

An Introduction to Cap and Trade for Animal Welfare

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Interest in the advancement of animal welfare has grown in the United States in recent years. This growth can be seen by the passage of stronger animal welfare laws, including the banning of gestation and veal crates in Maine in 2009, the passage of Proposition 2 in California in 2008 which banned battery cages and gestation and veal crates, and the passage of stricter puppy mill laws in Virginia, Pennsylvania, and Louisiana in 2008.

Although these are important steps, could further improvements be accomplished on a wider scale if animal welfare advocates took a page from the handbook of activists who have been even more successful of late? Specifically, the environmental advocacy community has inspired the United States and the world to combat not only pollution, but also global warming by forcing the reduction of greenhouse gases.

On June 26, 2009, the U.S. House of Representatives passed the American Clean Energy and Security Act of 2009, H.R. 2454, which includes a straightforward concept and tool intended to reduce

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pollution, that of cap and trade.¹ Thinking outside of the proverbial box, could a market-based approach such as cap and trade be successfully used to improve animal welfare throughout the United States and across the various industries that use animals?

This article will explore that very question by focusing on the U.S. Environmental Protection Agency's (EPA) publication, *Tools of the Trade: A Guide to Designing and Operating a Cap and Trade Program for Pollution Control (Tools of the Trade)*.² The stated purpose of *Tools of the Trade* is to serve "as a reference for policy-makers and regulators considering cap and trade as a policy tool to control pollution. It is intended to be sufficiently generic to apply to various pollutants and environmental concerns; however, it emphasizes cap and trade to control emissions produced from stationary source combustion."³ This article will make use of the generic nature of this publication to explore whether the concern for animal welfare can legitimately be substituted for the concern for the environment. Specifically, can the argument be made that cap and trade, when properly implemented, could serve to improve the lives of animals?

This article will not attempt to craft an animal welfare cap and trade bill. After all, H.R. 2454 is over 1400 pages long.⁴ What this

¹ American Clean Energy and Security Act of 2009, H.R. 2454, 111th Cong. (2009), available at http://energycommerce.house.gov/Press_111/20090701/hr2454_house.pdf.

² OFFICE OF AIR AND RADIATION, U.S. ENVTL. PROT. AGENCY, EPA430-B-03-002, *TOOLS OF THE TRADE: A GUIDE TO DESIGNING AND OPERATING A CAP AND TRADE PROGRAM FOR POLLUTION CONTROL* (2003), available at <http://www.epa.gov/airmarkets/resource/docs/tools.pdf>.

³ *Id.* at 1-1.

⁴ H.R. 2454.

article will do, however, is lay out the arguments and start the discussion as to whether animal welfare can be positively impacted by the implementation of an animal welfare cap and trade program.

I. THE CONCEPT OF CAP AND TRADE

The EPA describes the basic concept of a cap and trade program as follows:

In a cap and trade program, sources are allocated a fixed number of allowances. Each allowance represents an authorization to emit a specific quantity of a pollutant (e.g., one ton). The number of allowances is capped in order to reduce emissions to the desired level, and sources are required to meet stringent, comprehensive emission monitoring requirements. At the end of the compliance period, emission sources must hold sufficient allowances to cover their emissions during the period. Sources that do not have a sufficient number of allowances to cover emissions must purchase allowances from sources that have excess allowances from reducing emissions.⁵

Reworking this description to create an animal welfare cap and trade program would look something like the following:

In a cap and trade program for animal welfare, sources* are allocated a fixed number of allowances. Each allowance represents an authorization to allow a specific quantity of a negative animal welfare activity (e.g., the use of battery cages in the egg industry). The number of allowances is capped in order to reduce the use of the negative animal welfare activity to the desired level, and sources are required to meet stringent, comprehensive animal welfare monitoring requirements. At

⁵ Types of Trading,
<http://www.epa.gov/captrade/documents/tradingtypes.pdf>.

* Sources will be discussed later in this paper but may include farms, the animal agriculture and breeding industries, food processors, and retail establishments.

the end of the compliance period, sources must hold sufficient allowances to cover their negative animal welfare activities during the period. Sources that do not have a sufficient number of allowances to cover those negative activities must purchase allowances from sources that have excess allowances from reducing their negative animal welfare activities to a level below the cap.

Some may wonder why a cap and trade system should be considered for animal welfare when we do not yet know if it will be a successful system for the reduction of greenhouse gasses. Although a cap and trade system for greenhouse gasses has not yet been implemented, cap and trade systems have successfully been used in the United States for pollution since 1990.

To ensure a cleaner, healthier environment, governments are increasingly using market-based pollution control approaches, such as emission trading, to reduce harmful emissions. The theory of emission trading and the potential benefits of market-based incentives relative to more traditional environmental policy approaches are well established in economic and policy literature. . . . In 1990, the United States enacted legislation to implement a comprehensive national sulfur dioxide (SO₂) program using a form of emissions trading called “cap and trade” . . . [which] has proven to be highly effective from both an environmental and an economic standpoint. . . . Today, emission trading mechanisms are increasingly considered and used worldwide for the cost-effective management of national, regional, and global environmental problems, including acid rain, ground-level ozone, and climate change.⁶

⁶ United States Environmental Protection Agency, *supra* note 2, at 1-1.

A standard cap and trade program seeks to limit pollution, a negative externality, via a market-based approach.⁷ A negative externality, in economic terms, is “a cost, not reflected in a price, that is associated with the use of resources.”⁸ For example, a negative externality, or external cost, can be seen where the by-products of a manufacturing process are dumped into a river. That dumping has a negative effect on the environment and that cost to society is not reflected in the price of the goods manufactured. Essentially, the manufacturer is dumping waste for free and in turn is polluting the environment.⁹ The purpose of a cap and trade system is to internalize this negative externality¹⁰ and make the manufacturer account for its

⁷ See generally John P McInerney, *Animal Welfare, Economics and Policy*, 165 J. ROYAL AGRIC. SOC'Y ENG. (2004), http://www.rase.org.uk/activities/publications/RASE_journal/2004/10-55711886.pdf; see generally JOHN MCINERNEY, *ANIMAL WELFARE, ECONOMICS, AND POLICY* (2004), <https://statistics.defra.gov.uk/esg/REPORTS/animalwelfare.pdf>.

⁸ DAVID N. HYMAN, *ECONOMICS* 339 (Richard D. Irwin, a Times Mirror Higher Education Group company, 4th ed. 1997).

⁹ See generally HYMAN, *supra* note 8, at 342.

¹⁰ United States Environmental Protection Agency, *supra* note 2, at A-1 (“According to economic theory, excessive levels of pollution occur due to so-called ‘market failures,’ such as the public goods, nature of environmental quality, imperfect information, and other factors. Hence, according to economic theory, governments should intervene to provide the correct incentives for pollution control. Determining the optimal level of pollution control requires an analysis of the level of the environmental externality that is being generated as a result of an economic activity. An externality is defined as a cost or a benefit that is not being properly accounted for by either the producers or the consumers of the activity. For example, consider the case of a firm

use of the resources—in this case the free dumping of waste into the river. However, by creating a market-based cap and trade system, the manufacturer is not merely being charged a fee or a tax to dump, but the industry is given incentives¹¹ to meet the emissions or pollution limits by developing a market whereby more efficient, less-polluting manufacturers are able to reduce their output beyond the limits imposed by the cap and be rewarded for it. Those companies under the cap limits can create revenue by selling their unused rights to pollute to the non-conforming, higher-polluting companies. The ability to trade pollution rights gives all companies a market-based, monetary incentive to lower their pollution output.

Another benefit of a cap and trade program is that the reductions in emissions can be achieved at an overall lower cost than they would have otherwise under more common standard regulatory limits. This same analysis would apply to an animal welfare cap and trade program.

The new market-based approach to emissions reduction is an improvement over older command-and-control regulations that

located upstream that is emitting pollution into a nearby stream. As a result, ecosystems downstream may be adversely affected (e.g., fish population decline, decline in recreational fishing and swimming, adverse health effects from contaminated drinking water). These are all examples of negative externalities (i.e., costs). If these effects are not reflected in the firm's production costs, and hence in the market price of the economic activity, the firm will emit a level of pollution that is above the social optimum. Generally, two conditions need to prevail for an external cost to exist: (1) an activity by one party causes a loss of welfare to another party; and (2) the loss of welfare is uncompensated.").

¹¹ Hyman, *supra* note 8, at 349–56.

required all firms to reduce emissions by the same percentage and often dictated the technology for doing so. The greater flexibility possible from trading rights to emit results in the same amount of emissions reduction and environmental improvement but at a lower cost. To see why this is so, suppose that under earlier rules the EPA commanded each power company in the country to reduce sulfur dioxide emissions by 1 ton per year. One power company might find that it cost \$1000 to meet the new standard; another power company might be able to meet the standard at a cost of only \$100. The total cost of a 2-ton reduction in emissions for these two companies is therefore \$1,100. However, the same reduction could be obtained at a cost of only \$200 if the second power company did all of the emissions reduction. Now suppose the price of a pollution permit for 1 ton of sulfur dioxide is \$500. Under the tradable permit approach, it would be in the interest of the first company to pay the second company \$500 to buy one of its permits to emit. The first company would add \$500 to its profit by doing so because it could meet the emissions standard with the \$500 right instead of paying \$1000 to reduce emissions. The second company incurs an extra \$100 cost to eliminate more emissions than the EPA requires but is paid \$500 by the first firm for doing so. The net marginal cost of the 2-ton reduction is now only \$200.¹²

The Environmental Defense Fund (EDF) has evaluated market-based environmental protections and has found them to be efficient and effective tools to control pollution. On their website, the EDF states:

Markets provide greater environmental effectiveness than command-and-control regulation because they turn pollution reductions into marketable assets. In doing so, this system creates tangible financial rewards for environmental performance.

¹² *Id.* at 354–355.

[Furthermore, b]ecause cap-and-trade gives pollution reductions a value in the marketplace, the system prompts technological and process innovations that reduce pollution down to or beyond required levels. This point is not theoretical; experience has shown these results.¹³

Similar results would be expected in an animal welfare cap and trade program.

The elements of a well-designed cap and trade program according to the EDF are listed below in bold, followed by the author's corollaries as to how these elements would apply to a cap and trade program for animal welfare.

- **A mandatory emissions "cap." This is a limit on the total tons of emissions that can be emitted. It provides the standard by which environmental progress is measured, and it gives tons traded on the pollution market value; if the tons didn't result in real reductions to the atmosphere, they don't have any market value.**¹⁴

The limits for animal welfare purposes would differ depending upon the industry being addressed. For example, there could be cap and trade limits on the number of battery cages, veal crates, or gestation crates in use. There could be a cap on the number of eggs from battery cage production that could be used by the food processing industry or a cap on the number of animals per square foot. These, and others, are real, measurable numbers.

¹³ The Environmental Defense Fund, *The Cap and Trade Success Story*, <http://www.edf.org/page.cfm?tagID=1085> (last visited Oct. 20, 2009).

¹⁴ *Id.*

- **A fixed number of allowances for each polluting entity. Each allowance gives the owner the right to emit one ton of pollution at any time. Allocation of allowances can occur via a number of different formulas.**¹⁵

Each source targeted for animal welfare improvement would have access to a fixed number of allowances for the negative animal welfare behavior. For example, an egg producer might get allowances for a certain amount of battery cages in use.

- **Banking and trading. A source that reduces its emissions below its allowance level may sell the extra allowances to another source. A source that finds it more expensive to reduce emissions below allowable levels may purchase allowances from another source. Buyers and sellers may “bank” any unused allowances for future use.**¹⁶

Companies that reduce their use of negative animal welfare activities below the capped amount would be able to sell their excess allowances for a profit.

- **Clear performance criteria. At the end of the compliance period (e.g., one year, five years, etc.), each source must hold a number of allowances equal to its tons of emissions for that period, and must have measured its emissions accurately and reported them transparently.**¹⁷

At the end of a compliance period, companies would need to hold allowances equal to the amount of negative animal welfare activity that it engaged in. As above, there needs to be strict reporting requirements.

¹⁵ *Id.*

¹⁶ *Id.*

¹⁷ *Id.*

- **Flexibility. Sources have flexibility to decide when, where and how to reduce emissions.**¹⁸

Since cap and trade seeks to effect industry-wide change, individual companies have the flexibility to decide how to adhere to the cap. Cap and trade for animal welfare, just like for environmental matters, does not prescribe the method to be used to meet the cap. As long as the animal welfare standards are met, companies in the animal production industries can develop new methods and processes in a time frame more suitable to them.

II. APPLYING THE *TOOLS OF THE TRADE* TO ANIMAL WELFARE

Tools of the Trade further expands the definition of a cap and trade program:

Cap and trade is a market-based policy tool for environmental protection. A cap and trade program establishes an aggregate emission cap that specifies the maximum quantity of emissions authorized from sources included in the program. The regulating authority of a cap and trade program creates individual authorizations (“allowances”) to emit a specific quantity (e.g., 1 ton) of a pollutant. The total number of allowances equals the level of the cap. To be in compliance, each emission source must surrender allowances equal to its actual emissions. It may buy or sell (trade) them with other emissions sources or market participants. Each emission source can design its own compliance strategy—emission reductions and allowance purchases or sales—to minimize its compliance cost. And it can adjust its compliance strategy in response to changes in technology or market conditions without requiring government review and approval.¹⁹

¹⁸ *Id.*

¹⁹ United States Environmental Protection Agency, *supra* note 2, at 1-2.

As it currently stands, improvements in animal welfare depend primarily on regulation. While regulation can set the requirements for animal welfare, the enforcement of those limits falls solely on government regulators, who are often underfunded and/or lax. So, other than passing inspections, there is no incentive or pressure for companies to change their animal welfare policies.

The institution of a cruelty or animal welfare improvement tax could be helpful in regulating unwanted behavior, just as pollution taxes have been used to internalize the negative externality of a polluting activity. All companies that fail to implement the prescribed animal welfare standards would be subject to a tax that the companies can simply accept and work into their pricing structures. The main problem with simply instituting a tax is that, although it internalizes the negative externality and might affect company revenues or costs to consumers, there is no guarantee that animal welfare would improve.²⁰ True, with higher prices, demand might drop. But the drop in demand does not necessarily result in animal welfare improvements. Even though the companies may sell less product, the animals used in the industry may still face the same poor conditions. Furthermore, instead of fostering better animal welfare, companies may search for ways to reduce costs to account for the tax and to improve their bottom lines.

²⁰ See generally Yale Environment 360, *Putting a Price on Carbon: An Emissions Cap or a Tax?* (May 7, 2009), <http://e360.yale.edu/content/feature.msp?id=2148> (last visited Oct. 20, 2009). This is an online discussion from numerous experts as to the benefits of a cap and trade program versus a tax. For purposes of an animal welfare program, the importance of certain limits trumps the simplicity of a tax.

These cost reducing measures could lead to worsening conditions for the animals as companies cut costs at the expense of the animals. Essentially, the government would be giving the companies a choice of paying the tax, improving animal welfare, or cutting costs to account for the tax—leaving it up to the companies to make a business decision that is most cost effective to them. Two of the three options do not improve the welfare of animals.

Cap and trade has benefits for not only the companies under the cap and trade program, but it also promotes the achievement of the program's goals. The main benefits to the companies involved have already been touched upon—monetary benefits to the companies instituting policies bringing them under the caps and the flexibility of time and manner in which the companies comply with the limits. From a policy standpoint, cap and trade is preferred over a tax program in that cap and trade provides a level of certainty that the limits will be met.²¹ Taxing companies does not set a goal that certain improvements to animal welfare be met. It merely presents the company with a choice to meet the requirements, pay the tax, or reduce costs. With cap and trade, a cap is set for the particular industry to meet, which will have to be met, guaranteeing an industry-wide improvement in animal welfare.

Under cap and trade, some companies may choose not to abide by the limits, and those companies will purchase credits. But there will only be so many credits available industry-wide. Therefore, when a cap and trade program begins, the administrators of the program know

²¹ United States Environmental Protection Agency, *supra* note 2, at 2-6.

that, by the time a particular compliance period ends, animal welfare throughout the industry will have improved to the level set by the administrators. Of course, inspection and oversight will be an important part of a cap and trade program, just as with simple regulatory requirements. But, cap and trade provides additional market-based incentives to adopt higher animal welfare standards—market-based incentives that include the sale of credits and the increasing market for products that are derived from animals raised with higher animal welfare standards. Across the board regulations do not provide any market-based trading incentive.

Cap and trade programs offer a number of advantages over more traditional approaches to environmental regulation. First and foremost, cap and trade programs can provide a greater level of environmental certainty than other environmental policy options. The cap, which is set by policymakers, the regulating authority, or another governing body, represents a maximum amount of allowable emissions that sources can emit. Penalties that exceed the costs of compliance and consistent, effective enforcement deter sources from emitting beyond the cap level. In contrast, traditional policy approaches such as command-and-control regulation generally do not establish absolute limits on allowable emissions but rather rely on emission rates that can allow emissions to rise as utilization rises.

A cap and trade program may also encourage sources to pursue earlier reductions of emissions than would have otherwise occurred, which can result in the earlier achievement of environmental and human health benefits. This is a result of two primary drivers: first, the cap and associated allowance market creates a monetary value for allowances, providing sources with a tangible incentive to decrease emissions.

Another environmental advantage of cap and trade is improved accountability. Participating sources must fully account for every ton of emissions by following protocols to ensure completeness, accuracy, and consistency of emission measurement.²²

III. IS CAP AND TRADE THE RIGHT TOOL?

Tools of the Trade identifies six criteria to consider in the decision-making process for the possible implementation of a cap and trade program. In this section, the article will look at each criterion and apply it to the use of cap and trade for animal welfare.

1. IS FLEXIBILITY APPROPRIATE?

Cap and trade is premised on the notion that regulators do not need to direct the type or location of specific emission reductions within a region.

In general, the more a pollutant is uniformly dispersed over a larger geographic area, the more appropriate it is for the use of cap and trade.²³

Flexibility is appropriate for an animal welfare cap and trade program. Regulators would not need to direct the type or location of specific animal welfare reductions within a region. The participants in the animal welfare cap and trade program are dispersed throughout the country and the overall goal of such a program would be the improvement of animal welfare industry-wide. Therefore, the focus on particular regions or the location of the animal welfare improvements is not critical to the success of the animal welfare cap and trade.

²² United States Environmental Protection Agency, *supra* note 2, at 1-2.

²³ *Id.* at 2-2.

2. DO SOURCES HAVE DIFFERENT CONTROL COSTS?

Cap and trade programs make the most sense when emission sources have different costs for reducing emissions. These cost differences may result from the age of the facilities, availability of technology, location, fuel use, and other factors.²⁴

Improvement costs for animal welfare will vary from company to company. Factors contributing to the varying of costs include region of the country in which the business is located, labor costs, age of the current plant to be altered or replaced (including the depreciation of the assets), technology in use, processes in use, farm/company size, and so on. The key point here is that the various sources that would be included under an animal welfare cap and trade program would have different control costs, thus making the various animal-use industries viable for a cap and trade program.

3. ARE THERE SUFFICIENT SOURCES?

In general, cap and trade programs should include enough sources to create an active market for allowances.²⁵

There are more than sufficient sources to create an active market for allowances. Even with the rise of large corporate farms, there are still thousands of farms that could participate in a farm animal cap and trade program. Likewise, there are more than enough food retailers and food processors to participate if they are included in a cap and trade program.

²⁴ *Id.*

²⁵ *Id.*

4. IS THERE ADEQUATE AUTHORITY?

Another important question government officials must consider is whether the relevant government entity has sufficient jurisdiction over the geographic area where they would implement the cap and trade program.²⁶

Just as the authority exists for the federal government to enact a national cap and trade program for greenhouse gases, the federal government would have jurisdiction to implement a national cap and trade program for animal welfare. Additionally, individual states could consider organizing a consortium of states to establish a regional cap and trade for animal welfare system.

5. ARE THERE ADEQUATE POLITICAL AND MARKET INSTITUTIONS?

For the trading component of a cap and trade program to work, a country must have some of the same institutions and incentives in place as those required for any type of market to function. These include:

- A developed system of private contracts and property rights.
- A private sector that makes business decisions based on the desire to lower costs and raise profits.
- A government culture that will allow private businesses to make decisions about “how” to achieve objectives with a minimum of intervention.²⁷

This criterion was mainly included for countries that may not have the same market-based and governmental systems in place that we employ. This is not an issue for the United States.

²⁶ United States Environmental Protection Agency, *supra* note 2, at 2-3.

²⁷ *Id.* at 2-3 to 2-4.

6. ARE MEASUREMENT CAPABILITIES SUFFICIENTLY ACCURATE AND CONSISTENT?

In considering whether cap and trade is an appropriate tool to address an environmental problem, policymakers should consider whether sources covered by the program can measure emissions with sufficient accuracy and consistency to support the cap and trade policy tool.²⁸

As with many regulatory programs, accurate measurement and oversight is imperative. We have the ability to accurately measure the improvements in animal welfare and the adherence to the cap and trade limits. For example, it is not very difficult to count the number of battery cages in use at a particular facility. What is needed is the will and the money to ensure compliance. Money to pay for the additional inspectors or program administrators could come from the sale or auction of the credits.

Based on the above review of the necessary criteria for a successful cap and trade program, it is clear that applying cap and trade to the issue of animal welfare has all of the elements to be an effective tool to improve the welfare of animals. Although untraditional, such a market-based approach is relevant to the revolution of animal welfare.

IV. THE PARTICIPANTS IN AN ANIMAL WELFARE CAP AND TRADE

The next important question to consider is which sectors of the animal using industries to include in a cap and trade program. The term used by the EPA for where a source exists to hold cap and trade allowances under a cap and trade program is “point of obligation.”²⁹ They specifically discuss three potential points of obligation to address

²⁸ *Id.* at 2-4.

²⁹ *Id.* at 3-6.

under cap and trade: points of emissions (direct emitters—electricity generators and large industrial sources where pollutants are released, and indirect emitters—downstream sources), upstream (potential emitters), and hybrid.³⁰ Similarly, under an animal welfare cap and trade, a number of points of obligation can be identified.

The first point of obligation in an animal welfare cap and trade program would be the actual animal production facility. This would be akin to the direct emitters of pollution and would include the farms—the use of battery cages, gestation and veal crates, as well as puppy mills, fur farms, etc. This is the point in the process where the actual welfare of animals can be directly impacted.

The second point of obligation would be any of the upstream sources. For the environmental cap and trade model, upstream sources would include those industries involved prior to the creation of the pollution, for example, the provider of the fuels that the direct emissions source uses. For the animal welfare cap and trade program, these would be the providers of the cages and crates or of the components used to build them, not to mention the providers of the spaces or facilities for the mills and farms.

The third point of obligation would be the downstream sources or indirect emitters.³¹ In an environmental cap and trade program, these may be the houses or office buildings that use the electricity from the electricity generators that are directly putting the pollutants into the environment. Under an animal welfare cap and trade system, an indirect emitter could be the food processing companies that turn the

³⁰ *Id.*

³¹ *Id.* at 3-7.

raw animal products into packaged food and the retail establishments that then sell them. Pet shops who sell dogs from puppy mills and companies that use fur in their products and the retailers that sell them would be other instances of “indirect emitters” in an animal welfare cap and trade program.

Lastly, the hybrid point of obligation describes any combination of the above.³² For an environmental program, as described in *Tools of the Trade*, this model is used to cap businesses involved with both upstream and direct points of emissions.³³ The same concept could be applied in an animal welfare cap and trade program by including businesses involved directly and/or upstream and/or downstream in the use of animals.

V. COMMUNICATION ISSUES UNIQUE TO EMISSION TRADING PROGRAMS³⁴

One last section of *Tools of the Trade* to be addressed in this article is “Communication Issues Unique to Emission Trading Programs;” specifically, the issues arising when trying to promote a cap and trade system. Essentially, these are the objections that often arise in addition to those that the affected industries might raise. As in previous sections, the article will identify each objection and discuss its relevance to animal welfare.

- **“Emission trading is immoral.”** Some critics of emission trading start with a philosophical opposition to what they call “the right to pollute.” Even under conventional regulation, however, permitting establishes the “right” to emit pollution at a certain level. Sometimes this right is in the form of an

³² United States Environmental Protection Agency, *supra* note 2, at 3-7.

³³ *Id.*

³⁴ *Id.* at 5-2.

emission rate and sometimes it is in the form of the emissions that result from specific, mandated pollution control technologies. Unlike cap and trade, most of these traditional mechanisms do not limit the total tonnage of pollutants from each plant (i.e., plants can emit more when they operate more). The market-based incentives in cap and trade can also spur innovation and new technologies.³⁵

One can anticipate that people would vociferously raise countless objections to the thought of trading credits to allow companies to continue engaging in negative animal welfare activities. Clearly, people do not have a right to treat animals in a manner inconsistent with basic welfare standards. This truth, however, misses the point of a cap and trade program. The system would not be introduced to create a market for negative animal welfare activities, but rather a cap and trade program for animal welfare would be introduced to begin the process of alleviating those negative activities and to promote an increase in animal welfare. Though it sounds wrong to allow the trading of credits to allow negative animal welfare activity, the end result of a cap and trade program for animal welfare is the overall improvement of animal welfare. Also, as suggested above, the market-based incentives could spur the creativity necessary to devise systems that both increase revenue for business and raise the standards of animal welfare.

- **“Emission trading is unfair.”** A second misperception of emission trading is that it is unfair because companies can buy their way out of their responsibilities to reduce emissions. Similarly, some have argued that emission trading favors large companies at the expense of small companies. These arguments ignore the fact that under a cap and trade system,

³⁵ *Id.* at 5-2.

companies that buy allowances are essentially paying for emission reductions at other companies. Moreover, small companies often benefit the most from cap and trade because they may have fewer internal options for emission reductions and they may benefit from the flexibility of buying allowances. In addition, the largest and highest emitting facilities often have the lowest cost per ton for reducing emissions. This was the case in the U.S. SO₂ Allowance Trading Program, where the highest emitting plants in the Midwestern United States made the most significant emission reductions.³⁶

As the EPA states above, companies trading in negative animal welfare activity credits should not necessarily be viewed as buying their way out of compliance. Those that purchase the credits are essentially subsidizing the improvement of animal welfare at the complying companies. And though many smaller farmers would benefit from selling their unused credits, they could also take advantage of purchasing credits to give them the time to comply with the improved animal welfare standards. So, the trading of credits provides benefits to both large and small operations.

- **“Companies will cheat.”** Some believe cap and trade will allow companies to avoid their obligations because enforcement and oversight is left to “the market.” In fact, if programs are properly designed, accountability can be better under a cap and trade program than under conventional approaches. Cap and trade programs require the creation of compliance structures that are useful regardless of whether any trading occurs. Participating sources must fully account to the government for each ton of emissions according to stringent emission measurement protocols to ensure completeness, accuracy, and consistency of emission data. Automatic financial

³⁶ *Id.* at 5-3.

penalties can be used that are set at levels that discourage noncompliance. The regulating authority's role in the program is to ensure emissions are measured accurately and that all participating sources are in compliance. Finally, reported information on emissions can be made available to the public on the Internet or through other means. This transparency can help build the necessary confidence in the efficacy of the cap and trade approach.³⁷

The same strict compliance and accountability measures would be included in any animal welfare cap and trade system. In fact, *Tools of the Trade* includes a brief discussion on penalties for noncompliance.³⁸ It is imperative to make the penalties strict enough that cheating in the cap and trade system is severely curtailed, thereby leaving the trading of credits or the adherence to the animal welfare standards as the only viable options. Furthermore, the transparency aspect of the reporting may put further pressure on companies to comply with the higher animal welfare standards.

- **“Trading doesn’t clean the air.”** Critics of emission trading sometimes argue that trading does not reduce emissions; it merely shifts the location of existing pollution. However, this argument fails to account for the cap. Under a cap and trade system, the overall level of emissions is reduced and capped. The environmental objective is embodied in the cap and the economic objective in the trade. Moreover, the larger the overall reduction reflected in the cap, the less concern there is about the environmental impacts of any individual trade or group of trades. This point is particularly relevant in addressing concerns about hotspots that may arise due to trading.³⁹

³⁷ *Id.* at 5-3.

³⁸ United States Environmental Protection Agency, *supra* note 2, at 3-24.

³⁹ *Id.* at 5-3.

As previously addressed, the implementation of a cap and trade system for animal welfare does not rely on its success by forcing specific companies to adhere to improved animal welfare standards. Instead, it takes an industry-wide approach by limiting the amount of a certain activity in which the entire industry can engage per allotted time period—the cap. As time in the program advances, the animal welfare standards improve, thus guaranteeing that more and more animals are treated with an improved standard of welfare.

As alluded to, perhaps the easiest scenario to visualize from the food production standpoint is egg farming and the use of battery cages. For purposes of illustration only, in year one of the animal welfare cap and trade system there is a cap of X number of battery cages, which represents a reduction of 10% of pre-cap battery cage usage. Battery cage credits will be allocated for 90% of the existing battery cages in use. Therefore, by the end of that particular compliance period, there will have been an industry-wide reduction in battery cages in use by at least 10%. The next year, 15% fewer battery cage credits are issued. By the end of the second year's compliance period, 15% of the battery cages in use at the start of year two will now be discontinued.

So, essentially, it does not matter which individual companies reduce their battery cage use and by what amount. The focus is on the net effect that the industry as a whole is now providing better animal welfare standards to its hens. Eventually, other market forces will take effect and provide further pressure on those companies that still utilize battery cages to begin phasing them out, further providing for improved animal welfare.

VI. HOW TO MEASURE WELFARE AND CREATE WELFARE GOALS

Now that the basic elements of a cap and trade program have been discussed, the question arises as to how to apply it for the improvement of animal welfare. There are a number of possibilities.

Again considering the use of battery cages, the application of a cap and trade program to increase the welfare of egg-producing hens could be instituted in a number of different ways, including:

1. Setting a cap on the number of battery cages in use.
2. Setting a cap on the number of hens confined to battery cages.
3. Setting a cap on the number of eggs that can be produced from hens in battery cages.
4. Instead of setting a cap, setting a minimum amount of space each hen is required to have.

Each of these metrics is easily measurable. As with a carbon dioxide (CO₂) cap and trade program where the CO₂ emitters get or purchase a certain number of emission credits subject to the emission caps, each egg farming operation would be issued a certain number of “battery cage credits” subject to the battery cage caps. Those egg producers that exceed the cap would be forced to then purchase additional credits from those producers under the cap. This market-based process would reward the egg producers that are under the cap for increasing animal welfare, while providing an incentive for those above the cap to upgrade their egg production operations.

At the same time, those producers that are selling their battery cage credits would recognize extra profit and would be able to keep their prices stable or reduce them and/or expand their operations, thus increasing the supply of cage-free eggs (helping to reduce costs to consumers). Non-compliant producers of battery-cage eggs would have the opposite effect. Their costs would increase due to the purchase of

credits, profits would decline, and costs to consumers may increase, which over time would further decrease profits, as fewer consumers buy their product. In addition to the gradually decreasing cap limits, these effects will all provide incentive for the producers of battery-cage eggs to adopt the animal welfare requirements as promoted by the cap and trade program. While it is true that restructuring their operations to meet the animal welfare standards would increase company expenses, a portion of the money raised through the purchase and sale of credits could be used to lessen the cost burden for companies upgrading their operations.

Ultimately, both individual and corporate consumers would gravitate toward cage-free eggs as supply rises and prices fall, thereby building that market, forcing greater compliance with the cap and trade animal welfare standards, and eventually eliminating the use of battery cages altogether. A similar analysis can be applied to the use of gestation crates and veal crates—both of which have faced bans in the U.S. and abroad. Furthermore, other metrics to be considered for the agricultural production side are waste output and the number of animals per square feet, both of which would also have an environmental impact if included in an animal welfare cap and trade program.

A unique element of cap and trade for animal welfare is that it can not only be applied to the direct source of the treatment of the animals, but it can also be applied downstream as discussed above under “Points of Obligation.” One quick way to affect supply and demand for certain products is to address the products at the point of sale or consumption. The application of cap and trade to retail grocery

chains could apply added incentive for the agricultural producers to adopt the animal welfare standards promoted by the cap and trade program. Sticking with the battery cage example, the retail element of the cap and trade program could set a cap on the number of units of battery-cage eggs that a retail establishment could sell. They would have a certain amount of “battery-cage eggs sold” credits. If they exceeded that set amount, they would need to purchase additional credits to remain in compliance. This would cause the buyers for these retail establishments to increase their purchase of cage-free eggs and begin to reduce and/or phase out their sale of battery-cage-produced eggs. Again, as the supply of cage-free eggs in the retail stores would rise, prices would fall, keeping it economical for consumers. As egg producers would see the demand for cage-free eggs increasing, they would necessarily need to convert their operations to remain viable businesses.

A third area to apply cap and trade for animal welfare would be at a point somewhere in between the agricultural production and the retail establishment—the food processors who turn the raw ingredients into what consumers purchase. The cap and trade program could be designed to cap the amount of a certain type of ingredient that can be used in their processes. Again staying with the battery cage example, corporate food processors would have a cap on how many eggs from battery cage operations they could use to create their bread, snack cakes, frozen dinners, and so on. Fast food chains and restaurants would also be affected, as they would have a certain number of credits that they could use. Those businesses that exceed the cap would need to purchase more credits on the market to remain in compliance.

Those under the cap would have the benefit of selling their unused credits.

This same type of cap and trade analysis and use can be applied to other commercial areas where animal welfare is a concern, such as puppy mills, the pet store industry, the fur industry, and animals used in research.

VII. POLITICAL REALITIES

At first thought, one might think that the concept of cap and trade for animal welfare is a no-go, a non-starter. Clearly, the major agriculture lobbying organizations, the larger players in animal agriculture, retailers, food processors, etc. would most likely oppose the concept. A quick look at the opposition to California's Proposition 2 would give the reader a good idea as to who might oppose a cap and trade system for animal welfare.⁴⁰ However, the opposition to such a concept might not be as strong as one might initially think. In addition to California having banned battery cages, gestation crates, and veal crates through Proposition 2, five other states (Maine, Florida, Colorado, Arizona, and Oregon) have bans on either veal crates, gestation crates, or both. That means that to date, farmers and the farming industry in six states have a direct interest in supporting a cap and trade system for animal welfare. The animal agriculture interests in those states might support this concept for three reasons:

⁴⁰ See California Secretary of State, *Californians for Safe Food, A Coalition of Public Health and Food Safety Experts, Labor Unions, Consumers, Family Farmers and Veterinarians. No on Proposition 2*, <http://cal-access.sos.ca.gov/Campaign/Committees/Detail.aspx?id=1301370&session=2007&view=latel> (last visited Oct. 20, 2009) (Campaign Finance Report).

1. They already face complete bans on using battery cages, veal crates, or gestation crates in some combination.
2. If a cap and trade system for animal welfare is implemented, the animal farming industry in these states would be first in line to be able to sell their animal welfare credits to non-conforming operations, thus earning them extra revenue.
3. They will be able to more easily and readily access the growing markets for products compliant with increased animal welfare standards. Currently, they may feel burdened by the regulations in their respective states. With an animal welfare cap and trade system, they are primed to take advantage of a growing market.

In addition to the animal farming industries in those six states, some large individual companies have already made the decision to increase their commitment to animal welfare. For example, Smithfield Foods, the largest pig producer in the United States, has committed itself to phasing out gestation crates. Their incentive to support a cap and trade system for animal welfare would be the market-based trading of unused credits to increase their bottom line.

Smaller farmers and family farmers might also support the concept. Using Proposition 2 as an example, according to Californians for Humane Farms, more than one hundred California farmers supported Proposition 2.⁴¹ Under the cap and trade approach, not only would farmers interested in better animal welfare support it, but those with financial incentives—through the possibility of increased market share and the opportunity to trade animal welfare credits—may lend their support.

⁴¹ Californians for Humane Farms, *Yes on Prop 2: Endorsers*, http://yesonprop2.hsus.org/index.php?option=com_content&view=article&id=52&Itemid=85 (last visited Oct. 20, 2009).

Similarly, the retail industry and the food processing industry might exhibit the same dichotomy. While many retailers and processors would be opposed to the animal welfare cap and trade system, many would also support it. Companies such as Safeway, Trader Joe's, and Whole Foods are already implementing cage-free egg policies.⁴² Food processors such as Burger King, Ben & Jerry's, and Wolfgang Puck have already moved to use more products that meet higher animal welfare standards.⁴³ All of these companies and others that are already moving in the direction of stronger animal welfare standards would have the market-based incentive to support a cap and trade for animal welfare concept, if not because of their own corporate philosophies in supporting the better treatment of animals, then for the

⁴² HSUS.org, *Safeway Leading the Way on Animal Welfare*, http://www.hsus.org/farm/news/ournews/safeway_animal_welfare_0211108.html (last visited Sept. 9, 2009); HSUS.org, *Campaign Victory: Trader Joe's Goes Cage Free with its Brand Eggs*, http://www.hsus.org/farm/camp/nbe/traderjoes/trader_joes_goes_cage_free.html (last visited Sept. 9, 2009); HSUS.org, *Wild Oats and Whole Foods Sow Compassion with Cage-Free Egg Policies*, http://www.hsus.org/farm/camp/nbe/wildoats/wild_oats.html (last visited Sept. 9, 2009).

⁴³ HSUS.org, *Campaign Victory! Ben and Jerry's Adopts A Cage-Free Egg Policy*, http://www.hsus.org/farm/news/ournews/ben_jerrys_victory.html (last visited Sept. 9, 2009); HSUS.org, *Burger King Decrees: Better Treatment for Some Farm Animals*, http://www.hsus.org/farm/news/pressrel/burger_king_decree.html (last visited Sept. 9, 2009); HSUS.org, *Animal Welfare Has a Place at Wolfgang Puck's Table*, http://www.hsus.org/farm/news/ournews/wolfgang_puck_animal_welfare.html (last visited Sept. 9, 2009).

financial incentives that a cap and trade system would offer each of them.

VIII. CONCLUSION

At its most basic level, cap and trade works to affect change because it is a market-based system in a capitalist society. Where appealing to morality, instituting regulations, or taxing behavior may not be effective, providing the opportunity to increase revenue can be very compelling to companies. After all, creating revenue is the ultimate purpose of business. Cap and trade offers businesses a unique opportunity to use the market to develop a compliance process that is most beneficial to their bottom lines.

It has taken many years for the industries that use animals to develop the processes and infrastructure currently in use that provide the substandard levels of animal welfare. It will take time to break down those processes and infrastructure and institute new ones. A cap and trade program for animal welfare would set into motion a measurable and appreciable process to improve animal welfare over time.

Finally, imagine a cap and trade for animal welfare program as an hourglass. The grains of sand within the hourglass are the negative animal welfare activities. Under a well-administered cap and trade program for animal welfare, the decrease in negative animal welfare activities over time will be steady. As companies meet or fall under the cap limits, negative animal welfare activities drop, just as the grains of sand drop through the hourglass. Those activities that are not in compliance with the cap limits are represented by the sands that remain in the upper portion of the hourglass. Eventually, as the cap

and trade program continues to operate and the total number of negative animal welfare activity credits diminish, each company will necessarily decrease its negative animal welfare activities, represented by the continuing downward flow of sand. As the cap and trade program approaches completion, all negative animal welfare activity addressed by the cap limits will have ceased, just as every grain of sand successfully passed through the hourglass. It is at this point that the goals of the cap and trade program will have been achieved.