

**Committee on Agriculture  
U.S. House of Representatives  
Biographical Form**

**Name**

Kyle Gracey

**Organization(s) you represent**

SustainUS, Inc.

**Address**

1414 E 59<sup>th</sup> Street #624, Chicago, IL 60637

**Email**

kylegracey@sustainus.org

**If you are responding on behalf of an organization, please list the capacity in which you are representing that organization, including any office or elected position you hold or if you are a volunteer.**

Chair

## Part I: Carbon Reduction Program Design

- 1) Members of Congress have introduced numerous bills to address the wide spectrum of climate change issues. Do you think Congress should enact a program that uses carbon taxes/fees, a cap-and-trade program, or a hybrid of these two approaches? Why?

*Please respond in 600 words or less.*

Most draft legislation introduced in this and the past Congresses defines a cap and trade system. Cap-and-trade is also the program for active emissions reductions programs in other nations and in regional U.S. initiatives, the structure of voluntary emissions reduction programs such as the Chicago Climate Exchange, and is similar to the structure under negotiation at the United Nations for a successor to the Kyoto Protocol. Thus, a cap and trade system could most easily integrate with existing emissions reduction schemes, and allow included sectors of the economy to save money by trading emissions permits with the least-cost emitters. Further, because emissions targets are set directly under a cap-and-trade system, such a program would more easily allow Congress to directly achieve emissions reductions that climate science indicates are necessary to avoid accelerated and increasingly costly climate change. The alternative, a carbon charge or hybrid system, requires setting charges and then adjusting price levels in later years to attempt to achieve the necessary reductions. Simply setting emissions targets would more directly communicate to firms the level of reductions necessary and would potentially achieve reductions faster since the emissions level would be clear. Cap and trade is also likely more politically palatable to consumers, and would likely be similar in complexity of implementing language to a charge.

- 2) Should the agriculture and forestry sectors be covered under a carbon reduction program? Why or why not?

*Please respond in 300 words or less.*

Yes. Globally, agriculture practices account for up to 30 percent of emissions, and 413 trillion grams carbon dioxide-equivalent emissions in the U.S. (by comparison, the Industrial Processes sector contributes 328 trillion grams, according to the Environmental Protection Agency), making agriculture a necessary component of an emissions reduction program. Agriculture also contributes at least 52 percent of global human emissions of methane and nitrous oxide - potent greenhouse gases stronger than carbon dioxide. The use of forestry and agricultural practices to conserve or capture carbon could allow the agricultural and forestry sectors to reduce U.S. emissions by up to 25 percent, depending on the types of forestry- and agriculture-related activities covered under an emissions program. Voluntary programs like the Chicago Climate Exchange already include payments to farmers for soil carbon sequestration in their emissions reductions portfolio, as do carbon offset programs and the Clean Development Mechanism of the Kyoto Protocol. Thus, agriculture plays a role both as a notable source of emissions and as a potential recipient of funds for

projects to reduce emissions. Excluding agriculture and forestry would distribute emissions reduction expectations unequally to other sectors of the economy for their given contribution to emissions, and would make it more challenging for firms to achieve necessary reductions, while also excluding agriculture and forestry from their important role in contributing to emissions decline. Agriculture and forestry are playing an increasing role in the post-Kyoto Protocol negotiations, so the role of these sectors in the U.S. in an emissions reductions program should match international activity, to allow agriculture and forestry to connect to a global trading regime.

- 3) If a cap-and-trade program is chosen, how should emission allowances be distributed? For example, should they be at no cost, auctioned, or a combination of both? How should Congress prioritize the distribution of available allowances? Should allowances for the agricultural and forestry sectors be allocated at no cost, if so, should there be a limit on the number of no-cost allowances?

*Please respond in 600 words or less.*

A substantial portion of the allowances, preferably a majority, ought to be auctioned. Allowances that are freely distributed or subsidized ought to be distributed in such a way as to avoid windfall profits for firms, reward early adopters in energy efficiency technologies to create further incentives for future action, and avoid barriers to future market entrants by providing larger distribution to existing polluters. Allowances given to states may be used to reduce the burden on low-income households, support technology funds and renewable energy and efficiency programs, and to support public transit. Auction revenues may also be used for these causes. The provision of no-cost allowances directly to the private sector should be sharply limited. Auction revenues can be wielded by the national government or states in a more focused way to support market participants unduly impacted by the cap-and-trade system, and can systematically target supporting the transition of certain sectors of the economy to lower-impact methods.

- 4) Should a cap-and-trade program or a carbon tax/fee program be linked to existing or emerging U.S. regional or other carbon reduction programs (i.e. RGGI or individual state programs)? If so, which programs and why?

*Please respond in 600 words or less.*

A hybrid approach, such as that advocated by the World Resources Institute, is best positioned to maximize consistent national practices with minimum expectations, and yet permit policy innovation and more aggressive action at the state level, while supporting efforts by states to engage in targeted support of further reductions. The flexibility of a national cap-and-trade system linked to existing and potential new state and regional systems allows the states to leverage their policy experience with certain kinds of regulation, including energy efficiency, transit development, and land-use planning, while yielding the ability

to meet national standards in a lower-cost way, tailored to the advantages of the state or region. States ought not be given the ability to interfere directly with allowances, but may be permitted to expand national requirements. It is important that federal policy expressly permit this ability, or federal preemption will interfere with state programs. Harnessing existing systems can help to minimize some of the uncertainty of building a new system from the ground up. One option for state-level control is allowing states some measure of control over local allowance budgets. To avoid the difficult process of setting a total emission credit budget for each state, the federal government can use baseline information to set aside a certain portion of the credits, based on existing emission levels or population levels, to be given to states. States or regional systems can choose to auction these credits, retire them, or use them to cushion certain industries. The total state budget should not be larger than 15% of the national cap, and the amount that can be given away should be tightly limited.

- 5) If a cap-and-trade program is established, should an existing government agency regulate it or should a new agency be created? Please explain.

*Please respond in 300 words or less.*

The Environmental Protection Agency (EPA) is the agency most capable of administering a cap and trade program. EPA already operates a climate change division that is responsible for administering the United States's agreed responsibilities under the United Nations Framework Convention on Climate Change, such as conducting national emissions inventories, as well as administering voluntary carbon reduction programs. EPA has already indicated that it possesses the necessary technical skill to administer a carbon cap and trade program. Further, EPA has administered other cap and trade programs, notably the sulfur permitting scheme, for more than 15 years. EPA has experience administering emissions programs that cover large portions of the economy. Creating a new agency to administer the program would create complicated jurisdictional issues that an assignment to EPA would avoid. However, the administration of agriculture and forestry reduction programs should rest with the Department of Agriculture, since it possesses the necessary technical skill to manage these projects.

- 6) If a derivatives or futures market in carbon reduction arises in the wake of the creation of a cap-and-trade program, should the Commodity Futures Trading Commission (CFTC) continue its role as the regulator of this derivative carbon market, or should there be a different regulator? Please explain.

*Please respond in 300 words or less.*

Given the recent impact of derivatives trade in the mortgage market, care should be taken in the extent to which carbon derivative trading is permitted. However, trade in carbon futures could be managed by the CFTC, as the similarity in likely markets for carbon futures will allow the Commission to effectively manage them alongside more traditional futures markets.

- 7) Currently, derivatives of energy-based commodities can be traded through: a) highly structured instruments on regulated, transparent futures markets accessible to anybody and anyone; b) flexible instruments on lightly regulated, transparent derivative markets accessible to only major market participants, or; c) flexible instruments on unregulated, opaque over-the-counter markets accessible only to major market participants.

Should derivatives markets in carbon reduction arising in the wake of the creation of a cap-and-trade program also be permitted to develop under similar options as for energy-based commodities? *Please respond in 600 words or less.*

To ensure confidence in and verification of emissions reductions and the trading of credits, option c) should not be permitted. We defer commentary on options b) and a) to other submissions.

- 8) Will enactment of a carbon reduction program have negative impacts for regions or populations whose welfare is of special interest to the agriculture community? Such groups could include: residents of rural areas; populations served by USDA nutrition programs; agricultural producers and forest landowners; or input, transportation, and processing sectors of agriculture and forest products.

*Please respond in 600 words or less.*

Failure to enact a carbon reduction program will have negative impacts on agriculture's constituents. Increasing drought from changing weather patterns will stress crop production and irrigation systems. Increased flooding in other areas will disrupt infrastructure used by food producers to transport agricultural goods to market. While global warming may increase growing seasons for some crops, it will also increase creeping desertification into some fertile lands and increase the likelihood or severity of damaging weather such as hail, hurricanes, heat waves, and unexpected frosts, despite the overall average increase in temperatures. Thus, increased variability in the climate is predicted to lead to increased variability in dangerous weather events, making it harder to predict and protect crops from damage. Warmer temperatures will also allow for the further spread of invasive species, especially northward and to higher elevations, such as for the emerald ash borer, which could lead to increased damage to the forestry sector and new pest threats to crops. While these sectors may incur some increased costs as a result of climate legislation, an auctioned permit system, as per Question 3, that redistributes some of the auction funds to consumers and businesses, could avert some costs of compliance with a carbon reduction program.

- 9) How might revenue generated under a carbon reduction program be best used to offset any negative impacts?

*Please respond in 300 words or less.*

As stated in Question 8, returning some of the revenue to consumers and businesses as compliance payments would allow for the diminishing of costs

incurred in an emissions reduction program. Remaining portions of the auction revenue should go toward investments in technologies that allow greater carbon reduction at lower cost. This could include traditional renewable energy technologies such as wind and solar, but could also include next generation biomass technologies, or research into improved soil management or plant breeding that allow for greater carbon capture or breed resilience to extreme weather and higher heat tolerance.

- 10) Should businesses that are affected (either indirectly or directly) by higher overall costs due to a carbon reduction program receive transitional assistance?

*Please respond in 300 words or less.*

Yes. As per Questions 8 and 9, some funds from an auctioned permit system should go toward businesses and consumers who are affected by the a carbon reduction program, such as help in transitioning to lower emissions technologies or habits, and payments for the costs of compliance with an emissions reduction scheme.

- 11) What role should public lands play in helping to sequester carbon and/or reduce greenhouse gas emissions?

*Please respond in 300 words or less.*

The conservation of public lands can help to sequester carbon. Intact forests are significant stores of carbon, and their existence requires protection to ensure that degradation or deforestation does not lead to increased emissions. Further, regrowing forests can store carbon during their growth, helping to reduce emissions. While carbon capture and greenhouse effect reduction is stronger for tropical forests, temperate forests in the United States can still sequester some carbon. Care should be taken to support the preservation and restoration of intact forests over mono culture "tree farms", as the latter do not carry the same carbon capture potential. Even grasslands and peat marshes can help to sequester carbon and should be protected and restored, and their destruction can also lead to greater emissions.

- 12) Should carbon prices be determined exclusively by market forces or should limits on carbon prices be established? Please explain.

*Please respond in 600 words or less.*

Market forces, as in other markets in the world, allow for the most cost-effective allocation of resources, or, in this case, emissions. The trading of a fixed supply of permits will highlight sectors with the highest emissions and the lowest capacity/highest cost of reductions, and allow these sectors to trade with sectors who have low-cost emissions reduction capability, thus allowing the least-cost reducers to manage a greater share of emissions reductions and keep costs down.

Further, free floating prices will induce the highest cost emitters to invest in more numerous and greater efficiency reduction technologies to save money and meet their emissions allowances, thus incentivizing the creation of lower cost emissions reduction technologies and greater dissemination of them throughout the economy. Even if prices become high, this will simply create a faster conversion to lower cost technologies, meaning that even if higher prices persist, the actual cost to firms will be lower due to their investments in better technologies and operating practices. Setting a fixed price ceiling will be incompatible with achieving the necessary reductions, since they will not create the necessary incentives for sectors to reduce their emissions or invest in better technologies, and will distort the cost-minimizing permit market.

- 13) What, if any, lessons can be learned from the European Union's Emission Trading System (ETS) or any other carbon reduction program already underway or being developed? Do any international carbon reduction programs currently exist for agriculture and forestry?

*Please respond in 600 words or less.*

Evidence from the first round of emissions trading in Europe shows that the allocation of too many free permits will disrupt the market signals discussed in Question 12 and lead to ineffectively low prices for emissions permits. Auctioning a fixed set of permits that is capped at the emissions reductions called for at that particular stage in the emissions trajectory will allow for the setting of accurate prices in the market, and the stabilization of prices necessary to achieve that level of emissions reductions. Evidence from the second period of European trading shows that, when permits are allocated in the correct number, prices are more stable and are set by market participants at levels that effectively reduce overall emissions. The key is to truly cap emissions permits, avoid the free distribution of allowances by countries, and ensure that loopholes, such as over reliance on offsets, or safety valve provisions in emissions limits, are not used, so that markets can function in their normal manner to keep costs low.

## **Part II: Carbon Reduction Program Administration and Implementation**

The administration and implementation of an offset or allowance program will be a major topic during any potential climate change discussion. Please answer the following questions regarding the scale, scope, and limitations of any program as part of the larger carbon reduction debate.

- 14) What options or combination of options would be most effective for agriculture and forestry sectors in a carbon reduction program: a voluntary offset program, bonus allowances for selected agriculture and forestry activities, or agreed upon performance standards for segments of the agriculture and forestry sectors?

*Please respond in 600 words or less.*

Agreed upon performance standards would most effectively allow the agriculture and forestry sectors to contribute to emissions reductions. Evidence from voluntary emissions reductions schemes has shown that emissions reductions are fairly limited under these systems, and nowhere near the level called for under proposed legislation, nor close to the levels that climate science indicates will be necessary to avoid accelerated and costly global warming. Bonus allowances would effectively function much like a voluntary system and would not contribute significant reductions. Performance standards should form the core of an emissions reduction program. The technical capacity exists with the agriculture and forestry sectors, and within the Departments of Agriculture and the Interior, to assess emissions reduction performance of various agriculture and forestry activities. While an additional bonus and/or voluntary program could complement the main performance standards and thus reap modest but additional emissions reductions, some form of mandatory performance standards or other emission reduction scheme must play the central policy role if the contribution of emissions from agriculture and forestry is to be included in overall U.S. emissions reductions.

15) Should the total number of offsets issued annually by the government be limited? If so, how much?

*Please respond in 300 words or less.*

Yes. Offsets are less valuable in terms of emissions reduced than from direct action by emitters to reduce their own emissions, and will distort the price of emissions permits, since offsets will in some respects operate outside of the emissions reduction market. Over reliance on offsets will delay significantly the actual reduction of U.S. emissions and the necessary investments in lower cost technologies. If offsets are to be used initially to help firms ease into an emissions trading regime, they should be limited in size - perhaps no more than 10% of emissions reductions per firm on average - and be phased out on a graduated scale until they are no longer part of qualified emissions reductions.

16) How should Congress prioritize the distribution of available offsets (who gets them and how much)?

*Please respond in 600 words or less.*

Offsets should be prioritized to those sectors that face the highest costs of emissions reductions and for those types of offsets that will yield the greatest total reductions in emissions. In no situation should a firm be able to meet all of its emissions reductions through the purchase of offsets, since all covered firms will need to begin taking steps to discover the most effective and least-cost emissions reduction methods for their industry, especially, as recommended in Question 15), when offsets are eventually phased out of the emissions reduction program.

17) What should the criteria be for measuring (quantification, verification, and monitoring) and accounting for the legitimacy of offsets under the program?

*Please respond in 600 words or less.*

Congress should establish a comprehensive registry for reliable pre-cap-and-trade system commencement. The baseline data provided by such a registry would be invaluable for determining business-as-usual levels and additionality screening, as well as provide necessary data for sector-level analysis and cap level. Offsets should be mandatorily measured on a site-level basis, using direct measurement where possible, and careful estimation when the relevant agency determines direct measurement is impossible, unduly burdensome, or unnecessary due to the accuracy of an estimation method. Where emissions can be easily estimated from input levels of standardized fuels, direct measurement may not be necessary. The relevant regulatory agency should either directly conduct the verification process, or verify post-project emission levels through tightly-monitored private contracts. Monitoring should be continual on an annual basis. Verification data should be publicly accessible, to ensure smoothly functioning market, allow regulators and academic researchers the ability to assess and improve operations, build transparency to hinder manipulation, and influence the behavior of firms whose behavior can be easily analyzed by the public. All credits must be registered, serialized, and carefully tracked. Clear proof of ownership will help to prevent double-counting and related issues.

18) What should be the criteria for assessing offset projects?

*Please respond in 300 words or less.*

The primary criterion for offset project assessment is that of additionality, a test that operates at several levels; at minimum, the project must pass financial and regulatory additionality tests. The offset provider must firmly demonstrate that the project would not occur under a business-as-usual scenario, and meticulously substantiate the claim that the offset sale is that which enables project feasibility. If the project is financially viable, statutorily required, or otherwise feasible prior to offset sale potential, the offset fails the additionality test. Offsets must originate from sites or facilities at which an accurate determination of baseline emission levels have been made, and at which an accurate determination of new, post-project emission levels can be made. The offset provider must demonstrate that the project does not cause leakage, the phenomenon that reduces emission at the site but causes a corresponding increase of emissions elsewhere, thus failing to account for a verified net total emissions reduction. Offsets may be sold commercially on a projected long-term basis, but must only be verified on an annual or short-term regulatory basis for the quantifiable emissions reduction occurring during the year. Potential failure by the project operator to continue to achieve expected abatement levels may be dealt with through insurance markets, appropriate costs accounting for future uncertainties, and legal mechanisms for compensation. Permanence, or demonstrated likelihood that the project does not suffer from unacceptable risks of failure, releasing emissions supposed to be eliminated. Finally, one criterion should account for the creation of perverse

incentives or unforeseen negative externalities, allowing the verification body the adaptability necessary to eliminate those projects with highly undesirable impacts.

19) How should Congress design a system for verifying offset projects?

*Please respond in 300 words or less.*

Congress should design a verification system that first establishes a comprehensive registry for reliable pre- cap-and-trade system commencement. The baseline data provided by such a registry would be invaluable for determining business-as-usual levels and additionality screening, as well as provide necessary data for sector-level analysis and cap level. Early findings of emissions help to limit price volatility, and ensure that the cap level is not set so high as to undermine an offset market. Offsets should be mandatorily verified on a site-level basis, using direct measurement where possible, and careful estimation when the relevant agency determines direct measurement is impossible, unduly burdensome, or unnecessary due to the accuracy of an estimation method. Where emissions can be easily estimated from input levels of standardized fuels, direct measurement may not be necessary. The relevant regulatory agency should either directly conduct the verification process, or verify post-project emission levels through tightly-monitored private contracts. Verification data should be publicly accessible, to ensure a smoothly functioning market, allow regulators and academic researchers the ability to assess and improve operations, build transparency to hinder manipulation, and influence the behavior of firms whose behavior can be easily analyzed by the public.

20) Should Congress establish a standards-based approach with pre-calculated values or a project-based approach that measures field results for establishing eligible offsets under the program?

*Please respond in 600 words or less.*

As discussed under Question 18, in-field calculations should be used whenever possible to provide verified emissions reductions, as is the case for certified emissions reductions for carbon offsets. For projects that cannot be verified in the field, previous field projects and estimates from research studies should form the basis of any pre-calculated values for particular types of projects. Congress or agencies should establish a scientific committee to oversee standards for offset credits.

21) What should be the relationship between offsets and allowances?

*Please respond in 600 words or less.*

Per Question 15, offsets should form only a small contribution to meeting emissions allowances or permits, perhaps no more than 10% on average for each

firm in the economy subject to emissions reductions, with a graduated reduction in the contribution of offsets to meeting emissions allowances or permits. Offsets are not a substitute for actual emissions reductions by firms, will only delay emissions reductions by them, and will not spur innovations in emission- and cost-reducing technologies the way that emissions permits/allowances will.

22) Describe the most important factors in establishing the permanence and duration of offsets under the program, including contract length and flexibility?

*Please respond in 300 words or less.*

See responses to Questions 18 and 19. Additionally, contracts for protection of offsets for the preservation of intact forests, peat lands, and other carbon sinks should extend at least through 2050 to ensure that emissions are prevented through the majority of the period when the U.S. and world will likely achieve most of their emissions reductions. Contracts should ideally last as long as possible to ensure permanence of emissions reductions. Contract flexibility should allow for projects to adjust for changes in emissions reductions data, unintended social and environmental consequences, and changes in costs of projects and materials, without allowing for projects to be extended indefinitely, delaying emissions reductions, nor reduced in size and emissions achievements after projects have already been initiated, committed to, and, especially, funded.

23) How should Congress address existing offset projects or credits established through a voluntary market or system (e.g., the Chicago Climate Exchange or an emission registry)?

*Please respond in 600 words or less.*

Existing offsets should be considered to the extent that they represent verified emissions reduced on or after the baseline emissions period. For example, if the baseline for emissions reductions is 2005, offsets achieved on or after 2005, or that are in process, should count toward the contribution of offsets achieved in that particular reduction year, or for projects in 2005, toward reductions in the emissions baseline. Existing offsets or credits prior to the baseline year, or for projects not verified by third-party certifiers, should not count.

24) The terms "additionality" and "stackability" are often used when discussing the details of an offset program. How should producers and forest landowners who may have been early-actors and already undertaken activities that sequester carbon or reduce greenhouse gas emissions be treated? Should activities undertaken to reduce carbon emissions also be allowed to count towards other environmental market activities, such as water quality or wildlife habitat creation, therefore allowing landowners to "stack" credits?

*Please respond in 600 words or less.*

Stackability of environmental benefits from emissions reductions activities should be permitted, as many emissions reducing activities, for example forest preservation, will have additional biodiversity, water quality improvement, or other benefits that producers

and landowners should receive credit for. Ensuring the additionality of emissions reductions is critical, as discussed under Question 18.

- 25) How should activities that may have been paid for in part by assistance from Federal or state government programs (i.e. cost share, technical assistance) be treated? How should those activities be treated if the practice was not specifically implemented to address carbon sequestration or greenhouse gas emission reduction?

*Please respond in 300 words or less.*

The fraction of the activity financed by the producer or land owner should count toward the same fraction of emissions reduced from the project that are credited to the producer or landowner. If the producer contributes 10% of the funds, they should receive 10% of the reduction credit for the emissions reduced from that project. Regardless of whether the project was specifically implemented to reduce emissions, if verified emissions reductions occurred during or after the baseline, they should count toward the producer's or land owner's emissions reductions during those periods.

- 26) Should a producer be required to return revenue or be held liable if an offset project does not sequester carbon or reduce greenhouse gas emissions? How about in the event of a natural disaster or another event uncontrolled by the producer and/or landowner?

*Please respond in 300 words or less.*

If offsets are to be a fundamental part of achieving global emissions reductions, permanence of sequestration or abatement claimed by an offset project is at the crux of its legitimacy. Failure to live up to the standards claimed by the offset project developer, for whatever reason, is grounds for a requirement that the project owner return revenue to the offset purchaser. The offset will no longer be adequate for the requirements of the purchaser with regards to its emissions under a national cap-and-trade law, and it ought to be the responsibility of the seller of this service to refund this now-inadequate purchase. The credit should be canceled, requiring the purchaser to seek credits elsewhere to attain compliance under the system. Building functional insurance markets will be a crucial aspect of minimizing uncertainty around both the buying and selling of offsets. These markets, ideally, will cover each phase of the offset process, from pre-project implementation to final sale, allowing market participants to hedge costs and minimize risks of project or purchase failure.

- 27) Should the protocols and procedures for the offset program be detailed in legislation, or should authority be delegated to the appropriate government agency to develop regulations? If so, which agency or agencies should be responsible for devising protocols and procedures?

*Please respond in 300 words or less.*

While offset work should not form the major effort in emissions reductions, authority for developing an offset program should be established within legislation and then developed in detail through promulgation of regulation, most likely through an inter-agency task force headed by EPA, with the actual regulation issuing from EPA after extensive inter-agency consultation, in the manner typical of other environmental regulations such as for air quality.

28) What are the obstacles faced by agricultural producers and landowners to implement practices and technologies?

*Please respond in 600 words or less.*

Generally, these include costs, lack of knowledge about emissions reduction potential for particular practices and technologies, or even the existence of specific technologies, technical capacity to implement particular practices and technologies, and lack of knowledge of how much emissions reductions credit, technical assistance, and financial assistance will be offered to producers and land owners desiring or needing to implement practices and technologies.

29) Do existing conservation and forestry programs provide sufficient incentives to encourage the adoption and implementation of practices that mitigate climate change impacts, sequester carbon and/or reduce greenhouse gas emissions? If not, what might Congress consider offering as additional financial incentives and technical assistance to speed up adoption/implementation?

*Please respond in 300 words or less.*

Some existing programs do contribute to emissions reductions, but by themselves are not sufficient to reduce emissions from the agriculture and forestry sector sufficiently. Useful existing programs that would benefit from further support and funding from Congress include the Conservation Reserve Program, organic farming, soil conservation and possibly no-till farming (assuming that care is taken to deal with extra fertilizer inputs), breeding strategies to reduce fertilizer inputs, renewable energy production on farms and ranches (particularly through generating fuel from waste), and policies easing the sale of intact forest lands to the public and conservation organizations, or that promote the sustainable harvesting and preservation of diverse forest lands, especially over mono cultures.

### **Part III: Carbon Reduction Program Additional Thoughts**

**Please use the next 1000 words to provide additional comments on subjects which may not be have covered by the questionnaire, such as a low-carbon fuel standard, life-cycle analysis, leakage, or biofuel incentives.**

Incentives for the production of biofuels should be geared toward the development of next-generation biofuels, especially cellulosic, and not the continued production of ethanol based on current technologies, since the carbon

reduction benefit is minimal and perhaps negative in some cases. A renewable fuels standard based on current ethanol production technologies should shift more toward one based on next generation, especially cellulosic, biofuels, and ideally should be eliminated in favor of policies that more directly promote the financial viability and cost reduction of biofuels production, especially for using waste agricultural products and not encouraging the conversion of additional land for agriculture or the conversion of food crops, since these will have negative social, environmental, and emissions implications. Life-cycle analysis of emissions from a variety of agricultural and forestry practices (in addition to practices and products in all other sectors of the economy) will be a key quantitative tool in assessing the emissions reduction potential of various activities. As discussed previously, policies that guard against leakage in emissions reduction projects and offset purchases are crucial to ensuring real emissions reductions.

Please list specific types of <i>forestry practices</i> that should be available as offsets, and then use the terms provided to evaluate the practices.				
Type of Practice	Effectiveness at sequestering carbon or reducing GHG emissions ( <i>Excellent, Good, Moderate</i> )	Ability to verify carbon sequestration or GHG emission reductions ( <i>Excellent, Good, Moderate</i> )	Cost for agricultural producers and private forestland owners to implement ( <i>High, Medium, Low</i> )	Capacity of agricultural producers and private forestland owners to implement immediately ( <i>High, Medium, Low</i> )
We defer detailed descriptions to other commenters				

Please list specific types of <i>practices associated with livestock operations (e.g. manure management, grazing/pastureland practices)</i> that should be available as offsets, and then use the terms provided to evaluate the practices.				
Type of Practice	Effectiveness at sequestering carbon or reducing GHG emissions ( <i>Excellent, Good, Moderate</i> )	Ability to verify carbon sequestration or GHG emission reductions ( <i>Excellent, Good, Moderate</i> )	Cost for agricultural producers and private forestland owners to implement ( <i>High, Medium, Low</i> )	Capacity of agricultural producers and private forestland owners to implement immediately ( <i>High, Medium, Low</i> )
We defer detailed descriptions to other commenters				

Please list specific types of <i>crop production practices</i> that should be available as offsets, and then use the terms provided to evaluate the practices.				
Type of Practice	Effectiveness at sequestering carbon or reducing GHG emissions ( <i>Excellent, Good, Moderate</i> )	Ability to verify carbon sequestration or GHG emission reductions ( <i>Excellent, Good, Moderate</i> )	Cost for agricultural producers and private forestland owners to implement ( <i>High, Medium, Low</i> )	Capacity of agricultural producers and private forestland owners to implement immediately ( <i>High, Medium, Low</i> )

We defer detailed descriptions to other commenters				