Assembly with a thorough evaluation of the impacts of each of the major policies recommended by the CCAG, including effects on energy prices and jobs, prior to any actions to implement these recommendations through legislation or regulation.

Respectfully submitted this 6th day of October 2007:

Michael T. Carrigan
President
Illinois AFL-CIO

Joseph C. Szabo
Vice President, Illinois AFL-CIO
State Legislative Director,
United Transportation Union

John Johnson
Assistant Business Manager
International Brotherhood of Electrical Workers
Local 51

Gary Butler
International Representative
United Mine Workers of America

Eugene M. Trisko
Counsel
United Mine Workers of America

Supplemental Views and Recommendations of Illinois CCAG Labor Representatives

The labor members of the Illinois Climate Change Advisory Group (CCAG) appreciate the Governor's inclusion of labor representatives within the CCAG Process, due to the potential economic and job consequences of actions to combat global climate change. Our CCAG membership includes the Illinois AFL-CIO and several of its member unions that stand to be most affected by federal or state climate change policies – the International Brotherhood of Electrical Workers, the United Transportation Union, and the United Mine Workers of America.

Labor Supports Actions to Address Climate Change

The national AFL-CIO is actively supporting federal legislation to address climate change. Labor representatives of the CCAG likewise support the enactment of comprehensive federal climate change legislation. We believe that it is highly probable that substantive federal climate legislation will be enacted within the timeframe required for Illinois to begin to implement most of the policies recommended by the CCAG. We therefore are concerned, as discussed below, about the potential for overlapping or conflicting state and federal climate policies that could harm Illinois' economy and jobs.

We also support the Governor's Energy Independence Plan, and many of the state-level initiatives proposed by the Illinois CCAG, and believe that such programs and policies can have beneficial economic and job impacts for Illinois workers and consumers. Specific CCAG policy initiatives that we support include, but are not limited to:

- Energy efficiency standards for appliances and equipment
- Enhanced residential and commercial energy efficiency construction codes
- Energy conservation and efficiency programs for existing state facilities
- Passenger and freight rail upgrades

- Smart growth initiatives and expansion of mass transit
- Encouraging or requiring reductions of greenhouse gases with high global warming potential
- Expanding the use of no-till farming
- Efficiency standards for commercial and industrial boilers and incentives for efficiency upgrades

These types of initiatives are particularly appropriate for states to undertake because they require local knowledge and expertise based on state-specific factors, including the availability of complementary policies and programs already in place. Many, such as upgrading mass transit *and expanding the role of passenger and freight rail*, are clear “win-wins” for the environment and jobs. Others, such as improving the energy efficiency of existing state buildings, offer the potential for achieving greenhouse gas reductions at very low cost. None of these actions would lead to job losses or would impair the competitiveness of the Illinois economy.

Policies that Concern Labor

The CCAG policies most of concern to labor representatives are in the transportation and electric power sectors, including the proposed “cap-and-trade” policy for restricting future greenhouse emissions from electric generators.

The specific policies that we are not able to support or recommend for adoption at the state level include:

- Carbon capture and storage portfolio standard for new electric generators
- CO₂ emission performance standards for electricity generation or procurement
- GHG emission standards for cars (CA standards)
- Carbon offset requirements for existing or new large stationary sources
- State level electric and large industrial cap-and-trade program

Each of these initiatives may well be appropriate to pursue through federal legislation, with costs and impacts that are spread more or less equally throughout the nation. Implemented in Illinois alone, however, we are

concerned that the proposed electric utility requirements may have several potential adverse consequences for the state's workers, consumers and businesses that depend heavily on electricity. These effects are likely to include:

- 1) Increasing the cost of new coal-based generation above that of competing states that do not impose such requirements (e.g., carbon offsets, carbon cap, or gas-based CO₂ performance standards), thereby leading to the construction of these plants in adjacent coal states such as Kentucky and Indiana;
- 2) Reducing the competitiveness of Illinois' electric generation in the restructured and highly-competitive PJM system stretching from Illinois to New Jersey, leading to higher electric generation prices for consumers and increased emissions from plants in other states;
- 3) Impeding the development of new clean coal IGCC capacity in southern Illinois, with its huge potential job benefits, by imposing carbon capture requirements and costs not required by other states;
- 4) Creating a new, open-ended energy tax on electric consumers by an emission allowance auction system, where the price of carbon dioxide allowances is not subject to any "safety valve" price like that proposed in several bills now before Congress, and where allowance auction costs will be passed through directly to electricity users;
- 5) Failing to realize the potential cost savings of participation in a national or global emissions trading regime, which can open up cost-effective emission reductions outside Illinois beyond the limited opportunities that may exist in the Northeast RGGI or California programs.

In the case of motor vehicles, we agree with the strong concerns that domestic vehicle manufacturers have expressed about state-level CO₂ programs like those under development in California. This would further penalize workers in the already distressed Midwestern auto manufacturing sector, and likely would lead to substantially higher costs for Illinois consumers. We believe the better course is a full and fair Congressional debate over national auto efficiency standards, together with the development of proposals for revitalizing the domestic auto industry. These debates are now underway in Washington.

Benefits of a National Approach

We believe that each of the adverse effects we have listed here could be avoided altogether, or substantially reduced, by Illinois' participation in federal climate change programs now under consideration by Congress.

Moreover, in cases such as the proposed auction of emission allowances to electric utilities, there is a definite potential for overlap and conflict with pending federal greenhouse gas control measures. Most of the climate bills before Congress require auctions of emission allowances. If a state such as Illinois independently mandated a similar auction requirement, electric generators would be faced with the prospect of purchasing one state and one federal allowance to cover the same ton of carbon dioxide emissions.

In addition, if federal CO₂ allowance programs are structured similar to the EPA acid rain allowance trading program, independent state carbon limits would not necessarily change total national emissions. This is because federal CO₂ allowances may be sold on a national basis. More stringent state laws thus may serve largely to redistribute carbon emissions, with no impact on global greenhouse gas concentrations.

Need for Further Study

The CCAG had little time and few resources to study the costs and benefits of each of the high-priority options selected at the beginning of the CCAG process. The limited modeling performed by ICF International utilized a relatively simplistic model of the interconnected utility sector, and did not identify the costs and benefits of individual CCAG options.

We share the view that the potential adverse job and economic consequences of the CCAG electric utility and automotive options noted above are sufficiently great to warrant further independent evaluation. We recommend that the University of Illinois, Southern Illinois University, or similarly qualified research and educational entities be charged by the General Assembly with a thorough evaluation of the impacts of each of the major policies recommended by the CCAG Report, including effects on energy prices and jobs, prior to any actions to implement these recommendations through legislation or regulation.

Respectfully submitted this 10th day of July 2007:

/s/
Michael T. Carrigan
President
Illinois AFL-CIO

/s/
John Johnson
Business Representative
International Brotherhood of Electrical Workers
Local 51

/s/
Joseph C. Szabo
Vice President, Illinois AFL-CIO
State Legislative Director,
United Transportation Union

/s/
Gary Butler
International Representative
United Mine Workers of America

E.M. Trisko
Eugene M. Trisko
Counsel
United Mine Workers of America

AMERICAN FEDERATION OF LABOR AND CONGRESS OF INDUSTRIAL ORGANIZATIONS



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PRESIDENT

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EXECUTIVE VICE-PRESIDENT

LEGISLATIVE ALERT!

(202) 637-5090

AFL-CIO Energy Task Force: Jobs and Energy for the 21st Century

It is time for our nation to take bold steps to meet the 21st century challenges related to energy policy. We believe our nation should 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.

In moving new energy initiatives underwritten by subsidies and tax changes the government must consider the national and regional impact on employment and production in the U.S. The financial incentives must be designed to both address the nation's energy needs and result in the retention and creation of good American jobs. Modernization and upgrading of existing facilities and the development of new technologies that can be manufactured domestically must be the priority. Financial incentives must not encourage the movement of work offshore but should allow for reasonable time frames so that industries that are large users of energy have time to adjust.

Electricity

The production, transportation and distribution of electrical energy is critical to the success of the U.S. economy. Reliable and affordable electrical energy is also the lifeblood of the manufacturing, transportation, construction and service industries. Unilateral energy price increases in the U.S. that do not affect many of our trading partners would place U.S. industries at a competitive disadvantage and cost U.S. jobs.

The AFL-CIO supports electrical energy policies that will:

- Maintain diversity in the electric utility industry, by retaining all current generating options, including fossil fuels, nuclear, hydro and renewables, to ensure a stable, reliable and low-cost supply of electricity for the United States.
- 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;

Apollo Project

The AFL-CIO has endorsed the bold and broad-based Apollo Project for Good Jobs and Energy Independence. It represents an approach for promoting good jobs, driven by significant public investment and backed by meaningful standards that ensure domestic job creation and real efficiency and environmental gains. It will create three million good jobs in manufacturing, construction, operations and maintenance and expand markets for American-made clean-

energy durable goods. The project will also pay huge dividends in reduced utility bills, increased productivity and competitiveness, cleaner air and water, and reduced dependence on foreign oil.

The Apollo four-part plan calls on each level of government to:

Reduce dependence on foreign oil by promoting efficiency and developing homegrown alternatives; this includes carbon sequestration and clean coal technology, a modernized electrical infrastructure; domestic production of advanced technology vehicles; and energy efficient appliances.

- Invest in clean, renewable power; this includes biomass, wind, solar and distributed electricity generation using stationary fuel cells.

Save energy with high-performance, energy efficient buildings; and

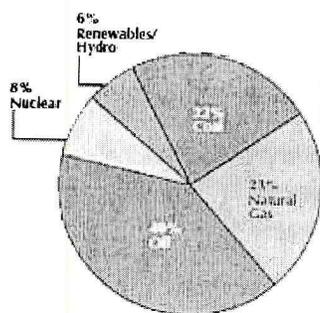
- Restore our communities with new investments in transit, smart growth and in construction and maintenance of our national and interstate highway system

Oil Supply and Demand

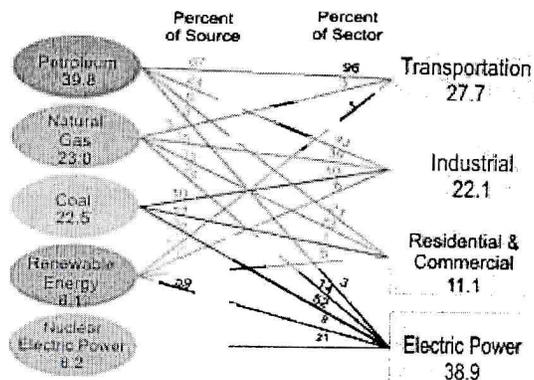
World demand for oil is growing, led by explosive growth in some developing nations, notably China, as well as steady growth in developed nations that already have high demand. The Department of Energy (DOE) projects that world oil demand will grow by 15% over the next ten years, with China and the U.S. by far the top two sources of increased demand. However, DOE also projects that world oil production will expand enough to meet that demand, and that the real price of oil will fall over that period.

Total Domestic Energy Use by Source

The U.S. relies upon fossil fuels to meet over 85% of its total energy needs (2003).



Data Source: Energy Information Administration, 2004

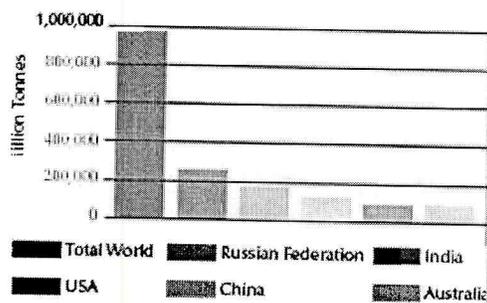


Although there is no looming oil shortage, there is increased competition for access to oil, especially to cement the commercial and political relationships with nations that own proven oil reserves. The threat to U.S. oil supplies lies in the amount of our oil that comes from politically volatile regions. Currently, 28 percent of the world's oil is produced in the Middle East, a portion

the DOE estimates will not change in the next ten years. To lessen this risk, the U.S. needs to pursue policies that will reduce our dependence on foreign oil.

Proved Coal Reserves

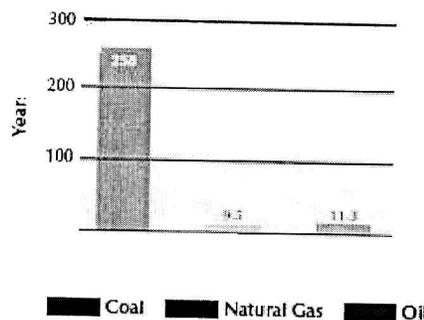
The United States has the largest proved coal reserves of any nation in the world (the top five nations are shown here).



Data Source: BP, 2004

U.S Fossil Fuel Reserve/Production Ratios

At current production levels U.S. proved coal reserves would last over 250 years



Data Source: BP, 2004

Fortunately, the U.S. has an abundant energy resource in coal and we should utilize these vast resources in the transportation sector, while accelerating development of carbon sequestration technologies. With a huge fertile land base and moderate climate the U.S. has an untapped abundance of renewable energy resources such as wind, solar and biomass-derived fuels.

Developing and harnessing these resources can provide a path to reducing our reliance on foreign oil, while promoting broad-based economic development. Each of these resources faces technical hurdles, either in making the energy deliverable at competitive prices, or in making it available in a fashion that does not greatly expand U.S. emissions of greenhouse gasses. The federal government should take the lead in funding research and demonstration projects to meet these challenges, and to allow us to use these resources, wisely, efficiently, cleanly and safely.

Automotive Sector

The U.S. should pursue measures to improve energy efficiency. In particular, as embodied by the ideas in the Apollo Project, the AFL-CIO calls on Congress to establish a Marshall Plan to help re-tool the U.S. auto industry to accelerate domestic production of advanced technology and alternative fuel vehicles and their key components. This includes hybrid, diesel and fuel cell vehicles, as well as vehicles that run on ethanol and other alternative fuels. This initiative would help create tens of thousands of automotive jobs for American workers, while at the same time helping to reduce global warming emissions and our reliance on foreign oil.

Currently many advanced technology vehicles are assembled overseas, and virtually all of the key components are built in foreign countries. However, a study by the University of Michigan's Transportation Research Institute demonstrates that federal incentives to encourage domestic production can reverse this trend, create jobs and result in higher tax revenues for the federal and state governments.

The AFL-CIO supports federal and state initiatives to require oil refiners and gas sellers to include more alternative fuels in their products. At the same time, federal assistance is needed to help establish the infrastructure needed to deliver higher volumes of alternative fuels to consumers.

The AFL-CIO would only support giving the National Highway Traffic Safety Administration (NHTSA) the authority to establish a size-based CAFE system for cars (similar to the system that exists for light trucks), if this contains an anti-backsliding rule that protects domestic production of small cars and guarantees overall improvement in fuel economy. The federation will continue to oppose extreme, discriminatory CAFE proposals that are neither economically or technologically feasible, and would jeopardize the jobs of thousands of American automotive workers.

Climate Change

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.

Because of these dangers, the AFL-CIO supports balanced measures to combat global warming. However, the federation opposes extreme measures that would undermine economic growth, harm particular sectors, or placing ourselves at a disadvantage to other nations. We believe any approach for addressing greenhouse gas emissions must be done upstream on an economy-wide level, with contributions from each sector in proportion to the greenhouse gas emissions of that sector. Any mandatory tradable-permits program should initially seek to gradually slow the growth in greenhouse gas emissions, and should also contain a "safety valve" cost cap to protect the economy. In addition, U.S. efforts to address climate change should be conditioned on similar actions by U.S. trading partners and developing countries.

Any auction of carbon permits should be reasonable in scope and must assure that no sector is disproportionately burdened. The revenues generated should be primarily targeted to finance improvements in technology that will allow clean energy to be produced at prices close to what consumers pay for energy from conventional sources, and to encourage deployment of this technology in manner that promotes domestic production and jobs for American workers. This includes incentives for conversion to clean coal technology, carbon capture and sequestration, domestic production of advanced technology vehicles and their components, energy efficiency and renewable energy resources. We also recognize that hydro and nuclear energy are non-carbon emitting types of generation that also help maintain energy diversity in the electric utility industry.

**COMMENTS RECEIVED FROM
MIDWEST GENERATION**

December 12, 2007

The Honorable Douglas P. Scott
Director, Illinois Environmental Protection Agency
Chair, Illinois Climate Change Advisory Group

Dear Director Scott,

The circulation of the draft report of the Illinois Climate Change Advisory Group (ICCAAG) is a key milestone in our shared effort to create a more carbon efficient Illinois economy. Midwest Generation (MWG) appreciates the opportunity to work with you and the rest of the ICCAG, as a constructive participant throughout the process. As you know, MWG is taking a leadership role in addressing climate change by developing wind energy projects in Illinois and more than a dozen other states, engaging with numerous stakeholders to seek to advance clean coal technology with carbon capture and sequestration, and taking a prominent role in Washington in support of Federal climate change legislation. In that spirit, we offer the following comments on the ICCAG final report to Governor Blagojevich.

MWG strongly feels that any report to the Governor should accurately reflect ICCAG discussions, including a fair representation of minority opinions. In particular, we believe it is critical that the report clearly and prominently convey to the Governor that representatives of major parties from labor and industry, including our company, have stated the strongest possible opposition to a state-specific carbon cap and trade program and have supported our position by providing data and analyses showing that such a program would create tremendous risk to the state's economy. It is only through a careful representation of all sides that the Governor and other readers of this report can appreciate the care and diligence which was employed in the ICCAG process. Any effort to gloss over the vocal concerns of ICCAG members will degrade the value of the report and our collective efforts. In that regard I offer the following recommended revisions:

- PAGE 5

<p>In addition, ICFI's modeling found that executing the 24 strategies to reduce greenhouse gases would benefit the Illinois economy compared to taking no action to address climate change. According to ICFI, these economic benefits include cutting average electricity costs by more than 3 billion dollars per year in 2020 as well as boosting the gross state product and personal disposable income by billions of dollars while creating tens of thousands of new jobs (see Section VI for detailed economic estimates).</p>
--

It is impossible to understand the value of any forecast without first understanding the input assumptions. In this case it is critical that the reader be informed of the basic assumptions

which produced the outcome above. A single following sentence here would suffice, and MWG suggests the following:

“The economic benefits projected by ICFI are dependent upon several assumptions, most importantly implementation of a highly effective energy efficiency program, the introduction of currently non-commercial electricity generation technologies, the absence of carbon mitigation regulations in neighboring states and the availability of low cost emission reduction credits from the Regional Greenhouse Gas Initiative”.

- Page 10

The positive economic outcomes are largely due to policies that would replace imports of coal, oil and natural gas with in-state investments in renewable energy and energy efficiency measures. Dollars that would otherwise be exported to out-of-state companies are instead invested in Illinois. In addition, the energy efficiency measures reduce energy costs for homes and businesses.

This statement characterizes the impact of a projected reduction in household energy consumption as a key driver to the ICFI economic result. What is missing is that the reduction in household electricity consumption is critical to overcoming the increase in electric rates described on page 39. Furthermore, the ICFI study found that the leading in-state emission reduction strategy employed by the model was an increase in imports of out-of-state coal-fired generation. Since out-of-state power generation is critical to minimizing the increase in electric rates, it should be highlighted in this report. I suggest the addition of the following statement:

“The assumed energy efficiency gains are critical to overcoming an increase in electricity rates driven by the added cost of importing coal-fired electricity to replace in-state coal fired electricity which becomes uneconomic due to compliance costs associated with the Cap & Trade program”.

- Page 34

For Scenario #1, electricity generation increases beyond the reference case as more clean coal and renewable power sources come online due to the carbon capture and storage and renewable portfolio standard policy measures. Conversely, with Scenario #2, all strategies plus the cap and

This statement, found at the top of page 34, details the assumption that new coal generation technology with carbon capture and sequestration (CCS) will be deployed in Illinois during the study period. In fact, the model assumes CCS coal is available on a commercial scale as early as 2012, which is extremely optimistic, a suggestion well outside of the consensus today. Moreover, assuming that such costly technology will be deployed at all when Illinois generators must compete with lower-cost out-of-state generators is simply not credible. Even if CCS technology were commercially available, a CCS facility would not be competitive with low-cost generators out-of-state, who would not be subject to greenhouse gas regulation. The modeling outcome for this scenario also predicts that natural gas utilized for electricity generation will nearly double by 2020. Given dwindling domestic natural gas supplies and increasing instability in oil and gas-producing nations, one should question the wisdom of a policy that results in greater dependence on oil and/or

natural gas as a fuel for generation of electricity. The assumption of the availability of CCS and the energy security impacts of increased natural gas utilization should be highlighted.

“The ICFI model assumes carbon capture and sequestration (CCS) technology is available on an accelerated optimistic rate. Although CCS technology is very promising, its deployment and availability is highly speculative during the study period. It is not reasonable to expect power producers to construct such highly capital intensive projects in Illinois without massive economic incentives, given the availability of low cost, uncontrolled coal-fired generation in neighboring states. In the absence of such technology, the more readily available natural gas-fired combined cycle electricity generation technology is expected to be selected by the model. This will cause a material increase in natural gas consumption, reducing the energy security of the region by increasing reliance on imported fuel.”

- Page 36

The modeling results indicate emissions leakage with implementation of an Illinois-only cap and trade program. This effect is mitigated with a link to RGGI. Emissions leakage arises when emissions of greenhouse gases (GHGs) in one jurisdiction or sector not subject to carbon constraints increase due to mandated GHG reductions in another jurisdiction or sector. Though the concept of emissions leakage can apply to activities in any sector of the economy, it has often been of greatest concern where economic activity is subject to substantial interstate trade and competition such as the electric generation market. In such a case, as mandatory reductions are undertaken (and production costs consequently rise), lower cost competition outside the region (not faced with similar constraints) increases to meet demand within the carbon constrained jurisdiction.

Leakage is a highly technical issue that will be new to many readers of this report. I applaud your effort to define the issue simply. The challenge in this section is the assertion that a link to RGGI reduces leakage. ICFI modeling shows a reduction in leakage not because of an inherent link to RGGI, but because it is assumed that infinite quantities of RGGI allowances are available at \$10. It is the \$10 allowance price cap, not the RGGI connection that eliminates the leakage. The second sentence should be replaced with the following:

“In the ICFI modeling, leakage is only mitigated when allowance prices are assumed to be low enough to not disadvantage in state electricity generation to the extent that it can not compete with out of state electricity generation. This is accomplished by assuming low price (\$10) allowances are available in necessary quantities from RGGI.”

- Page 37

Leakage was discussed at length during the ICCAG process. There was agreement that leakage should be minimized because it undermines the effectiveness of GHG reduction strategies on a national and global scale, and it was noted that the cap and trade proposal called for the creation of a separate stakeholder process to address leakage.

We certainly did discuss leakage at great length and it certainly is one of our points of agreement that this issue is critical. One area where we disagree is the suggestion that leakage can be addressed by a stakeholder process. This approach implies a solution lies in more discussion. I am not aware of any constitutional tactic that can eliminate this basic

element of economics. For this reason, we propose to add the following to page 37 and 52 where leakage is discussed:

“There are no known mechanisms to minimize the unintended consequence of leakage in a cap & trade program. In a free market economy, the flow of goods from the lowest cost source to market is an essential means of realizing optimal efficiencies. The relative increase in electricity production cost in Illinois in relation to the wholesale electricity market will inevitably create an advantage for neighboring states. The only remedy for leakage is to design a cap & trade program covering the maximum possible geography, ideally on the Federal level.”

- Page 41

Tables 13 and 14 provide a list of the 24 strategies supported by the ICCAG members, and this is followed by brief summaries of each. At its July 10th meeting, ICCAG members voted to support nineteen strategies with no dissent and at least one abstention. At the September 6th meeting, a

MWG largely supports the 19 strategies addressed at the July 10 meeting. A comment we offered in the discussion and reiterate here is that the policies should have more input from stakeholders in the affected industries to determine if the goals described are of the appropriate stringency and that incentives are sufficient. To avoid the impression that the ICCAG believed itself to be qualified to develop sound policy in sectors as varied as forest management, recycling, rail upgrades, light bulbs and mass transit we suggest the following:

“Although the ICCAG voted overwhelmingly to support the 19 measures, there were voices that cautioned that the largely positive package of policies requires significantly greater input from unrepresented industries and stakeholders to determine the viability and effectiveness of the policy proposals.”

- Page 52

In brief, ICCAG members voting against the cap and trade proposal, or abstaining, argued that a cap and trade program should only be implemented at the national level, jobs in the electric generation sector would be lost to other states, emissions decreases in Illinois would be offset by emissions increases out-of-state (“leakage”), energy costs would go up, electricity reliability would be undermined, the proposal applies to relatively small emitters that should not be included, that sources might have to comply with both an Illinois and a national program, and that emissions allowances should be given to regulated entities at no cost.

Given the volume of model output presented in this report, the chart #11 from the modeling presentation is conspicuously absent. To truly present an even handed discussion of the leakage argument listed above, we believe this chart should be included in the interest of transparency and full disclosure. I have attached the chart below.

Change in Generation from Reference Case in 2020 (GWh)		In-State		Out-of-State	
Code	Description	Coal (incl. CCS)	Total Generation	Coal (incl. CCS)	Total Generation
IL-05-00	"All In" Except C&T	13,433	22,890	(14,613)	(23,008)
IL-10-00	"All In" With C&T	(21,837)	(20,482)	6,945	3,290
IL-11-00	"All In" With C&T+ RGGI	10,664	13,486	(13,078)	(17,729)

Those opposed to the Illinois cap & trade program felt that the increase of over 21 GWs of coal fired generation outside of Illinois in response to the program would offset most of the emission reductions "created" by the policy. As a result, the cap & trade program would not achieve the Governor's objectives of reducing emissions, but would simply move emissions in a great experiment which could have painful economic implications for Illinois business and citizens. This movement of power generation from Illinois power plants to those out of state could actually cause environmental harm, since out of state power plants are not subject to the Mercury, SO2 and NOx emission reduction agreements negotiated with Governor Blagojevich. These emission increases will be significant and should be quantified in this report with ICFI model data. To address this issue:

"The ICFI modeling effort demonstrated that the creation of an Illinois-only cap & trade program will cause a migration of electricity generation to our neighbors. Since power plants outside Illinois are subject to less-stringent emissions limits and generally emit greater quantities of particulates than do Illinois generators. This shift in generation will cause increased emissions of other pollutants including those that cause acid rain, smog, and mercury deposition. The preceding chart details the expectation of out of state power generation to go from a reduction of 14.6 GWs under all policies except cap and trade to an increase of 6.9 GWs with cap and trade, an increase of 21 GWs."

As I have detailed in previous comments, Midwest Generation continues to suggest that trading programs are most effective at the Federal level. For this reason, our company has been an outspoken advocate of Federal climate change legislation that includes a cap and trade program. I look forward to finding opportunities for us to collaborate on making this objective a reality.

Aside from cap & trade, there are numerous ICCAG proposed activities which are critical for Illinois to embrace in the coming months. I look forward to working with you to refine policy as appropriate and to address the challenge of climate change.

Thank you for the opportunity to comment on the ICCAG process. I respectfully request that this letter be posted to the ICCAG website, as our prior comments have been.

Sincerely,

Matthew A. Most
 Director, Environmental Policy

The Honorable Douglas P. Scott
Director, Illinois Environmental Protection Agency
Chair, Illinois Climate Change Advisory Group

Dear Director Scott,

Midwest Generation has appreciated the opportunity to participate in the Illinois Climate Change Advisory Group (ICCAG), and has sought to be a constructive participant throughout the process.

As an Edison International (EIX) company we support action to address climate change, and applaud the efforts that you and the Governor have undertaken to identify state-specific actions which can help create a less carbon-intensive economy for Illinois. We believe it is in all of our best interests if the Illinois effort is focused on activities which will complement a national program to reduce greenhouse gas emissions. To that end, we remain concerned that we are headed toward certain decisions that require more modeling and cost-benefit analyses than has been permitted by the timeline given to the advisory group, and that such decisions could do great harm to the state's economy without achieving the desired environmental benefits.

EIX is a strong supporter of national action to address climate change given the unique jurisdiction the Federal government brings to the effort, including the ability to eliminate interstate issues such as "leakage". Working with organizations such as the National Commission on Energy Policy and Generators for Clean Air, EIX has endorsed the Low Carbon Economy Act of 2007, cosponsored by Senators Bingaman and Specter. The U.S. Congress is clearly on a course to address climate change, and we believe a significant focus for the Illinois advisory group should be on providing input and support for this groundbreaking legislation.

That said, we agree there is an important role to be played in this debate by state action. For example, Illinois should put in place regulations that will enable carbon capture and storage to encourage development of new clean-coal technology. Pending state legislation that encourages renewable energy and demand-side management also are positive steps, and the advisory group has done a good job of considering additional initiatives in these areas.

The ICCAG is on the verge of producing a suite of policy options for the Governor to consider. Despite the best efforts of this dedicated group, we have the following concerns about the process to date.

- Policy Selection

Given the short time available, the selection of individual policy elements for modeling was determined by committee vote very early in the process. This early selection eliminated most policy options from review given limited modeling resources. This

expedited approach resulted in many policy concepts being omitted which may have produced complementary benefits at lower cost. Given more time to study available options or for a second model run, we may be able to significantly improve our reduction potential and reduce cost. At the July ICCAG meeting, modeling results were presented demonstrating that the policy package produced much less emissions reductions than projected by WRI initially. At this point, we have not seen any evaluation of reduction cost per unit of emissions, only the aggregate reduction potential of the suite of policy options. It is critical to provide time and resources for a cost comparison of individual policies to allow for the best combination of effectiveness and cost to be discovered. We therefore recommend cost / benefit analysis of more potential policy combinations to make the best choices, rather than the quickest ones.

- Outreach

Of the policies selected by the ICCAG, there has been little research into what parameters of each policy would be most effective. The size of incentives or efficiency targets has been quantified for the committee for each policy. There has not been an opportunity to dig into the cost or benefits of increasing incentives or efficiency goals. The ICCAG has not made an effort to poll the affected industries for best practices or optimal incentive size or approach. Without this type of additional study and inclusiveness, it is impossible to know if we are building optimal incentives and targets to achieve maximum emission reduction for minimal cost.

- Cap & Trade

Despite stated efforts to not rely on cap & trade as the defacto catch-all to achieve the Governor's emission reduction goal, which appears to be precisely what is happening. As we have stated on many occasions, cap & trade is inappropriate at the state level in a regional power market. It creates cost discrimination against Illinois generators who compete with out of state generators in a regional market, with no mechanism to control leakage of emissions. The imposition of unique carbon costs on Illinois power generators -- absent a uniform federal program -- will simply reduce in-state power generation, and migrate that generation to out of state generators who have no carbon costs. This will result in higher electricity rates in Illinois and loss of jobs in the state without creating carbon emission reductions. This migration of power generation out of state also will increase emissions of SO₂, NO_x and Mercury given the much higher emission rates of out of state generators. Our power stations have agreed to install state of the art emissions controls, as have most other Illinois coal fired generators. These investments have not been equaled at power stations in neighboring states.

Leakage will prevent the environmental benefit for which Illinois rate payers will pay dearly. We believe leaving this issue for a subsequent committee does not provide the Governor with a completely thought-out plan and creates a high risk of unintended negative consequences that need to be carefully evaluated. Furthermore, cap & trade forces two-thirds of the reduction requirement on the power sector, which produces only one-third of Illinois' greenhouse gas emissions. A state level cap & trade policy is

inherently an unfair burden on one Illinois business sector that will cost the state jobs and tax revenues, and threatens the sustainability of the entire climate change initiative -- with no environmental benefit since power generators in other states will simply increase output and contribute more carbon emissions to the global pool. A federal cap & trade program is the only way to eliminate leakage and ensure environmental benefits.

- Effective Evaluation

The current design of the modeling process does not allow for the careful evaluation of each policy option individually. The inability to evaluate policies independently makes it impossible to determine which is the most cost effective. Modeling must be more sophisticated and robust to allow for educated decision-making.

At this point we have abstained from supporting the latest policy proposal package given our concerns listed herein.

We applaud the good work that the ICCAG has done to date. As pointed out by other committee members, the ICF modeling experts, as well as WRI staff the ICCAG process has been on an extremely expedited schedule. With additional time the process can be made more inclusive and the product for the Governor more complete. Thank you for the opportunity to comment on the ICCAG process. I respectfully request that this letter be posted to the ICCAG website.

Midwest Generation will continue to be a constructive voice in the ICCAG process and looks forward to working with you to develop the best possible package of policy suggestions for the Governor to consider.

Sincerely,

Matthew A. Most
Director, Environmental Policy

**COMMENTS RECEIVED FROM
STATE FARM**



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December 12, 2007

Honorable Doug Scott
Director, Illinois Environmental Protection Agency
Chair, Illinois Climate Change Advisory Group
1021 North Grand Avenue East
P.O. Box 19276
Springfield, Illinois 62794-9276

RE: Comments on the Illinois Climate Change Advisory Group

Dear Director Scott:

State Farm has appreciated the opportunity to participate in the deliberations of the Illinois Climate Change Advisory Group (ICCAG). We congratulate you and Governor Blagojevich for convening a group of experts to consider the potential implications of global climate change on our state.

The issue of global climate change presents complex questions regarding greenhouse gas (GHG) emissions and their role in influencing our environment and future weather patterns, particularly the frequency and intensity of severe storms. As the nation's largest insurer of homes, we are very concerned about all natural and man-made causes of property damage.

For this reason, State Farm is involved in broad-based efforts to help its customers manage these losses. State Farm works with organizations all across the country – such as the Institute for Business & Home Safety (IBHS) and ProtectingAmerica.org – to help protect its customers from the injuries, property destruction and the financial impact that results from natural disasters.

State Farm has also taken aggressive steps to protect the environment by reducing its own GHG emissions. As a member of the Business Roundtable Climate RESOLVE Initiative since 2002, State Farm voluntarily reports its progress on managing GHG emissions. The Company has:

- Reduced its emissions per policy in force by 35 percent (far exceeding the Business Roundtable goal of an 18 percent reduction by 2012);
- Greatly improved the energy efficiency rating of its buildings (State Farm's buildings are more efficient than 73 percent of comparable buildings, compared with 49 percent in 1999);
- Implemented an electronic claims system that significantly reduces the use of paper; and
- Adopted a companywide recycling program that includes thousands of computers per year.

State Farm
Comments on the Illinois Climate Change Advisory Group
December 12, 2007
Page 2

In an effort to reduce gasoline consumption and vehicle emissions, State Farm has reduced the size of its fleet of motor vehicles, and has included in that fleet about 100 new hybrid vehicles, over 3,000 flexible fuel vehicles and an increasing percentage of vehicles with four cylinder engines. *Automotive Fleet Magazine* recently recognized State Farm for having the third-largest, non-governmental, eco-friendly commercial fleet in the nation.

This past September, the Business Roundtable released a Climate Change Policy Statement. I have enclosed a copy for your reference. This statement outlines a series of benchmarks and principles against which federal climate change policies should be measured. Recommendations include: an improved national registry for reporting emissions and documenting reductions; increased government and private sector investment in energy efficiency, low-GHG technology, and climate science; proper alignment of reduction timelines with technology research, development and demonstration; a flexible, national approach to long term reduction goals and strategies that allows for course correction; a clear and stable long-term, economy-wide framework for emission reductions that enables rational business planning and investment; an equitable application of policy solutions across all sectors of the economy; and global emission reduction commitments to address a global issue.

State Farm fully supports the Business Roundtable position. We believe it promotes a national dialogue across all sectors of the economy, both public and private, that is appropriate to address the challenge of global climate change. We would encourage further development of these policy options in a national context, according to the benchmarks and principles advanced by the Business Roundtable Climate Change Policy Statement.

Sincerely,



Sue Watkins
Operations Vice President – Great Lakes Zone
State Farm Insurance Companies

Enclosure

COMMENTS RECEIVED FROM
DR. MICHAEL SCHLESINGER,
UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN

Professor Schlesinger' Suggested Revisions

1. Page 14, penultimate line: Change 'state that' to 'states that'.
2. Page 16, 3rd line: Change 'pool of emissions are' to 'pool of emissions is'.
3. Page 18, penultimate line: Change 'If Illinois was' to 'If Illinois were'.
4. Page 20, Caption to Figure 2. Change 'GHGEmissions' to 'GHG Emissions', and move 'Economic' to the second line of the caption to Figure 3.
5. Page 21, Footnote 1, penultimate line: Change 'emissions and trend' to 'emissions, and trend'.
6. Page 21 Footnote 2, 3rd line: Change 'illustrative but' to 'illustrative, but'.
7. Page 22, penultimate line: Change 'temperature or' to 'temperature, or'.
8. Page 29, line above 'Table 7: Change 'table 7' to 'Table 7'.
9. Page 29, last line: Change 'table 8' to 'Table 8'.
10. Page 33, item #3, 1st line: Change "CCAG" to "ICCAg".
11. Page 34, penultimate paragraph, 4th line: Change "Out of state" to "Out-of-state".
12. Page 34, last line, page 35, 1st line: Change "to only include" to "to include only".
13. Page 35, Scenario #1, 3rd line: Change "Governors" to "Governor's".
14. Page 35, Scenario #2, 1st line: Change "Governor's.goal" to "Governor's goal".
15. Page 45, line above **Adopt a Low Carbon Fuel Standard**: Change "-Strategies" to "Strategies".
16. Page 45, 5th line from bottom: Change "fuel- efficient" to "fuel-efficient".
17. Page 46, 2nd paragraph, 3rd line: Change "110mph" to "110 mph".
18. Page 46, 3rd paragraph, 1st line: Change "would: add" to "would add".
19. Page 46, 3rd paragraph, 4th line: Change "improvements," to "improvements;".
20. Page 46, 3rd paragraph, 5th line: Change "enhancements and" to "enhancements; and".
21. Page 46, 4th paragraph, 1st line: Change "Louis January" to "Louis by January".
22. Page 46, 4th paragraph, 2nd line: Change "January 1,2013" to "January 1, 2013".
23. Page 47, 3rd paragraph, 3rd line: Change "suburbs and" to "suburbs; and".
24. Page 47, 4th paragraph, 11th line from the bottom: Change "Require a" to "A".
25. Page 48, 2nd paragraph, 1st line: Change "land use offset" to "land-use offset".

Professor Schlesinger' Suggested Revisions

26. Page 49, 3rd paragraph, 2nd line: Change “to upgrade to implement” to “to implement”.
27. Page 49, 3rd paragraph, 5th line: Change “(e.g. biodiesel” to (e.g., biodiesel”.
28. Page 49, 3rd paragraph, last line: Change “sources” to “sources”.
29. Page 50, paragraph labeled “**1. Stringency**”: Should “Industrial, Commercial” be “Commercial, Industrial and Agriculture”?
30. Page 50, paragraph labeled “**2. Schedule**”: Change “In 2012, emissions” to “In 2012 emissions”.
31. Page 50, paragraph labeled “**5. Linkages ...**”: Change “(e.g. not” to “(e.g., not”.
32. Page 51: Add a blank line between the 3rd and 4th lines from the bottom.
33. Page 51, 3rd line from the bottom: Change “CDM” to “Clean Development Mechanism (CDM)”.
34. Page 52, 4th paragraph, 4th line: Change the second hyphen to be the same length as the first hyphen.
35. Page 52, 3rd paragraph from the bottom, 4th line: Change “Out of state” to “Out-of-state”.
36. Page 54, 2nd line: Change “(at \$X per gallon – check)” to the correct information.
37. Page 54, 4th paragraph, 1st line: Change “argue” to “argued”.
38. Page 54, last line: Change “argue” to “argued”.
39. Page 56, 4th paragraph, 4th and 5th lines: Change “out of state” to “out-of-state”.

Comments from Michael Schlesinger

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July 13, 2007

I write to reiterate the two recommendations I made last Tuesday at the fourth meeting of the ICCAG.

Recommendation One

The group of ICCAG-selected polices analyzed by ICF International/Systematic Solutions Inc., which does not yet include the two Cap & Trade policies, meets only 30% of Governor Blagojevich's 2020 target of reducing Illinois' greenhouse-gas emissions then to their 1990 values.

Accordingly, as I recommended at the second ICCAG meeting last April in Springfield and again last Tuesday, I recommend including into the ongoing analysis those policies excluded by the 'survey' of the ICCAG members last March which, by WRI's original 'strawman' analysis, have: (1) high to medium potential for decreasing Illinois' emissions of greenhouse gases, and (2) high to medium certainty about their ability to do so.

These policies are listed in the attached Excel file, drawn from the original WRI Excel file, and are color-coded according to the two criteria in this recommendation. (Policy 10 therein may already have been included with Policy 5 in the group selected in the ICCAG survey.) The addition of these policies to the analysis should enhance the ability of ICCAG to meet the Governor's 2020 target.

Recommendation Two

The analysis of the ICCAG-selected polices by ICF International/Systematic Solutions Inc. has shown that the net effect of the group of policies is much smaller than the sum of their individual effects. This is partly the cause of the low percentage contribution of the group of policies so far considered to the Governor's 2020 goal as described in Recommendation One. For this reason the analysis has not tried to determine the contribution of each policy to the net effect of the group of policies.

In response I suggested at Tuesday's meeting a possible method for doing this. This method is described in more detail in the attached Word file.

I recommend that this method be used to determine the contribution of each policy to the net effect of the group of policies. Doing this will illuminate which of the policies are of the greatest importance. This knowledge should be of sufficient value to warrant the additional runs of the analysis model required for this determination.

A Method to Determine the Contribution of Individual Policies to the Net Effect of a Group of Policies

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Let T be the net effect of N policies, and T_i the net effect absent policy i . We define the ‘gross contribution’ of policy i as

$$C_i = T - T_i \quad , \quad i = 1, \dots, N \quad , \quad (1)$$

the sum of which is

$$S = \sum_{i=1}^N C_i \quad . \quad (2)$$

If $T > S$, the interaction among the policies creates a net effect that is greater than the sum of its gross contributions – hence the group of policies is ‘synergistic’. If $T < S$, the interaction among the policies creates a net effect that is less than the sum of its gross contributions – hence the group of policies is ‘antagonistic’. The latter characterizes the group of policies being considered by Governor Blagojevich’s Climate Change Advisory Group.

To account for the disparity between S and T , we define the ‘net contribution’ of policy i as

$$C'_i = \left(\frac{T}{S} \right) C_i \quad , \quad i = 1, \dots, N \quad (3)$$

such that their sum is equal to T ,

$$\sum_{i=1}^N C'_i = T \quad . \quad (4)$$

By definition (3),

$$\frac{C'_i}{T} = \frac{C_i}{S} \quad , \quad i = 1, \dots, N \quad . \quad (5)$$

Thus the fraction of the net effect T of the group of policies given by the net contribution of policy i , C'_i/T , is the same as the fraction of S given by the gross contribution of policy i , C_i/S . Furthermore,

$$\sum_{i=1}^N \frac{C'_i}{T} = \sum_{i=1}^N \frac{C_i}{S} = 1 \quad . \quad (6)$$

Accordingly, determination of:

- (1) C_i , $i = 1, \dots, N$ in Eq. (1) by running the analysis model $N+1$ times, once with all policies and N additional times with all policies except policy $i = 1, \dots, N$
- (2) S in Eq. (2) and
- (3) C_i/S , $i = 1, \dots, N$ in Eq. (5)

will allow a ranking of the policies by their fractional contribution to the net effect T of the group of policies. Doing this will illuminate which of the N policies are of the greatest importance to the net effect of the group of policies. This knowledge should be of sufficient value to warrant the N additional runs of the analysis model.

**COMMENTS RECEIVED FROM
WILLIAM SHUBERT, WASTE MANAGEMENT**

Comments Submitted by William Shubert, Waste Management
July 13, 2007

In the CIA Subgroup, we discussed the policy; "Increase Traditional Recycling Diversion Rate with Municipal Goals and by Stimulating Demand for Recycled Materials". In our discussion, we identified that diverting materials from landfills alone did not achieve the desired GHG reductions. In fact, recent attempts in our state to raise diversion rates often resulted in activities that were GHG neutral or positive. The reductions anticipated by this policy could be achieved by making sure that recycled materials were reused as secondary materials. It is important that the implementation of this policy focus on the correct measurable, namely commodity reuse, to ensure the desired outcome.

Therefore, I would suggest that we retitle the policy: " Increase in Secondary Material Usage with Municipal Recycling Goals and by Stimulating Demand for Recycled Materials". Such a title would help to encourage the correct measure of success when this policy is developed.

Thanks for your consideration. Feel free to contact me with any questions.