DRAFT

Strategies to Reduce Greenhouse Gas Emissions in Illinois

Submitted by

the Illinois Climate Change Advisory Group to Governor Rod R. Blagojevich

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Summary Provided by the Illinois Environmental Regulatory Group

Background

On October 5, 2006, Gov. Blagojevich launched his Global Warming Initiative by signing an Executive Order (EO) that created the Illinois Climate Change Advisory Group (ICCAG). The Advisory Group was chaired by Doug Scott, Director of the Illinois Environmental Protection Agency (Illinois EPA), and included 39 other members representing local government; labor unions; public transit; scientists; environmental, consumer and faith-based groups; and the following industries: agriculture, utilities, power generators, auto manufacturing, farm and construction equipment, oil, insurance, and waste management. Three Vice Chairs were also appointed to help guide the process. They were Michael Carrigan, AFL-CIO; Arthur Gibson, Baxter Healthcare; and Howard Learner, Environmental Law and Policy Center.

The Governor charged the ICCAG with recommending strategies to meet his statewide greenhouse gas (GHG) reduction goals, which are similar to goals set by other states and those proposed in Congress:

- 1990 levels by 2020
- 60 percent below 1990 levels by 2050

Overview of the ICCAG Process

The Players

ICF International (ICFI) was retained to model the emissions and economic impacts of different policy scenarios. ICFI is a global energy and environmental consulting firm based in Washington, DC. The firm's clients include the Canadian and US federal and state governments, the EU and oil and gas producing nations.

The World Resources Institute (WRI) was retained to assist in the facilitation of ICCAG meetings and to provide technical expertise. WRI is a Washington DC-based environmental research and policy organization, and their climate change experience includes co-authoring the standard for measuring and reporting greenhouse gases (GHG) that is used by companies throughout the world. They have provided similar assistance to northeastern states, western states, and Wisconsin.

The Process

WRI developed an initial list of 88 policy options for reducing GHG emissions (see Appendix D) that was narrowed down by ICCAG members to 25 through an anonymous, on-line voting process (see Appendix E). These 25 policy options were assigned to four subgroups to formulate policy proposals that could be modeled for their emissions and economic effects. A fifth subgroup was created to oversee the modeling process.

The subgroups were chaired by the ICCAG chair and vice chairs:

1. Power and Energy: Chair, Howard Learner, Environmental Law and Policy Center
2. Transportation: Chair, Michael Carrigan, AFL-CIO
3. Cap and Trade: Chair, Doug Scott, Illinois EPA
4. Commercial, Industrial, and Agricultural: Chair, Arthur Gibson, Baxter Healthcare
5. Modeling: Chair, Doug Scott, Illinois EPA

The Ground Rules

At the first ICCAG meeting on February 22, 2007, Chairman Scott presented some ground rules to help the ICCAG meet its goal of recommending strategies to achieve the Governor's GHG reduction goals. In particular, some subjects were designated as outside the scope of the process and the discussions intended for the meetings, such as the following:

- **The quality of climate change science**.
  Starting Point: "the scientific consensus is that increasing emissions of greenhouse gases are causing global temperatures to rise at rates that could cause worldwide economic disruption."
- **Recommendations for national and international policies**.
  Governors are taking action to fill the void due to inaction at the federal level.
- **Policies related to vulnerability and adaptation**.
  Being analyzed by the Chicago Climate Change Task Force.
- **Research and Development**.
  Long-term climate change solutions require extensive effort at all government levels; the advisory group focused only on policy options w/predictable emissions reductions benefits.

Illinois Greenhouse Gas Inventory and Projections to 2020

To provide the ICCAG with background and baseline data from which to base policy recommendations, WRI developed an inventory of GHG emissions in Illinois (1990-2003) and projections for future emissions through 2020. The inventory included each of the six major GHGs: carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), and those referred to as the "F-Gases" – hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexalfuoride (SF_6). For the purposes of compilation and comparison, emissions were described in terms of "CO_2 equivalent," or CO_2e, referring to their global warming potential (GWP) relative to CO_2.

GHG Emissions in Illinois in 2003

In 2003, the most recent year for which data were available, Illinois produced an estimated 269 million metric tons of GHGs on a CO_2 equivalent basis* ($MtCO_2e$), ranking it 7th compared to other states. Illinois generated 4.0 percent of total U.S. emissions in 2003. For international context, if Illinois was its own country, it would rank as the 26th largest emitter in the world, slightly ahead of Thailand. See Table 3 below.

Table 3. Top 10 GHG Emitting States		$MtCO_2e$	% of US
1	Texas	782	11.6%
2	California	453	6.7%
3	Pennsylvania	301	4.5%
4	Ohio	299	4.4%
5	Florida	271	4.0%
6	Indiana	269	4.0%
7	**Illinois**	**268**	**4.0%**
8	New York	244	3.6%
9	Michigan	212	3.1%
10	Louisiana	209	3.1%

Table 4 provides a breakout of emissions data by gas and sector.

Table 4. Illinois GHG Emissions by Gas and Sector – 2003					
1,000 Tons CO_2e	**CO_2**	**CH_4**	**N_2O**	**F-Gases**	**Total**
Electricity Generation	86,365	21	410		86,796
Residential	26,363	155	37		26,556
Commercial	12,641	42	14		12,698
Industrial	39,334	60	95		39,489
Transport	64,677	94	1,414		66,185
Fugitive Emissions		1,878			1,878
Industrial Processes	8,331			5,103	13,434
Agriculture		2,861	11,773		14,634
Waste		6,085	732		6,817
Total	**237,711**	**11,196**	**14,477**	**4,852**	**268,487**

Illinois GHG Emissions –Reduction Goals (*2020 emissions projections compared to 1990 levels)*

ICFI projects that Illinois GHG emissions will grow to 312 million metric tons of CO_2 equivalents* (Mt CO_2e) by 2020 under the business as usual scenario. In order to meet the Governor's goal of reducing greenhouse gas emissions to 1990 levels (231 Mt CO_2e) by 2020, emissions in 2020 would need to be 81 Mt CO_2e less (312 minus 231) than what ICFI projects for the business as usual scenario. Current annual GHG emissions in Illinois are about 276 Mt CO_2e, or 45 Mt CO_2e, above 1990 levels.

<u>The Modeling</u>

The subgroups recommended 24 proposals to be modeled, including a market-based "cap and trade" strategy to control emissions from fossil fuel power plants and relatively large commercial and industrial sources of GHG emissions.

With input from the Modeling Subgroup, ICFI developed a forecast of emissions and economic trends under

Four policy scenarios were modeled during the ICCAG process using the ENERGY 2020 and REMI models to assess how close each scenario came to meeting the 2020 emissions reduction goal, and to assess the economic impacts of each scenario. These policy scenarios included:

#1: all 24 policies *except* cap and trade
#2: all policies *including* cap and trade
#3: all policies *including* cap and trade *with* a link to the Northeast states' Regional Greenhouse Gas Initiative (RGGI)—a regional cap and trade program.
#4: An additional model 'sensitivity' run on #2 above was performed that assumes higher oil and gas prices (i.e., higher than those suggested by national government agencies).

Preliminary modeling results for the policy scenarios indicated that Scenarios 2, 3 and 4 would meet the Governor's 2020 GHG reduction goal, and Scenario 1 would not. Compared to the Reference Case with no new policies to address climate change, the modeling found that all four scenarios would increase employment and gross state product while decreasing electricity costs. Reference Case: Growth in Illinois electricity sales is projected to be robust as the state's economy and population expand. In addition, electric generation is expected to increase as well with a modest amount of growth in coal generation as aging plants are retired and substantial growth in generation from natural gas. Nuclear generation remains static in the reference case with no new plants or shutdowns expected through 2020 (though IL's plants are scheduled for decommissioning after 2020)

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.

STRATEGIES SUPPORTED by ICCAG MEMBERS

Strategies Supported by ICCAG Members with No Dissent: Power and Energy Subgroup

1) Enhanced energy efficiency programs

Calls for both gas and electric utilities in Illinois to achieve incremental annual energy savings of 2 percent (double that of the currently enacted requirement) with no cap on spending. The requirement would be phased in beginning in 2008 at 0.2 percent increasing by 0.2 – 0.4 percent per year until the 2 percent goal is reached in 2016. The requirement would then remain at 2 percent from 2016 onward.

2) Implement energy conservation and efficiency programs for existing state facilities

Adopts a goal of a 20% reduction in energy use from existing state facilities by 2020, through a combination of the state's capital program and energy performance contracts of 10-20 years in length.

3) Phase-in of energy efficiency standards for light bulbs

Establishes regulations that prohibit the sale of lamps that fail to meet specific efficiency standards to apply starting in 2012, with stricter standards for years 2016 and 2020.

4) Adopt rules, legislation and incentives for small renewable distributed generation

Encourages adoption of small-scale renewable distributed generation (DG) by implementing a menu of policies, including setting a binding goal for percentage of power that should come from small renewables by 2020 (1% to 2% of sales).

5) Adopt energy efficiency standards for appliances and equipment

To be implemented in 2008, creates mandatory efficiency standards for appliances not covered by federal rules and increase the standards for other appliances such as: DVD players, bottle-type water dispensers, liquid-immersed distribution transformers, lamp fixtures, walk-in refrigerators and hot tubs. petitioning the U.S. Department of Energy for a waiver from federal preemption to enable stricter standards for commercial boilers, pool heaters, and residential furnaces and boilers, covered by federal standards.

6) Establish residential and commercial energy efficiency construction codes beyond International Code Council model standards. Includes government buildings

To be implemented in 2010, would create mandatory residential, commercial and state building energy codes for new construction. The residential code will be equivalent to the current Energy Star Homes standard, a 15% reduction from the International Energy Conservation Code, and the commercial code will be capable of reducing energy consumption by 25% from the current code.

7) Adopt a renewable portfolio standard (RPS)

Implements the Illinois Power Agency Act, requiring the Agency to procure a portion of the electricity it purchases for utilities from renewable energy sources like wind, solar, and landfill gas. The RPS ramps up from 3% of retail sales in 2008 to 25% in 2025, only for the 'non competitive" (residential and small commercial) customer class sectors. This strategy would expand the RPS to all customer class segments.

Strategies Supported by ICCAG Members with No Dissent: Transportation Subgroup

8) Adopt a Low Carbon Fuel Standard

To be implemented January 1, 2010, would create a Low Carbon Fuel Standard based on California's proposal, requiring a 10% reduction in the carbon content of all passenger vehicle fuels, measured on a lifecycle basis, thereby including the C02 emitted during both consumption and production of the fuels.

9) Implement incentives for fuel efficient vehicles

Create financial incentives to encourage the purchase of more fuel-efficient vehicles. The annual registration fee for vehicles weighing between 6001 and 8000 pounds would increase by $50, with possible exclusions for work vehicles such as farm trucks.

The revenue from these fees would be used to provide a $750 rebate for the purchase of the most fuel- efficient vehicles available. Eligible vehicles would have a USEPA average fuel efficiency rating of at least 35 mpg or would use advanced technologies (e.g., hybrid electric) that increase fuel economy by at least 30% compared to the comparable internal combustion engine model.

10) Improve passenger and freight rail service and infrastructure

Fully fund and implement both passenger rail upgrades and service restoration throughout the state and the CREATE freight rail improvement program including: allowing for 110mph high speed rail service between Chicago and St. Louis, and restoring service from Chicago to Rockford, the Quad Cities, Decatur, and Peoria.

The Chicago Region Environmental and Transportation Efficiency Program (CREATE) would: add 25 new roadway overpasses or underpasses at locations where auto and pedestrian traffic currently crosses railroad tracks at grade level, add 6 new rail overpasses or underpasses to separate passenger and freight train tracks, create viaduct improvements, increase grade crossing safety enhancements and upgrade tracks, switches and signal systems extensively.

11) Impose fuel efficiency and/or low carbon fuel requirements for government vehicles

Apply the requirement that the state purchase hybrid vehicles and flex fuel vehicles that can operate on 85 percent ethanol unless it is not feasible to local government vehicles as well.

12) Implement smart growth initiatives and expand mass transit

Expand mass transit in Northeastern Illinois and in urban centers across the state and implement planning policies to facilitate smart growth and restrain urban sprawl. In addition, new transit projects currently proposed or in the design phase would be fully implemented by 2020, including, for example: the CTA Circle Line, expansion of existing Red, Orange and Yellow CTA lines, construction of the Suburban STAR Line, extension of several Metra commuter rail lines, and construction of two Bus Rapid Transit lines in the PACE transit network.

The policy would also implement a state development impact fee that would be limited to certain fast growing areas, mandate a limit on the installation of impervious surfaces in certain fast growing areas, use the revenue from the development impact fee along with 1 percent of the Hotel Operators Tax to fully fund and expand the existing (but currently unfunded) Illinois Local Planning Fund.

Strategies Supported by ICCAG Members with No Dissent: Commercial, Industrial and Agriculture Subgroup

13) Increase traditional recycling diversion rate and stimulate demand for recycled materials

Mandate an increase in the municipal recycling diversion goal from 25% to 50%. In addition it is recommended that the Governor also significantly increase market development incentives to encourage recycled-feedstock paper producers to locate in Illinois to stimulate new industrial economic activity in the state.

14) Encourage or require reductions in emissions of high global warming potential (GWP) gases

Require:

- A 40% overall reduction in high GWP gases between 2010 and 2020.
- Mandatory reporting for stationary sources of high GWP gases beginning January 2009.
- Emissions limits for new and existing large stationary sources beginning 2010.
- Affected sources to show reasonable progress by January 1, 2014 and every two years thereafter.
- Adopting state laws, where necessary, to limit commercial releases of high GWP gases.

15) Require land-use offsets requirements for large changes in land-use

Create a 1.5 to 1.0 acre "land use offset" requirement, where developers/owners would be required to replace land with high carbon stocks (e.g. forests) that is lost with a comparable high carbon land use elsewhere, for development above a threshold size (e.g., 10 acres) and meeting other conditions (to be determined at a later date).

16) Provide incentives for methane capture from coal mines, landfills, livestock operations and wastewater treatment plants.

Provide financial incentives in the form of project rebates and/or grants to the owners of projects that capture and combust methane from wastewater treatment plants and livestock operations (through anaerobic digestion), coal mines and landfills, to be implemented in 2009, with the first projects qualifying in 2010, and projects completed, ultimately covering 50% of methane emissions in these sectors between 2011 and 2020.

17) Expand use of no-till farming

Provide additional financial incentives for farmers to use Continuous no-till (CNT) farming, which sequesters carbon in the soil and therefore reduces atmospheric CO2 levels, to be implemented starting in 2009.

18) Expand programs to encourage forest management, reforestation, tree- and grass-planting

Have the state of Illinois plant an additional 24 million trees between 2009 and 2020 by increasing the size of the Governor's recently announced state tree planting program.

19) Energy efficiency incentives, assistance and/or standards for commercial/industrial generators and boilers

Create mandatory commercial and industrial boiler efficiency standards for new installations with financial incentives made available for efficiency upgrades at existing facilities. All new boilers sold in Illinois would be required to meet these standards. Existing boilers would be unaffected.

Strategies Supported by a Supermajority (at least 67%) of ICCAG Members

20) State-level cap and trade program

In favor: 21 --- Opposed: 10 --- Abstaining: 3

Cap emissions from fossil fuel power plants and relatively large commercial and industrial sources of GHG emissions through a market-based cap and trade program, that would initially limit (cap) the total pool of emissions to a set amount that shrinks over time. Sources that stay below their allotted emissions can sell emissions "allowances" to sources that exceed their allowable limits. In addition, capped sources could buy "offset" credits (created by entities not covered by a cap when they implement projects that reduce GHG emissions, e,g., planting trees or capturing methane for energy use at a livestock facility) on a limited basis to help them comply. Emissions would be capped beginning in 2012 and reduced to 1990 levels by 2020.

The ICCAG's approved cap and trade strategy includes a preference for linking with other states, and in particular Midwest states, because it would create a more efficient, less costly program and would minimize the extent to which emissions "leak" from Illinois to other states rather than being eliminated. Although Scenario #3 (described above) assumed a link to RGGI, rather than another cap and trade program, this is because it is the only cap and trade program in the U.S. that is completed and can be modeled. Thus, the ICCAG is not explicitly recommending a link to RGGI.

The ICFI modeling indicates that the cap and trade program would generate the most GHG reductions of the 24 recommended strategies, by far, and that **the Governor's goal cannot realistically be met without it**. It was also the most complex and controversial approved strategy.

> ***Recommended Design Elements****:*
> **a) Stringency:**
> Covered emissions would be reduced to their 1990 levels (72.6 million metric tons from covered sources in the Industrial, Commercial and Electric Generation sectors) by 2020. To insure the Governor's reduction goals are met, there would be no cap on the price of allowances.
>
> **b) Schedule**:
> In 2012, emissions would be capped at 2011 levels and then reduced gradually to meet the 1990 level goal in 2020.
>
> **c) Covered sources**:
> Existing and new point-source, direct emitters of CO2, specifically fossil fuel fired electric generation units with a nameplate capacity of 25MW or higher or emit 25,000 metric tons of CO2 or more annually; as well as stationary fossil fuel fired combustion units that emit 25,000 metric tons of CO2 or more annually would be covered at the start of the program. Other sectors, smaller sources within covered sectors and GHGs other than CO2 may be included over time if technically feasible to make the market more

robust and efficient while also potentially achieving greater emission reductions at least cost.

d) Recognition of early action:
Covered sources that have achieved GHG reductions within a certain period of time prior to implementation of the program would be rewarded for their actions, with reductions confirmed through verification of a source's own inventory or through registration of emission reductions in a recognized GHG reporting program. The Model assumed: Early action credits for reductions achieved from 2007-2011.

e) Linkages with other programs outside of Illinois:
The preference is for an independent cap and trade program (e.g. not joining RGGI or the emerging Western states programs) that will still be linked to other emissions markets. Efforts would be made early in the design process to harmonize an Illinois program with existing and emerging state and international systems. Linkages or regional market development would be explored with Midwest states in particular.

Model assumed: The All-In with cap and trade modeling run will not include linkages to other states. Allowances can flow between Illinois and RGGI states but from Illinois and the RGGI states to the EU.

f) Distribution of allowances:
To minimize overall costs to the state economy, consumers, industry and workers, at least 85 percent of all allowances would be auctioned. All auction revenue generated would be recycled and directed to purposes that benefit the public, such as efficiency incentives for appliances, buildings and industrial facilities; renewable energy deployment, the deployment of commercial applications of carbon capture and storage technology, financial and professional assistance for potentially displaced workers, and energy assistance to low income households.

Note: The strategy does not discuss the design elements of the auction process. Under an auction, it is expected that the state would sell groups of allowances in predetermined amounts (e.g., 100 tons) **for a given year** to the highest bidders. The total pool of allowances available for auction would shrink each year. The auction could be designed to auction allowances one year at a time or for multiple years at each auction, e.g., an auction held in 2010 could include allowances only for 2011 or for 2011-2013. Those bidding on allowances would likely include companies subject to an emissions cap, but the bidding could be open to others as well that meet certain qualifications. In addition to the auction, owners of allowances would be able to buy and sell allowances in a secondary market that would function separately from the auction.

Model assumes: Revenue from the auction of allowances flows into general state revenues so as not to interfere with the emissions reductions of other policies in the modeling scenarios.

g) Offsets:
Regulated sources could use credits generated from offset projects in unregulated sectors to help meet up to 10 percent of their compliance requirements in any given year. Eligible offsets include only GHG reductions that are real, permanent, additional and verifiable; and those generated in Illinois are preferred.

h) "Emissions leakage:"
Emissions leakage (the shifting of electricity generation and associated GHG emissions out of state to avoid emissions caps and related costs) is likely to occur to some degree due to this program. Informed by the modeling results and recommendations of a subsequent stakeholder process, steps would be taken to minimize emissions leakage during program design and implementation.

Summary of ICCAG Member Comments on Policy 20:
Many comments were made about this proposal. To review the comments in detail, see the complete record of written comments in Volume 2 of the Appendices.

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.

ICCAG members voting for the cap and trade proposal argued the modeling results demonstrate that the Governor's goal cannot be met without a cap and trade program, energy costs go down and economic impacts are positive under the scenarios with cap and trade, federal action is more likely if states – including Illinois - take action first, the economic and health impacts of not reducing GHG emissions will be substantial and outweigh any negative economic impacts, and emissions "leakage" can and should be minimized.

21) Require GHG Emissions Standards for Cars

In favor: 20 --- Opposed: 8 --- Abstaining: 5

The federal Clean Air Act allows states to adopt ("opt-into") the California vehicle emissions standards, which apply to passenger vehicles only and are more stringent than the federal standards. If a state does not adopt California's standards, vehicle manufacturers and others are subject to the federal emissions standards established by the USEPA. Eleven other states have adopted the California standards: Connecticut, Maine, Maryland, Massachusetts, New Jersey, New York, Oregon, Pennsylvania, Rhode Island, Vermont and Washington.

States that adopt the California vehicle emissions standards must wait at least two model years before requiring the sale of California-certified cars. If the California standards were adopted in

Illinois before January 1, 2008, the first model year that could be affected is most likely 2011, which would probably be calendar year 2010.

Summary of ICCAG Member Comments on Policy 21:
Many comments were made about this proposal. To review the comments in detail, see the complete record of written comments in Volume 2 of the Appendices.

In brief, ICCAG members who voted against this strategy said the standards would impose excessive costs on consumers, hurt domestic car manufacturers and their employees, including some auto manufacturing facilities within Illinois, and exacerbate the inefficient bifurcation of states with California vs. federal vehicle standards. They also indicated that car manufacturers could not meet the standards without compromising safety, the standards are actually fuel economy standards not emissions standards and are therefore illegal, and that they support national legislation to increase fuel economy standards.

ICCAG members voting for this strategy argue it would save car buyers significant amounts of money, generate the most GHG reductions of any transportation strategy, substantially reduce gasoline consumption in Illinois, increase the state's energy independence, and enhance the state's economy by keeping money in-state that would otherwise go to out-of-state or international oil companies. They also said the standards are legal and can be met by auto manufacturers, and that Illinois should approve the program now because it will take years to implement.

22) 20% carbon offset requirement for new fossil fuel power plants

In favor: 19 --- Opposed: 8 --- Abstaining: 3

Too be implemented January 1, 2010, and based on a similar policy in place in Oregon and Washington State, would require that new and expanding fossil fuel power plants offset 20 percent of their carbon dioxide emissions, by purchasing offsets from an organization approved by IEPA or designing and implementing an offset plan approved by IEPA.

Summary of ICCAG Member Comments on Policy 22:
Complete written comments can be found in Volume 2 of the Appendices.

ICCAG members in opposition to this strategy and those who abstained were largely the same members who were in opposition to the cap and trade recommendation and for similar reasons. Opponents felt that this policy would unfairly impede the construction and expansion of fossil fuel power plants in Illinois and cause disadvantages compared to competitors in other states. Some said cap and trade would control emissions from new power plants and that it did not make sense to require both policies.

ICCAG members in favor of this strategy argue that it would at least partially offset the additional GHG emissions from new and expanded fossil fuel power plants that will make it more difficult to meet the Governor's goal. Some said the offset requirement should be more stringent.

23) Adopt a carbon capture and storage portfolio standard

In favor: 20 --- Opposed: 8 --- Abstaining: 2

Would provide incentives to encourage the development of carbon capture at new fossil fuel power plants in Illinois as well as ensure that developers have a market for the electricity from these plants. Much like a renewable portfolio standard, this strategy would require Illinois electric utilities and alternative retail electric suppliers (ARES) to purchase up to 5% of their peak electric load from power plants that sequester carbon, once this technology is commercially available. Carbon capture and storage (CCS) technologies, however, are not expected to be available until at least 2015.

Summary of ICCAG Member Comments on Policy 23:
Complete written comments can be found in Volume 2 of the Appendices.

Opposition to this strategy largely revolved around the uncertainty as to the availability and cost of CCS technology. Opponents felt they could not support a strategy that did not also include a roadmap for deployment of this technology and funding for the additional costs. They felt that this strategy was not complete without more certainty that CCS technology will be commercially deployed within the next 15 to 20 years.

Those in favor of this strategy felt that it would help accelerate the deployment of CCS technologies in Illinois, that the future of coal largely depends on replacing the aging fleet of power plants with more efficient plants equipped with CCS, that plants using CCS are likely to use Illinois coal, and that the state can be a leader in clean coal power generation while meeting the Governor's goal.

24) CO2 emission performance standards for electricity generation and purchased electricity (new generation only).

In favor: 20 --- Opposed: 8 --- Abstaining: 2

New fossil fuel power plants in Illinois would be required to meet an emissions standard for CO2. Similarly, when utilities/load serving entities (LSEs) buy electricity from new power plants, those plants must also meet this standard.

The policy would apply to all new electric generation units built in Illinois that begin operation no less than 2 years after approval of the standard, which have a nameplate capacity of 25MW or greater and are intended to generate electricity at a unit capacity factor of at least 60%. Beginning on December 31, 2015, these plants and all subsequently built plants must meet a CO2 emissions rate standard of 1,100 lbs CO2/MWH, equal to that of a typical new natural gas combined cycle power plant. The stringency could be increased over time.

Summary of ICCAG Member Comments on Policy 24:
Complete written comments can be found in Volume 2 of the Appendices.

Opponents of this strategy felt that such an emissions standard would eliminate conventional coal as an option for new power generation in the state. This could increase the cost of electricity in the long term and could cause emissions leakage as new coal plants would instead be built in neighboring states. They also felt that the standard in general was too stringent and the limits on out of state generation may be too technically difficult to enforce and could interfere with interstate commerce.

Supporters of the strategy felt that the emissions standard would help prevent the lock-in of new carbon-intensive generation over the medium to long term, and they noted that Illinois already produces 28% more electricity than is used in-state. In addition, the constraints on purchased power could help prevent emissions leakage as it would even the playing field between in state and out of state generation. In the same way, the standard for purchased power could potentially mitigate leakage due to a cap and trade program.

Table 13. Nineteen Strategies Supported by ICCAG Members with No Dissent (and at least One Abstention at the July 10th Meeting)

Brief Description of Strategy	Subgroup
Implement smart growth initiatives and expansion of mass transit	Transport
Incentives for fuel efficient vehicles	Transport
Low-carbon fuels standard	Transport
Fuel efficiency and/or low carbon fuel requirements for all government vehicles	Transport
Passenger and freight rail upgrades	Transport
Small renewable distributed generation: rules, legislation, incentives	Power/Energy
Energy efficiency standards for appliances and equipment	Power/Energy
Establish residential and commercial energy efficiency construction codes beyond international standards; includes government buildings.	Power/Energy
Phase-in of energy efficiency standards for light bulbs	Power/Energy
Energy conservation and efficiency programs for existing state facilities	Power/Energy
Enhanced renewable portfolio standard of 25% by 2025	Power/Energy
Enhanced energy efficiency: 2% demand reduction by 2015. No revenue cap.	Power/Energy
Programs to encourage forest management, reforestation, tree- and grass-planting	Commercial, Industrial, Agriculture (CIA)
Energy efficiency incentives, assistance and standards for commercial/industrial generators and boilers	CIA
Expand use of no-till farming	CIA
Encourage methane capture from coal mines, landfills, livestock farms and wastewater treatment plants.	CIA
Increase traditional recycling diversion rate with municipal goals and by stimulating demand for recycled materials	CIA
Land use development offset requirement	CIA
Encourage or require reductions in emissions of high GWP gases (N2O, HFCs, PFCs, SF6)	CIA

Table 14. Five Strategies Supported by a Majority of Voting ICCAG Members (w/8 to 10 Members Dissenting & Several Abstaining at the September 6th Meeting)

Brief Description of Strategy	Subgroup
GHG emissions standards for automobiles	Transport
CO2 emissions performance standards for electricity generation or purchases electricity (new generation only)	Power/Energy
Carbon capture & storage (from the outset) portfolio standard of 5%. Utilities must buy if available.	Power/Energy
20% carbon offset requirements for new fossil fuel power plants	Cap and Trade
Cap-and-trade program for power generators and relatively large industrial sources; preference to link with other states	Cap and Trade