



STATE OF IOWA

CHESTER J. CULVER, GOVERNOR
PATTY JUDGE, LT. GOVERNOR

DEPARTMENT OF NATURAL RESOURCES
RICHARD A. LEOPOLD, DIRECTOR

August 27, 2009

Ms. Amy Christensen
Mr. Jeff Kaman
Inquiry Managers
Iowa Utilities Board
350 Maple Street
Des Moines, Iowa 50319

RE: Notice of Inquiry Regarding the American Clean Energy and Security Act of 2009
Docket No. NOI-2009-0002

Dear Inquiry Managers:

The Iowa Department of Natural Resources appreciates this opportunity to comment on the Iowa Utilities Board's Notice of Inquiry regarding the American Clean Energy and Security Act of 2009 (ACES). The majority of the Department's comments are on Title VII – Global Warming Pollution Program and Title VIII – Additional Greenhouse Gas Standards of the Act; however, the Department is also supportive of the clean energy, energy efficiency, and other titles of the Act.

A comprehensive climate bill that reduces U.S. greenhouse gas emissions while creating demand for new, low-carbon energy sources will create an economic environment that Iowa is uniquely positioned to take advantage of. This bill is not only crucial for Iowans in mitigating the worst effects of global warming, but it will allow us to become leaders in the new green economy.

Questions on this document may be directed to Aaron Brees (Aaron.Brees@dnr.iowa.gov or 515-281-5965) or Marnie Stein (Marnie.Stein@dnr.iowa.gov or 515-281-8468) of my staff.

Sincerely,

A handwritten signature in black ink, appearing to read "Richard A. Leopold".

Richard A. Leopold
Director

DNR Response to IUB Docket No. NOI-2009-0002

Q1a. Do you support a declining cap on greenhouse gas emissions?

The Department of Natural Resources (DNR) supports a declining cap on greenhouse gas emissions in addition to other greenhouse gas mitigation policies. Unmitigated, the global CO₂ concentration will continue to climb, negatively impacting Americans and Iowans.

Iowans are already experiencing and will continue to experience environmental impacts from climate change such as more frequent and intense rain events, more variable temperature, more freeze-thaw cycles, a longer frost-free period, higher humidity, and fewer cold extremes in winter.¹ The United States Climate Change Program's 2008 report, *Weather and Climate Extremes in a Changing Climate*, reports that “[o]ne of the clearest trends in the United States observational record is an increasing frequency and intensity of heavy precipitation events ... Over the last century there was a 50% increase in the frequency of days with precipitation over 101.6 mm (four inches) in the upper Midwestern U.S.; this trend is statistically significant.”²

The U.S. Global Change Research Program's (USGCRP) 2009 Report, *Global Climate Change Impacts in the United States*, finds the average U.S. temperature is predicted to increase 4 – 6.5 °F under its lower emissions scenario and 7 – 11 °F under its higher emissions scenario by the end of the century.³ Climate change will affect the Midwest specifically in the following ways:

1. “During the summer, public health and quality of life, especially in cities, will be negatively affected by increasing heat waves, reduced air quality, and insect and waterborne diseases. In winter, warming will have mixed impacts.
2. Significant reductions in Great Lakes water levels, which are projected under higher emissions scenarios, lead to impacts on shipping, infrastructure, beaches, and ecosystems.
3. The likely increase in precipitation in winter and spring, more heavy downpours, and greater evaporation in summer would lead to more periods of both floods and water deficits.
4. While the longer growing season provides the potential for increased crop yields, increases in heat waves, floods, droughts, insects and weeds will present increasing challenges to managing crops, livestock, and forests.
5. Native species are very likely to face increasing threats from rapidly changing climate conditions, pests, diseases, and invasive species moving in from warmer regions.”⁴

¹ Dr. Eugene Takle, *Climate Science and Assessment of Climate Change for Iowa*, (presentation at the Iowa Climate Change Briefing and Discussion) (February 16, 2009).

² Kenneth E. Kunkel et al., *Weather and Climate Extremes in a Changing Climate. Regions of Focus: North America, Hawaii, Caribbean, and U.S. Pacific Islands*.47 (Thomas R. Karl et al. (eds.). A Report by the U.S. Climate Change Science Program and the Subcommittee on Global Change Research, Washington, DC) (2008).

³ *Global Climate Change Impacts in the United States* 29 (Thomas R. Karl, Jerry M. Melillo, & Thomas C. Peterson eds., Cambridge University Press) (2009).

⁴ *Id.* at 117–122.

Q1b. Please explain your view of the greenhouse gas emissions limits in the bill, with particular attention to the amounts of the limits and the required dates of compliance for Iowa utilities.

The goals of Title III of the American Clean Energy and Security Act of 2009 (ACES), also known as the Safe Climate Act, are to limit U.S. greenhouse gas emissions at 97% of 2005 levels by 2012 (3% reduction), 80% of 2005 levels by 2020 (20% reduction), 58% of 2005 levels by 2030 (42% reduction), and 17% for 2005 levels by 2050 (83% reduction).⁵

The limits for capped sources are identical to the U.S. greenhouse gas reduction goals except that the 20% reduction by 2020 was weakened during committee mark-up to a 17% reduction.⁶

The DNR supports the current limits and compliance dates in the bill. The DNR would support even stronger limits, but realizes that the current limits are a workable compromise necessary for passage of the bill.

On August 6, 2009, William J. Fehrman, President of MidAmerican Energy Company (MEC), testified before the Senate Environment and Public Works Committee that MEC is capable of achieving all targets in the bill. He said, “We [MEC] absolutely agree that we can reduce CO₂. In fact, we absolutely agree that we can reduce it in a manner similar to what is in Waxman-Markey.”⁷ The DNR defers to the expertise of Mr. Fehrman, and other utility leadership, on the issue of their ability to comply with the bill’s emissions limits.

Q2. The bill allocates allowances to “local electric distribution companies (LDC), whose rates are regulated by states, to protect consumers from electricity price increases.” Some public discussion suggests that electric local distribution companies will initially receive 90 percent of allowances required to cover their emissions.

The DNR believes that the introductory statement to this question is misleading. The uncited reference to “[s]ome public discussion” which “suggests that electric distribution companies will initially receive 90 percent of allowances required to cover their emissions”, creates an expectation that is unwarranted and frames the question in an inappropriate manner. A public statement of verifiable origin, issued by Representatives Waxman and Markey on May 14, 2009, can be found on the House Committee on Energy and Commerce website.⁸ It states:

“The electricity *sector* will receive 35% of the allowances, representing 90% of current utility emissions. Local electric distribution companies, whose rates are regulated by the states, will receive 30% of the allowances, which they must use to protect consumers from electricity price increases.” (emphasis added)

⁵ American Clean Energy and Security Act of 2009, H.R. 2454, 111th Cong. § 702 (2009).

⁶ *Id.* § 703.

⁷ *Climate Change and Ensuring that America Leads the Clean Energy Transformation*, 111th Cong. (2009) (testimony of William J. Fehrman, President, MidAmerican Energy Co., Senate Env’t and Public Works Comm.).

⁸ Chairman Henry A. Waxman & Chairman Edward J. Markey, *Proposed Allowance Allocation* (May 14, 2009).

The DNR is not aware of any representation that any individual LDC should expect to receive 90% of the allowances needed to cover its emissions. In fact, it is undisputed that the percentage of needed allowances that LDCs will receive will vary due to the design of the allowance allocation formula and the nature of an LDC's business.

Q2a. Please describe the anticipated amount of allowances Iowa utilities expect to receive in 2012.

Alliant Energy (Alliant) and MidAmerican Energy Company (MEC) have provided the DNR with estimates of the number of allowances they expect to receive in 2012 and their perceived shortfalls. Generally, the calculation of the number of allowances is straightforward; however the relevance of this number is not.

The bill's allowance allocation formula is used to distribute the approximately 1.7 billion allowances that would be given free to the LDCs. The formula divides this pool equally, then allocates one half based on emissions and the other half based on delivery of electricity to customers.

The emissions half is distributed "...based on the annual average carbon dioxide emissions attributable to generation of electricity delivered at retail by each such company during the base period...".⁹ The base period is 2006-2008 unless the LDC elects to use another qualifying three year period.¹⁰

The delivery half is distributed "...based on each electricity local distribution company's annual average retail electricity deliveries for calendar years 2006 through 2008..."¹¹

Alliant Energy: Alliant has provided the DNR with figures which include its average annual CO₂ emissions and average annual retail sales for the 2006-2008 base period. Using these figures, it appears that Alliant should receive just over 9 million allowances in the initial round of allocations in 2012, which is consistent with the estimate that they have provided to the DNR. Question Q2g is directly relevant to this issue, so this number should be considered both tentative and conservative.

The Alliant allowance estimate is derived from the following equations:

Retail sales	$(15,982,311 \div 3,660,000,000) \times (0.5 \times 1,717,487,454) = 3,749,921$
Retail emissions	$(14,754,579 \div 2,400,000,000) \times (0.5 \times 1,717,487,454) = 5,279,334$
Total	$3,749,921 + 5,279,334 = 9,029,255$

1,717,487,454 = total sector allowance allocation (most recent estimate from MEC)

3,660,000,000 = total sector annual sales (MWH)

2,400,000,000 = total sector annual emissions (metric tons)

15,982,311 = Alliant average annual retail sales (MWH)

14,754,579 = Alliant average annual retail emissions (metric tons)

⁹ American Clean Energy and Security Act of 2009, H.R. 2454, 111th Cong. § 783(b)(2)(A) (2009).

¹⁰ *Id.* § 783(b)(2)(B).

¹¹ *Id.* § 783(b)(3)(A).

MidAmerican Energy Company: MEC has also provided the DNR with figures necessary to estimate its allowance allocation. Using these figures, it appears that MEC should directly receive just over 10.5 million allowances in the initial round of allocations in 2012, which is consistent with the estimate that they have provided to the DNR. Question Q2g is again directly relevant to this issue, so this number should be considered both tentative and conservative. In addition, the number of allowances directly given to MEC is not, in the DNR's opinion, the relevant number for use in calculating the cost of compliance. This opinion is best explained below, in the context of questions Q2b and Q2e.

The MEC allowance estimate is derived using the following equations:

Retail sales	$(20,578,778 \div 3,660,000,000) \times (0.5 \times 1,717,487,454) = 4,828,387$
Retail emissions	$(16,058,170 \div 2,400,000,000) \times (0.5 \times 1,717,487,454) = 5,745,772$
Total	$4,828,387 + 5,745,772 = 10,574,159$

1,717,487,454 = total sector allowance allocation estimate

3,660,000,000 = total sector annual sales (MWH)

2,400,000,000 = total sector annual emissions (metric tons)

20,578,778 = MEC average annual retail sales (MWH)

16,058,170 = MEC average annual retail emissions (metric tons)

Q2b. How do these allowances compare to projected emissions?

Both Alliant and MEC have provided the DNR with their estimates of how many allowances they will need and how many they will receive for free through the initial allocation process. The DNR has attempted to calculate these numbers as well, and the results are close to those provided to us. For the purpose of calculating the shortfall, Alliant uses an estimated 2012 emissions total of 14,577,602 metric tons and MEC uses an emissions total of 21,615,111 metric tons. The DNR does not attempt to independently project either entity's emissions in 2012 or beyond; they are in a better position to make these estimates and their future emissions will depend on their actions to reduce emissions and the success of energy efficiency programs.

Alliant Energy: Alliant projects a 2012 emissions total of 14,577,602 metric tons. Subtracting the estimated allowance allocation of 9,029,255 produces a shortfall of 5,548,347. By this calculation, Alliant will receive approximately 62% of the allowances it needs to cover its emissions in the initial allocation prior to receiving an unknown number of additional allowances as discussed in Q2g.

MidAmerican Energy Company: MEC uses 21,615,111 metric tons as its emissions figure. Subtracting the estimated allowance allocation of 10,574,159 produces a shortfall of 11,040,952. By this calculation, MEC will directly receive approximately 49% of the allowances it needs to cover its total emissions in the initial allocation prior to receiving an unknown number of additional allowances as discussed in Q2g. MEC, in documents provided to the DNR, state agencies, and the Governor's office, and in various media advertisements related to the Waxman-Markey bill, portrays this shortfall as the basis for the cost that must be born by MEC retail customers. The DNR believes that this is an inappropriate method which greatly exaggerates the costs that can be fairly attributed to MEC customers. To understand why this is

the case requires the detailed discussion of the operation of the allowance formula which the DNR includes in Q2e.

Q2c. How does the number of allowances received change over time in comparison to projected emissions? Please provide projections of the number of allowances received and projected emissions for the years following 2012.

The allowance schedule can be found on p. 725-26 of the final House version of the bill.¹² While the number of allowances will decline on a prescribed schedule, only the utilities can determine how quickly they will reduce their emissions.

Q2d. For years 2012 and following, how will Iowa utilities acquire sufficient allowances or otherwise comply?

The major benefit of a cap-and-trade program is that it allows a utility to determine what method of compliance is the most cost effective and appropriate for its individual situation. It is widely acknowledged that such a system produces the desired results at a lower cost than traditional command-and-control government regulation. This is why many utilities support Waxman-Markey, recognizing that the likely alternative is direct regulation of CO₂ by the Environmental Protection Agency.

The Waxman-Markey bill provides multiple ways in which a utility can acquire allowances or otherwise comply. First, a utility is given a substantial percentage of its needed allowances for free. Any remaining need can be filled by purchasing additional allowances or by purchasing domestic or international offsets. Finally, a utility can comply by reducing its emissions and thereby reduce its need for allowances, which is of course the intended result of the bill.

Q2e. If a utility is significantly short of allowances, please describe the estimated costs and any penalties. For the years 2012 and following, if possible, please explain these costs on a per metric ton of CO₂ and per kWh basis and provide estimated impacts on rates for Iowa customers by customer class.

Any analysis of compliance costs must begin with a discussion of the allowance allocation formula. It is critically important to note that, because the value of the allowances is intended to protect the electricity customer (the end user) as opposed to the electricity generator, all allowances are distributed based on the emissions and delivery at *retail*. “Retail” sales in this context mean the sale of the electricity directly to the end user. Whoever sells the electricity to the end user receives the allowance regardless of who generated the electricity and its associated emissions. This means that only when electricity is sold directly to a customer (=retail) by the LDC that generated it, does that LDC receive the allowances directly.

It is often the case that the generator of the electricity sells it on the wholesale market to another LDC, which then sells the electricity to its customers. When electricity is sold in this fashion (=wholesale), the allowances are given to the LDC middleman because it is best positioned to

¹² American Clean Energy and Security Act of 2009, H.R. 2454, 111th Cong. § 721(e)(1) (2009).

distribute the allowance value for the benefit of the end user customer. The LDC that generated the electricity and sold it wholesale does not receive allowances, yet it is responsible for the emissions produced by generating the electricity. This LDC must purchase allowances or offsets to cover these wholesale emissions. Just as the value of the allowances follows the electricity to the end user, so must the generator LDC's cost of purchasing these allowances. The generator LDC must pass on the cost of purchasing allowances to the middleman LDC by increasing the sale price of the electricity. The middleman LDC must pass the increased cost of purchasing the electricity along to the end user customer in the form of higher rates. Because the generator LDC is buying allowances on the same market and at the same time that the middleman LDC is selling them, the price for all of these allowances should be about the same. In this scenario, the generator LDC can potentially recover 100% of its cost from the middleman LDC, the middleman LDC can recover 100% of its cost from its customers, and the end user customer will pay the difference between the number of allowances the generator LDC needed and the number of allowances the middleman LDC received free. These numbers will not be equal because the middleman LDC won't receive enough free allowances through the allowance formula to completely cover the needs of the generator LDC. The end result is that the electricity is sold at its original price plus the cost of the associated allowances, but this higher price is passed down and offset in part on the end users' bills by the value of the free allowances which were given to the LDC that is billing them.

The relevance of this is that MEC sells electricity both at retail and wholesale. Because the allowance allocation formula treats these sales differently, they must be treated differently by anyone trying to determine the cost to MEC and its retail customers. The DNR has attempted to calculate the value of all allowances that are distributed based on electricity produced by MEC using numbers provided to us by MEC.

MEC Retail Electricity (allowances given to MEC) – this is the same total as in Q2a.

Retail sales	$(20,578,778 \div 3,660,000,000) \times (0.5 \times 1,717,487,454) = 4,828,387$
Retail emissions	$(16,058,170 \div 2,400,000,000) \times (0.5 \times 1,717,487,454) = 5,745,772$
Total	$4,828,387 + 5,745,772 = \mathbf{10,574,159}$

MEC Wholesale Electricity (allowances given to other LDCs)

Wholesale Delivery	$(12,979,796 \div 3,660,000,000) \times (0.5 \times 1,717,487,454) = 3,045,442$
Wholesale Emissions	$(5,556,941 \div 2,400,000,000) \times (0.5 \times 1,717,487,454) = 1,988,328$
Total	$3,045,442 + 1,988,328 = \mathbf{5,033,770}$

MEC Retail and Wholesale Electricity Combined

Total	$10,574,159 + 5,033,770 = \mathbf{15,607,929}$
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The above calculations show three different totals: retail allowances, wholesale allowances, and total allowances. In its cost calculations, MEC considers the retail total to be its total allocation. The DNR believes that the appropriate number for estimating costs is the combined retail/wholesale total. This difference in methods produces significantly different results.

MEC uses its direct (retail) allocation total of 10,574,159 and its total emissions average of 21,615,111 to arrive at a shortfall of 11,040,952. They multiply this figure by their estimated carbon price of \$25 to arrive at a cost estimate of \$276,023,800. They then use this estimated cost as the cost to be born by their retail customers.

The DNR’s objection to MEC’s cost estimate is that it attributes the cost of covering its *wholesale* emissions to its *retail* customers. The DNR believes that the appropriate way to estimate cost is to attribute the cost of retail emissions to retail customers, and the cost of wholesale emissions to wholesale customers. And importantly, this is how the bill intends the allowance distribution system to function. If this were not the case, no allowances could be distributed to the middleman LDCs as they would not have any costs under the bill to account for. (See Q2g) As explained above, MEC is expected to recover the entire cost of covering its wholesale emissions by charging more for this electricity. By recovering the allowance costs for its wholesale electricity sales, MEC receives its retail total of 10,574,159 plus the value of the wholesale total of 5,033,770 for an effective combined total of 15,607,929. This leaves a shortfall of 6,007,182. Using MEC’s carbon price estimate of \$25, the cost estimate for their retail customers would be \$150,179,550. This is a difference of over \$125,000,000.

In addition to this substantial difference, another important variable is carbon price. The DNR does not predict a carbon price; however, in contrast to MEC’s \$25 price, the EPA has estimated an allowance value of \$13 in the year 2015.¹³ A summary of allowance totals and carbon prices is provided below to illustrate a range of estimates.

Summary of Cost Estimates

Allowance Total	Allowance Shortfall	Carbon Price	Cost
10,574,159 (MEC estimate)	11,040,952	\$25 (MEC)	\$276,023,800
10,574,159 (MEC estimate)	11,040,952	\$13 (EPA)	\$143,532,376
15,607,929 (DNR estimate)	6,007,182	\$25 (MEC)	\$150,179,550
15,607,929 (DNR estimate)	6,007,182	\$13 (EPA)	\$78,093,366

A second way of estimating the fair cost to MEC retail customers is to ignore the wholesale sales and emissions and calculate allowances and shortfalls based solely of retail emissions and sales. The DNR estimates MEC’s retail emissions to be 16,058,170 then subtracts their retail allowance allocation of 10,574,159 to arrive at the shortfall:

Retail Allowance Total	Retail Only Shortfall	Carbon Price	Cost
10,574,159	5,484,011	\$25 (MEC)	\$137,100,275
10,574,159	5,484,011	\$13 (EPA)	\$71,292,143

Using MEC’s 2008 retail revenue of \$1,235,427,002, DNR’s low and high end estimates would represent increases of 6% and 12% respectively. MEC’s estimate results in an increase of 22%. A caveat to these numbers is that they do not include additional allowances that will be discussed

¹³ U.S. EPA, *EPA Analysis of the American Clean Energy and Security Act of 2009 H.R. 2454 in the 111th Congress* 14 (2009).

in Q2g, and they do not reflect allowances distributed for the benefit of low income customers which will be discussed at the end of this section.

By failing to include the cost of allowances in its wholesale electricity sales, MEC would effectively be selling this electricity at a loss, then making up that loss by raising the rates of its retail customers. The DNR believes that this is not a viable option and that it is unlikely that MEC would propose it or that IUB would approve it. However, this is the logical implication of MEC’s allowance accounting as presented, and it illustrates that MEC’s cost estimates do not properly attribute the various allowance costs.

If MEC cannot recover the cost of wholesale allowances through charging higher prices for its wholesale electricity because the market will not support the new, higher price, then this is in fact the market signal favoring low or no carbon electricity, which is an intended result of the bill. If this wholesale electricity is no longer profitable, the appropriate response would seem to be to stop producing it and its associated emissions in order to reduce compliance costs, or to produce it from a lower carbon source.

The DNR is aware that MEC’s retail customers have benefited from MEC’s profitable wholesale electricity sales through a profit sharing agreement. The DNR also recognizes that if these wholesale profits are decreased or eliminated under this program, there will likely be some effect on retail customers. However, this is not what MEC’s large cost estimates reflect, and this is not the case that they have made in any presentation or advertising of which the DNR is aware. MEC’s attribution of 100% of its wholesale costs to its retail customers cannot be justified and therefore the DNR considers its cost estimates to be inappropriate and greatly inflated.

Alliant’s situation is much simpler owing to its lack of wholesale sales. Alliant should receive approximately 61% of its needed allowances. This shortfall of 5,752,460 results in the following cost estimates:

Allowance Total	Allowance Shortfall	Carbon Price	Cost
9,029,255	5,548,347	\$25 (Alliant)	\$138,708,675
9,029,255	5,548,347	\$13 (EPA)	\$72,128,511

Using Alliant’s 2008 retail revenue of \$1,194,476,629, the above estimates result in increases of approximately 11.5% and 5.5% respectively. The same caveats apply as mentioned above.

As a final consideration, the DNR notes that this question requests estimated impacts on the rates of Iowa customers. While potential rate increases are undoubtedly an important measure of the effect of this bill, a more important consideration for the customer is the net impact of the costs and benefits of the bill. While almost 45% of all allowances are distributed for free for the benefit of electricity consumers, another 15% are distributed for the benefit of low-income consumers. There are a number of provisions which reduce the impact on those least able to deal with increasing energy prices. Details can be found in the bill’s “TITLE XXII—ENERGY REFUND PROGRAM”.¹⁴ The non-partisan Congressional Budget Office has modeled costs to

¹⁴ American Clean Energy and Security Act of 2009, H.R. 2454, 111th Cong. § 2291 (2009).

American households and found that the lowest income quintile will experience a net \$40 benefit, while the average household will have a \$165 cost.¹⁵

Q2f. Does the allowance allocation system in the bill advantage/disadvantage Iowa utilities and customers? Please explain your answer.

In its simplest terms, the allowance allocation system favors those who produce electricity with the least carbon emissions. By dividing the pool in half, those who have invested in low carbon generation, such as wind, are still awarded allowances for that electricity based on retail delivery despite their lack of emissions.

Q2g. The bill includes a paragraph titled “Prohibition Against Excess Distributions.” What does the addition of this provision do with regard to allowances? Will the provision mean that Iowa utilities will receive additional allowances? Please explain you answer.

A primary concern voiced by Iowa utilities has been that the allocation formula, because of its provision distributing half of the allowances based on delivery, would create windfall profits for some utilities by supplying them with allowances when they had few or no emissions to account for. These allowances could then be sold by those utilities, although they would still be required to use them to benefit their customers. Such a situation would certainly benefit some customers over others, including Iowans. In response to this concern, the “Prohibition Against Excess Distributions” language was inserted into the bill. It states that:

“...no electricity local distribution company shall receive a greater quantity of allowances under this subsection than is necessary to offset any increased electricity costs to such company’s retail ratepayers, including increased costs attributable to purchased power costs, due to enactment of this title.”¹⁶

Any excess allowances would be returned to the pool where they would be distributed based solely on emissions.¹⁷

The Background section of the IUB Order states that:

“... Iowa utilities argue that some utilities outside of Iowa are likely to receive allowances in excess of their need.”...“It is not clear that the revision to Section 783, "Prohibition Against Excess Distributions," alleviates the concern because the language in the bill states that allocations are to offset cost increases as opposed to simply capping the allocation at the utility’s emissions need.”

The DNR believes that this statement reflects a fundamental misunderstanding of the nature of the allowance allocation formula. The design of the formula, as discussed in depth in Q2, does not intend to deliver allowances directly to the emitter. It delivers allowances to the LDC that

¹⁵ Congressional Budget Office, *The Estimated Costs to Households From the Cap-and-Trade Provisions of H.R. 2454* 16, (2009).

¹⁶ American Clean Energy and Security Act of 2009, H.R. 2454, 111th Cong. § 783(b)(4) (2009).

¹⁷ *Id.*

sells the electricity to the customer because the customer is who is intended to benefit. An LDC, purchasing wholesale electricity and selling it to its customers, may have zero emissions. That LDC is the intended, and correct, recipient of the allowances. If allowances were capped at emissions need, that LDC would not receive any allowances. The idea of capping allocation at a utility's emissions need is not consistent with the intent or design of the formula. Capping allocation at the utility's electricity costs is the appropriate measure under the current allocation system. The text quoted above does not reveal an unintended flaw or ambiguity in the bill language, but is in fact a utility argument for restructuring the entire allocation process.

This provision will provide additional allowances to Iowa utilities. The DNR has no estimate of how many additional allowances will be provided, and we have not seen any modeled estimates. However, utility officials have repeatedly made the argument that providing allowances based on retail delivery will result in a transfer of wealth from the Midwest to the coasts where electricity is disproportionately generated by low carbon sources such as nuclear and hydroelectric. David Sokol, Chairman of MidAmerican Energy Holdings Company, in his testimony before the Subcommittee on Energy and Environment, provided an example. He noted that Seattle City Light will receive 2.25 million allowances based on its retail sales of 9.5+ million megawatt hours, yet it only has emissions of approximately 77,000 metric tons of CO₂¹⁸. This leaves a windfall of well over 2 million allowances. These are allowances that the "Prohibition Against Excess Distributions" section of the bill will distribute to other utilities who have emissions. Even if some of these allowances go to Seattle City Light for other costs, this is still a substantial number of allowances from just a single LDC. Assuming this situation is as serious and widespread as DNR has been lead to believe, the benefit to Iowans of this provision would seem to be substantial.

Q4b. For years 2012 and following, what are estimates of the cost or value of an allowance and what are the sources of the estimates? What are the underlying assumptions (such as year, nominal or real dollars, assumed inflation rate) for these estimates? Please indicate whether any estimates are more reasonable than others, and the reasons for this belief.

The Congressional Budget Office's (CBO) June 19, 2009 cost analysis estimates that in 2020, the price of one allowance will be \$28. CBO believes this price "accounts for the effects of banking emission allowances as well as the ability of firms to comply with the cap by purchasing domestic and international offset credits".¹⁹

On June 23, 2009, U.S. EPA released its analysis of the bill, which lowered its previous discussion draft estimate of the price of one allowance to \$13 in 2015 and \$16 in 2020 in its core scenario. The price was lowered from EPA's previous analysis because the 2020 cap was lowered from 20% to 17% and because the amount of international offsets allowed was increased.²⁰

¹⁸ *Hearing Before the House Subcommittee on Energy and the Environment*, Committee on Energy and Commerce, 111th Cong. 10 (2009) (statement of David L. Sokol, Chairman, MidAmerican Energy Holdings Company).

¹⁹ Congressional Budget Office, *The Estimated Costs to Households From the Cap-and-Trade Provisions of H.R. 2454* 3 (2009).

²⁰ U.S. EPA, *EPA Analysis of the American Clean Energy and Security Act of 2009 H.R. 2454 in the 111th Congress* 14 (2009).

The DNR is submitting both the CBO and U.S. EPA cost analyses, including their underlying assumptions, to the Iowa Utilities Board to be included in this inquiry docket.

Q9b. Is there an impact by the Waxman-Markey bill on sectors of Iowa’s economy other than electric utilities?

Much of the discussion and media attention on the bill has focused on the impact of the cap and trade program on utilities. However, many other non-utility entities are covered by the cap and trade program and are also required by the bill to comply with new mandatory reporting regulations and standards of performance. In addition, the cap and trade program and offsets program will impact agriculture and forestry sources. Also of note, the bill creates a separate cap and trade program for hydrofluorocarbons (HFCs).

Entities Subject to the Cap

“Covered Entity” is defined in the bill to include sources such as industrial facilities, ethanol plants, natural gas distributors, producers and importers of hydrofluorocarbons (HFCs) or products that contain HFCs, and any facility that produces or imports petroleum, coal-based liquids, or petroleum coke. Many of these sectors become subject to the cap if the affected stationary source emits 25,000 or more tons of carbon dioxide equivalent (CO₂e).²¹

Through its mandatory greenhouse gas emissions reporting program, the DNR has identified more than one hundred Iowa stationary source facilities that would likely fall under the cap because they reported 2007 or 2008 greenhouse gas emissions from stationary fossil fuel combustion exceeding 25,000 tons CO₂e. The DNR does not have enough information to be able to determine how many natural gas distributors and importers of HFCs, petroleum liquids, coal-based liquids, or petroleum coke would fall under the cap.

Mandatory Emissions Reporting

The Bill also requires U.S. EPA to inventory uncapped stationary sources that emit more than 10,000 tons of CO₂e. The DNR has identified at least thirty sources that emit more than 10,000 tons of CO₂e but are not capped because their emissions are less than 25,000 tons CO₂e. The inventory is also required to include emissions from each source category that is responsible for at least ten percent of the uncapped methane emissions in 2005, excluding enteric fermentation.²²

Both the capped sources and uncapped sources subject to the inventory requirements of Section 811, and the capped sources will be required to electronically submit their data quarterly to EPA for a federal greenhouse gas registry.²³

Standards of Performance

U.S. EPA is required to promulgate new performance standards for sources of uncapped greenhouse gas emissions and uncapped methane emissions.²⁴

²¹ American Clean Energy and Security Act of 2009, H.R. 2454, 111th Cong. § 700(13) (2009).

²² *Id.* § 811.

²³ *Id.* § 713.

²⁴ *Id.* § 811.

HFC Cap and Trade

The Bill also regulates a group of extremely potent greenhouse gases called hydrofluorocarbons (HFCs) through a separate cap and trade program. Annual auctions and non-auction sales will be used to distribute allowances. The program reduces HFC consumption to 15% of the baseline by 2032. Offsets credits will be issued for the destruction of chlorofluorocarbons (CFCs).^{25 26}

Agriculture and Forestry

Iowa's agricultural and forestry industries will benefit from the offsets, carbon sequestration, and clean energy provisions of the bill while being exempted from the emissions cap. The bill allows for offsets credits to be used to demonstrate compliance for up to two billion tons of greenhouse gas emissions each year.²⁷ Agricultural and forestry sources will receive credits if they can show that they reduced, sequestered, or avoided greenhouse gas emissions. They can then sell those offset credits to capped sources to demonstrate compliance with their emissions limits. The bill identifies several practices that would qualify for offset credits, including, but not limited to: altered tillage, reduction of nitrogen fertilizer use or increase in nitrogen use efficiency, reduction in emissions due to animal dietary modifications, conservation of grassland and forested land, and improved manure management and disposal.²⁸

Secretary of Agriculture Thomas Vilsack testified before the House Agriculture Committee on June 11, 2009 that "A viable carbon offsets market – one that rewards farmers, ranchers and forest landowners for stewardship activities – has the potential to play a very important role in helping America address climate change while also providing a possible new source of revenue for landowners."²⁹ He went on to say that "Allowing agriculture and forests an efficient mechanism to offset the emissions of regulated companies, if properly designed, will help enable lower overall costs for everyone including those making livings off of the land."³⁰

While the cost of crop production may increase, the United States Department of Agriculture's (USDA) preliminary analysis "...strongly suggests that revenue from agricultural offsets (afforestation, soil carbon, methane reduction, nitrous oxide reductions) rise faster than costs to agriculture from cap and trade legislation. It appears that in the medium to long term, net revenue from offsets will likely overtake net costs from HR 2454, perhaps substantially."³¹ Using EPA data, USDA estimates that from 2012 – 2018, farmers will net approximately \$1-2 billion per year, increasing to \$20 billion annually in 2050.³²

²⁵ Committee on Energy and Commerce, U.S. House of Representatives, *Memorandum from Democratic Staff Regarding Full Committee Business Meeting on May 18 15* (2009).

²⁶ American Clean Energy and Security Act of 2009, H.R. 2454, 111th Cong. § 619 (2009).

²⁷ *Id.* § 722.

²⁸ *Id.* § 503.

²⁹ *Hearing Before the House Agriculture Committee*, 111th Cong. 2 (2009) (statement of Tom Vilsack, Secretary, U.S. Department of Agriculture).

³⁰ *Id.* at 2.

³¹ Office of the Chief Economist, U.S. Dep't of Agriculture, *A Preliminary Analysis of the Effects of HR 2454 on U.S. Agriculture* 11, (2009).

³² *Id.*

Q9c. Are there benefits of the Waxman-Markey bill for Iowa?

Climate change is happening now, and there will be negatives for our state as discussed in the DNR's earlier answers. However, Iowa is uniquely positioned to benefit from climate change and passage of the Waxman-Markey bill.

All Iowans will benefit from reduced greenhouse gas emissions. The CBO cost estimate of the cap and trade program carefully notes that the CBO estimate does not include the "economic benefits and other benefits of the reduction in GHG emissions and the associated slowing of climate change".³³ The cost of unmitigated climate change is further discussed in the DNR's response to Q9d.

Allowances will also be allocated to the States for land grant programs, energy efficiency building code compliance, protecting home heating oil and propane consumers, renewables and efficiency investment, and wildlife and natural resources adaptation.

Wildlife and natural resources adaptation are priorities for the DNR. Changes in climate will have, and are having, direct impacts on our fish and wildlife, their habitats, and our soil and water resources. The National Wildlife Federation states in plainly: "Global Warming is the single biggest threat to wildlife today."³⁴ The Earth has already warmed over 1°F and projections for the United States suggest another 4-6°F increase by 2100, even with successful mitigation efforts on a global scale. Because this increase is substantial, and likely unavoidable at this point, we must institute adaptation strategies to ensure the long term viability and resiliency of our natural resources. The bill creates a Natural Resources Climate Change Adaptation Fund for this purpose.³⁵ The fund provides allowances to fund the implementation of State Natural Resources Adaptation Plans. The DNR estimates that Iowa would receive between \$3-4.5 million in 2012 depending on the price of carbon. Recognizing that adaption efforts will become increasingly vital as the planet warms, the bill increases the number of allowances designated for this fund as the program progresses. The DNR considers this funding crucial to our adaptation efforts and a benefit to all Iowans who value our natural resources.

In addition to reduced greenhouse gas emissions and allocations to the State from this bill, Iowa is leading the way in renewable energy, and passage of this bill will continue to reap benefits for Iowans in the following ways:

The Iowa Power Fund

Through the Iowa Power Fund, Iowa has been proactive in positioning itself at a leader in clean energy technology and jobs. To date, the Fund has committed over \$32.8 million to twenty-three projects.³⁶ Approved projects such Iowa State University's thin film solar cell project will spur economic development in the clean energy sector. The goal of the project is

³³ *Id.* at 2.

³⁴ National Wildlife Federation, Global Warming, <http://www.nwf.org/globalwarming/> (last visited Aug 18, 2009).

³⁵ American Clean Energy and Security Act of 2009, H.R. 2454, 111th Cong. § 480 (2009).

³⁶ Iowa Office of Energy Independence, Power Fund Approved Projects, http://www.energy.iowa.gov/Power_Fund/approved_projects.html (last visited August 24, 2009).

to produce electric power directly from sunlight via thin film solar cells without any fossil fuel consumption.

Wind Generation and Jobs

Iowa is a leader in wind generation. Iowa currently ranks second nationally in wind generation output with over 3,043 megawatts installed. Nine companies are currently manufacturing wind turbines in Iowa, and more than two hundred Iowa companies supply the industry with parts, labor, and technologies, employing more than 2,300 Iowans.³⁷ The growing demand for skilled technicians who can install, maintain, and service modern wind turbines has led Iowa Lakes Community college in Northwestern Iowa to offer both a diploma program and Associate in Applied Science degree in wind technology. The jobs created by this industry are high-paying, technical jobs that must be situated near the wind turbines, so they will stay in Iowa.

Advanced Biofuels

Iowa is already a leader in both soy-based biodiesel and corn-based ethanol, but also has huge sources of biomass such as corn stover, grasses, forest byproducts, etc. that can be used to meet our renewable energy goals. Corn-based ethanol and other biofuels plants can work together to produce new, advanced biofuels that may reduce greenhouse gas emissions.

Green Plains Renewable Energy and Bioprocess Algae LLC plans to mass produce algae to produce biodiesel and a high protein meal product for poultry and swine. The algae will be produced using waste water and carbon dioxide from a corn-based ethanol plant. Project Liberty, in Emmetsburg, will transform a traditional ethanol plant into an integrated corn-to-ethanol and cellulose-to-ethanol plant. The cellulosic ethanol will be produced from corn cobs and fiber from the corn kernel.³⁸ Both the Bioprocess Algae and Project Liberty projects are Iowa Power Fund-approved projects.

Our Universities

Iowa will attract academics and scientists to the state because we are leaders in renewable energy research and funding. In addition to the wind technology program at Iowa Lake Community College, centers at the such as the Iowa Energy Center at Iowa State University, Center for Global and Regional Environmental Research at the University of Iowa, and Center for Energy & Environmental Education at the University of Iowa are conducting innovative energy research and empowering Iowans with the knowledge needed to address climate change.

³⁷ Iowa Office of Energy Independence, Wind, http://www.state.ia.us/government/governor/energy/Renewable_Energy/Wind.html (last visited August 24, 2009).

³⁸ *Id.*

Q9d. Are there any other aspects of the Waxman-Markey bill not covered in the above questions that you think will impact Iowa?

Cost of Unmitigated Climate Change

The above questions do not address the impact to Iowa from unmitigated climate change should federal climate legislation not be passed. That is, they do not address the cost of doing nothing. As discussed in the DNR's answer to Q1a, the impacts from unmitigated climate change on Iowans will be significant.

A 2008 report sponsored by the Natural Resources Defense Council estimates that “if present trends continue, the total cost of global warming will be as high as 3.6 percent of gross domestic product (GDP). Four global warming impacts alone – hurricane damage, real estate losses, energy costs, and water costs – will come with a price tag of 1.8 percent of U.S. GDP, or almost \$1.9 trillion annually (in today's dollars) by 2100”.³⁹

No specific economic impact analysis has been done for Iowa, but Iowa's three Regent universities will soon commence a climate change impacts review as required by Section 473.7, Iowa Code 2009 that will include a cost estimate of climate change impacts on the state. The review, which must be submitted to the Governor by January 1, 2011, will also include a summary of available data on climate change impacts, summary of available data on recent climate conditions in the state, and identification of public policy issues relevant to climate change impacts.

In Summary

A comprehensive climate bill that reduces U.S. greenhouse gas emissions while creating demand for new, low-carbon energy sources will create an economic environment that Iowa is uniquely positioned to take advantage of. This bill is not only crucial for Iowans in mitigating the worst effects of global warming, but it will allow us to become leaders in the new green economy.

³⁹ Frank Ackerman & Elizabeth A. Stanton, *The Cost of Climate Change –What We'll Pay if Global Warming Continues Unchecked* iv (2008).

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