



Agricultural Management Committee Newsletter

Vol. 14, No. 1

January 2010

MESSAGE FROM THE CHAIR

Alan J. Sachs

Chair, Agricultural Management Committee

I am pleased to present this newsletter as I return to chair for the fiscal year 2009–2010 and welcome many familiar faces back to the committee leadership:

- Tom Redick will continue to edit our committee’s quarterly newsletter, with our Technology vice chair Shawna Bligh assisting as “issue editor” for an upcoming joint issue with the Climate Change, Sustainable Development, and Ecosystems Committee.
- Bryan Endres continues as Membership vice chair.
- Martha Noble continues her second decade of stellar work as *Year in Review* vice chair.
- James Andreasen and Michael Formica will handle Programs, including the Section’s March 2010 environmental law conference in Salt Lake City.
- The founder of this committee, Lynn Bergeson, serves as Public Service vice chair.
- Former newsletter editor Ellen Steen is “at large” vice chair, helping out on programs and publications.

Outreach

I would also like to introduce our new ABA Section of Environment, Energy, and Resources (SEER) chair, John Cruden, counsel in the U.S. Department of Justice. As John has identified “outreach” as the theme for his tenure, we should also consider together how our committee—one of the fastest growing in our Section over time—can expand to both address new issues (e.g., agro-nanotechnology, urban/vertical agriculture, etc.) and attract new members.

Since its founding in 1996, our committee has successfully increased the involvement of agricultural attorneys with a wide range of environmental interests, effectively balancing views of industry, academia, government, and NGO attorneys. In my second year as chair, building on the success of September’s 17th Section Fall Meeting, I hope we can continue this trend while encouraging more active involvement by existing members.

Earlier this year, for example, John appointed our newsletter editor (Tom Redick) to act as “liaison” to the American Agricultural Law Association (AALA), on whose board of directors, incidentally, sits our own Bryan Endres. Tom was also appointed to be coordinator for all SEER newsletters. SEER is actively seeking liaisons to other sections and legal organizations; please let me know if you are interested in volunteering in this or any other efforts to bring new members into our midst.

**Agricultural Management
Committee Newsletter
Vol. 14, No. 1, January 2010
Thomas P. Redick, Editor**

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We should also begin exploring how social media can help communicate our committee's messages to attorneys around the world with similar interests. "LinkedIn" or "Facebook" may provide us with new pathways to attract young lawyers and law students as authors for this newsletter, who can then move into program planning, working on *The Year in Review*, and other committee responsibilities. We welcome any new ideas that will help us maintain our position as a leading base of resources and networking for agricultural environmental lawyers at home and abroad.

Programs

SEER's 17th Section Fall Meeting in Baltimore in late September was very successful, including sessions developed by our committee on climate change, carbon capture, and, notably, "hot topics" in agriculture, which featured our own Michael Formica as a panelist. We also coordinated, through Tom Redick, a panel session on certification of carbon storage at the October 23 Biosequestration Conference cosponsored by the ABA with Columbia Law School in New York City. The slides from those sessions are posted on the Columbia Law School Web site. (Some presentations are available at <http://www.law.columbia.edu/centers/climatechange/events>.)

It is not too early to start planning for SEER's 39th Annual Conference on Environmental Law, March 18-21, 2010. This year's conference will take place in Salt Lake City, a new location for our Section after nearly four decades in Keystone, Colorado. The location move is intended to open up attendance—at lower travel cost—to many more members and potential members of SEER.

Newsletter

We start the new year with an issue that is full of timely news including analysis addressing climate change, biofuels and groundbreaking case law. Look for a joint issue with the International Environmental Law Committee in the spring, and this summer we are doing a joint issue on sustainable agriculture with the Climate Change, Sustainable Development, and Ecosystems Committee (Shawna Bligh is our guest editor).

This issue's authors include:

- Marybelle Ang and Matthew Warnock, providing our agricultural environmental case law update;
- Marybelle Ang summing up the EU's current crisis in animal feed, as it bars U.S.-origin soybean meal due to traces of unapproved biotech corn;
- A trio of vice chairs (Tom Redick, Shawna Bligh, and Jim Andreasen) providing an update on the controversial ANSI Standard on Sustainable Agriculture;
- OSU Law School third-year student, Dorian Slaybod, profiling President Obama's stance on biofuels, including the ethanol support that won votes in the Farm Belt;
- Guy Knudsen, returning to our newsletter, has an article on the food-fuel issues and other environmental implications of ethanol production.
- Shawna Bligh and Chris Wendelbo are providing a report on EPA's reporting rule for carbon emissions; and
- Joy Fuhr is digging deeper into the EPA emissions reporting rule, comparing it to the new reporting rule from Washington State (which has a lower threshold and broader scope than the EPA rule).

LIKE TO WRITE?

The Agricultural Management Committee welcomes the participation of members interested in preparing this newsletter.

If you would like to lend a hand by writing, editing, or identifying authors or issues, please contact the editor, Thomas P. Redick at thomasredick@netscape.net.

CASE LAW UPDATE

Marybelle C. Ang
Matthew Warnock

This case law update provides a brief overview of recent federal cases in agricultural environmental law involving a range of "hot" topics, including nuisance law for biotech crops and greenhouse gasses, water rights, wetlands (the "Swampbuster" Act), food labeling, and the National Environmental Policy Act (NEPA).

Biotech Crops and Nuisance Law

On December 4, 2009, a jury in St. Louis, Missouri, awarded two farmers approximately \$2 million in compensatory damages for the contamination of their rice crops with an experimental variety being tested by Bayer CropScience LP (*In re Genetically Modified Rice Litigation*, Case No. 06-md-01811 (E.D. Missouri)). Despite a request for more than \$80 million in punitive damages, the jury chose to award only the \$2 million in compensatory damages. This decision, however, is only the first of more than 1,000 similar cases filed against Bayer in the southern United States since the U.S. Department of Agriculture's (USDA's) 2006 pronouncement that Bayer's Liberty Link rice had contaminated significant portions of U.S. long-grain rice crops.

This verdict without published opinion followed an October 9, 2009, judgment entered after summary judgment with a detailed opinion dismissing certain claims against Bayer but allowing trial of claims for negligence and private nuisance from "negligent contamination of the nationwide rice supply" leading to "market losses and damage to other property, including equipment, land, and rice." In that prior order, that court found these common-law tort claims were not barred by the economic loss doctrine. The court distinguished two prior cases involving "the negligent spread of GM food" where *contracting* farmers—who had purchased contaminated seed directly from the seed company—had claims that were barred, at least in part, by the economic loss doctrine. *In re Starlink Corn Prods. Liab. Litig.*, 212 F. Supp. 2d, 828 (N.D. Ill. 2002); *Sample v. Monsanto Co.*, 283 F. Supp. 2d 1088, 1092–94 (E.D. Mo. 2003).

Moreover, the court rejected Bayer's argument that low level presence (LLP) in the U.S. rice supply was federally permitted and provided a defense—since USDA is in the process of proposing new LLP regulations, plaintiffs were correct in stating that the Animal and Plant Health Inspection Service (APHIS) was implying that the current regulations would not allow LLP. Bayer had a duty to ensure that the GM trait did not “escape and contaminate other non-GM rice” because this was a “known and foreseeable risk” of conducting field trials (since federal law required strict containment, a common law duty arose). *See In re Genetically Modified Rice Litigation*, 2009 U.S. Dist. LEXIS 98302 (Oct. 9, 2009).

With around one thousand farmers still awaiting trial, and plaintiffs' counsel seeking to add Bayer A.G. (foreign parent of Bayer Cropsciences), the defendants may be inclined to settle the remaining consolidated cases using this “test plaintiff” verdict as a guide. Perhaps more importantly, this decision may confirm what past research articles and the ABA *Trends* newsletter have predicted—that liability under nuisance law could evolve and expand to protect the economic interests of growers and grain traders in export markets.

Greenhouse Gas Regulation

Connecticut v. American Elect. Power Co., Inc., 582 F.3d 309 (2d Cir. Sept. 21, 2009), involves groundbreaking common law nuisance claims. The Second Circuit's landmark decision in this case allowed a group of plaintiffs to plead a federal common law nuisance action against six large electric companies based on the adverse effects of their carbon dioxide emissions. This is the first federal circuit court to allow such a claim to be pled, thereby bringing the regulation of greenhouse gas emissions within the jurisdiction of the federal courts.

In 2004, eight states, the city of New York, and three nonprofit land trusts filed separate complaints in federal district court against six electric companies (including five of the largest CO₂ emitters in the United States). They alleged federal common law nuisance claims against the electric companies based on the adverse

impact of defendants' carbon dioxide emissions on the plaintiffs' property interests and the general public's comfort, safety, and enjoyment of public property. They sought relief in the form of a carbon dioxide cap and reduction in carbon dioxide emissions over a 10-year period.

The district court dismissed based on the political question doctrine, concluding that the “initial policy determination addressing global climate change was better left to the political branches of government.” On appeal, the Second Circuit reversed, citing the limited scope of the political question doctrine. In allowing the cases to proceed, the court emphasized that “not every case with political overtones [e.g., one involving limits on carbon dioxide emissions] is non-justiciable.”

Before addressing the merits, however, the Second Circuit addressed Article III standing. The appellate court concluded that plaintiffs had standing based on (1) their rights as property owners, and (2) a state's right to prevent injuries to citizens who cannot protect themselves (*parens patriae* standing).

In allowing the federal nuisance claims to be pled, the court first concluded that plaintiffs' properly alleged that these emissions arguably could contribute to global warming and “constitute a substantial and unreasonable interference with public rights . . . including the right to public comfort and safety, the right to protection of vital natural resources and public property, and the right to use, enjoy and preserve the aesthetic and ecological values of the natural world.”

Next, the court rejected the argument that the federal nuisance claims were preempted by federal law (i.e., the Clean Air Act and other climate-related statutes). Although recognizing the Environmental Protection Agency's (EPA's) power to regulate greenhouse gases under the Clean Air Act, the Second Circuit emphasized that EPA had not taken the steps required to do so (e.g., finding that greenhouse gases from stationary sources are an air pollutant, drafting a rule, and establishing national ambient air quality standards for carbon dioxide). Until EPA or Congress directly regulates the emission of carbon dioxide, plaintiffs' quest to cap carbon dioxide emission will continue through the federal courts.

Water Rights

In *Stockton East Water Dist. v. United States*, 583 F.3d 1344 (Fed. Cir. Sept. 30, 2009), the Federal Circuit Court of Appeals found the United States liable for breach of a water supply contract with two California water districts, ending a 16-year battle over water rights in California. In the 1930s, the U.S. Department of the Interior initiated the Central Valley project, the largest water management program in the United States, to serve the water needs of California's Central Valley Basin. The last portion of this massive undertaking involved the construction of the New Melones dam and reservoir. Once New Melones was completed, the federal government entered into contracts with two California water districts in 1983.

While these contracts set forth minimum and maximum amounts of water that the federal government had to make available to each water district on an annual basis, the United States often failed to provide the minimum agreed amount from 1993 to 2004. The United States claimed that the enactment of the Central Valley Project Improvement Act (CVPIA) required the diversion of substantial amounts of water for fish, wildlife, and habitat restoration.

In 1993, both California water districts filed complaints in a California federal court alleging that the implementation of the CVPIA impaired their contracted-for water rights and constituted an unconstitutional taking. A decade later, the case was transferred to the Federal Court of Claims where the complaint was amended to add breach of contract claims. The case proceeded to trial in 2006, where the trial court concluded that (1) "in each year from 1993 to 2004, Reclamation breached the . . . contracts by not making available the amounts of water in the annual minimum purchase and supply schedule;" and (2) the breaches were "excused because Reclamation validly invoked" a contractual defense and "its determinations were not arbitrary, capricious or unreasonable." The court also dismissed the takings claims.

On appeal, the Federal Circuit reversed and remanded for a determination of damages on the breach of contract claims. The primary issue on appeal proved to

be whether any of the three affirmative defenses raised by the federal government defeated the uncontested breach of the water supply contracts. The appellate court rejected the "inherency" defense, which claims that federal contracts are inherently subject to changes in federal law and/or policies. Explaining its holding, the appellate court noted there was nothing in the contracts "to suggest that the . . . claim of inherent law incorporated into them is what either party . . . understood was intended."

In addition, the court rejected the contract provision defense based on a provision allowing the federal government to fail to provide water when there is a water shortage caused by circumstances "beyond the control of the United States." Comparing this provision to a force majeure (or "Act of God") provision, the court concluded that "changes in law . . . are all causes within the control of the United States," and therefore outside the scope of this contractual defense.

Finally, the court rejected the sovereign acts defense, or the "classic government defense involved whenever a Congressional enactment or other official government action unsettles what were thought to be settled contractual arrangements." In essence, this defense looks at whether performance of a contract was rendered impossible due to a governmental act. The appellate court agreed with the trial court that performance had not been rendered impossible by the enactment of the CVPIA.

Before remanding the breach of contract claims, the appellate court also revived the takings claims for the years in which the federal government did not breach the water supply contracts.

"Swampbuster"

In *Bedeker v. United States*, 2009 WL 691288 (N.D. Ill. Mar. 16, 2009), the court interpreted "Swampbuster" provisions in the Food Security Act of 1985 (which denies federal payments to growers that convert wetlands) to force Illinois farmers to pay back federal farm benefits received over a number of years as a result of their conversion of protected wetlands into crop-producing areas. Nearly eight years before

the Bedekers purchased a 600-acre farm in Illinois, the National Resources Conservation Service (NRCS) of the U.S. Department of Agriculture determined that approximately 11 acres on the farm constituted protected wetlands that should not be farmed. In 1998, NRCS informed the Bedekers that several acres of protected wetlands had been farmed. Recognizing that this jeopardized their right to certain federal benefits available to farmers, the Bedekers agreed to plant the area with grasses as a mitigation measure. In 2006, however, NRCS discovered that the Bedekers had again cleared and planted crops on protected wetlands areas. An administrative proceeding was initiated against the Bedekers, and they were ordered to repay more than eight years worth of federal farm benefits. An appeal to the federal district court ensued, and the administrative ruling was affirmed.

The federal district court appeal alleged that two exemptions in the Swampbuster Act could excuse otherwise improper conversion of wetlands—the “good faith” and “minimal effect” defenses. First, the court rejected the good faith exception, which requires a determination that the landowner “did not intend to convert a wetland and is implementing all the components of an agreed-upon mitigation plan,” because defendants (1) repeatedly acknowledged the rules regarding the development of wetlands in forms they filed seeking federal farm benefits; (2) stated on the federal farm benefit forms that they were not clearing or planting on protected wetlands; and (3) through communications with the federal government proved that they were aware of the wetlands on their property.

Second, the court rejected the defense that the actions only had a “minimal effect on wetlands,” finding the testimony of the Bedekers’ expert to be unreliable. The court expressed great deference to an agency that relied on its own experts’ reasoned opinion.

Misleading Agricultural Labels

Int’l Dairy Foods Assoc. v. Boggs, 2009 WL 937045 (S.D. Ohio Apr. 2, 2009), confirmed the constitutionality of an Ohio administrative scheme regulating the labeling of dairy products in Ohio—in

particular, rules preventing the disclosure of misleading information relating to the hormone recombinant bovine somatotropin (rBST).

More than 15 years ago, the Food and Drug Administration (FDA) approved the use of rBST in dairy cows to increase milk production. The FDA not only determined that rBST was safe, but concluded that milk produced from cows treated with rBST is not significantly different from milk produced from untreated cows.

Immediately following the FDA’s approval of rBST, issues arose regarding the labeling of dairy products based on an increased demand for dairy products from cows not treated with rBST. To address this situation, the FDA published a document indicating its preference that labels discuss “how the milk is produced, rather than the composition of the milk” to avoid misleading the consumer. More specifically, the FDA suggested that labels should use contextual information, such as a disclaimer indicating: “no significant difference has been shown between milk derived from rBST-treated and non-rBST-treated cows.”

In 2008, Governor Strickland of Ohio issued an executive order authorizing the Ohio Department of Agriculture (ODA) to adopt rules identifying what constitutes false and misleading labeling on dairy products. Among other things, the final rule established as false and misleading (1) labels containing composition claims (e.g., “hormone free,” or “rBST free”), and (2) labels containing production claims (e.g., “this milk is from cows not supplemented with rBST”) *unless* the claim has been verified and the label contains a specified disclaimer. Two national dairy trade associations challenged the constitutionality of the final rule.

The federal district court first rejected the trade associations’ First Amendment claims. Recognizing that the outright ban on composition claims involved the regulation of commercial speech, the court emphasized that both states and the federal government could “prevent the dissemination of commercial speech that is false, deceptive or misleading.” The court subsequently

adopted the rationale of the ODA in adopting the rule—namely that the composition phrases specified in the rule are “inherently misleading because they are not verifiable and because they imply that there is a compositional difference between milk so labeled and other milk not so labeled.”

Next, the court upheld the requirement that production claims be accompanied by a disclaimer. The court concluded that the use of the disclaimer was reasonably related to the legitimate state interest of preventing the disclosure of misleading information. As additional support, the court noted that the disclaimer had the “support of the FDA as well as a number of other states.”

Moving on, the court concluded that the burdens imposed by the rule on interstate commerce are outweighed by the local benefits of preventing the disclosure of misleading information. In particular, the court focused on the lack of evidence indicating that any dairy producer would withdraw from the Ohio market rather than relabel their products. Additionally, the court noted that Ohio’s law is the strictest in the country and compliance with Ohio law would keep producers “in compliance with the laws in other states.”

Finally, the court concluded that the Ohio rule was not preempted by the Organic Foods Production Act (OFPA) because the Ohio rule (1) creates national standards for labeling foods as organic without regulating the contents of the label; and (2) “does not hinder the national marketing of products labeled ‘organic,’ does not change the consistent standard of organic products established by the OFPA, and does not interfere with interstate commerce of organic products.”

NEPA

In *Ohio Valley Env. Coalition v. Hurst*, 604 F. Supp. 2d 860 (S.D. W. Va. Mar. 31, 2009), Nationwide Permit 21 (NWP 21) authorizes the discharge of dredged or fill materials associated with surface coal mining into waters of the United States if (1) certain general conditions are satisfied, and (2) the proposed project will only have a minimal adverse effect on the aquatic environment. A number of environmental groups challenged two versions of NWP 21 (the 2002 version and the 2007 version) by filing a complaint in federal district court. After a lengthy procedural history that included an appeal to the Fourth Circuit, the case returned to federal district court for final resolution.

ABA SECTION OF ENVIRONMENT, ENERGY, AND RESOURCES Calendar of Section Events

Cooperative Federalism and Green Infrastructure Development

January 20, 2010
Quick Teleconference

ABA Midyear Meeting

February 3–9, 2010
Orlando

28th Annual Water Law Conference

February 17–19, 2010
San Diego

39th Annual Conference on Environmental Law

March 18–21, 2010
Salt Lake City

ABA Petroleum Marketing Attorneys Meeting

April 19–20, 2010
Washington, D.C.

Eastern Water Resources

May 20–21, 2010
Orlando

18th Section Fall Meeting

September 29–October 2, 2010
New Orleans

**For more information, visit
www.abanet.org/envIRON/calendar/**

Initially, the court dismissed the challenges to the 2002 version of NWP 21 as moot. The reason—the Army Corps of Engineers ability to issue permits under the 2002 version had expired, and no mining/dredging activities authorized under that permit remained ongoing.

Next, the court moved on to an analysis of the challenge to the 2007 version of NWP 21. After briefly acknowledging that the environmental groups satisfied the Article III standing requirements, the court jumped into the merits of the case.

From the outset of its decision, the court emphasized that the Corps could only issue a nationwide permit if it satisfied the conditions in the Clean Water Act (CWA) and NEPA. The court, however, found reviews under both statutes to be deficient. First, the NEPA analysis failed to account for the present effect of past impacts (e.g., the loss of thousands of miles of streams in Appalachia due to the impacts associated with mountaintop mining). Next, the court determined that the Corps' determinations under both the CWA and NEPA improperly "relied exclusively on the presumed success of compensatory mitigation and later regional determinations in deciding that NWP 21 (2007)'s cumulative impact would be minimal." In essence, the court recognized as arbitrary and capricious the Corps' failure to provide any evidence that proposed mitigation measures would be successful or adequately monitored and enforced. For this reason, the court prohibited the Corps from issuing NWP 21 in the Southern District of West Virginia until revised CWA and NEPA analyses were completed.

Marybelle C. Ang currently works on regulatory matters in the Power Procurement Business Unit of Southern California Edison. She can be reached at Marybelle.Ang@sce.com.

Matthew Warnock is an associate in Bricker & Eckler LLP's Energy, Public Utilities, and Environmental Green Strategies Group.

A SLOW-MOTION TENNIS MATCH: GMO DEBATE CONTINUES . . .

Marybelle C. Ang

This past summer, approximately 200,000 tons of U.S. shipments of corn-containing soybean meal were turned away from, or not shipped to certain EU ports due to the presence of unapproved biotech corn varieties (called "genetically modified organisms") GMOs under EU law). This is the first time that trade disruption has been caused by a nation that tested for unapproved varieties of other crops (e.g., corn) in shipments of another commodity (here, soybeans). Although the EU has approved several biotech varieties of corn and soy, the presence of even trace amounts of non-approved GMOs halted U.S. soy imports at the borders of two EU countries (Germany and Spain). These nations surprisingly began this summer to extend the EU zero-tolerance policy to traces of biotech DNA found in "foreign material" (the unavoidable dirt, bugs, etc., that are allowed in food and feed shipments).

The resulting adverse financial impact on EU livestock producers from this expansion of the traceability regime is significant, according to the animal feed industry. Europe needed several hundred million tons of North American soybeans until March 2010—or other crops like canola—to compensate for low soy harvests in South America. Describing Europe's infamous GMO stalemate, EU Agricultural Commissioner Mariann Boel likened the current debate over GM corn to a "slow-motion tennis match" (Felix Bate, *Blocking Biotech Feed Harms Farmers—EU Farm Chief*, Oct. 15, 2009, <http://www.reuters.com/article/companyNews/idUSLF65089120091015?pageNumber=1&virtualBrandChannel=0>). As of early December 2010, the four biotech corn traits (or "genetic events") that disrupted trade from August through November had each been approved through the EU's cumbersome regulatory approval process.

Assuredly, the increased presence of GMOs in the global marketplace raises the likelihood of contamination in shipments, and likewise, economic

risk resulting from more frequent rejections based on zero-tolerance policies. In response to the EU's failure to provide regulatory consistency and process over and above individual state GMO policies, the American Farm Bureau Federation submitted comments to the U.S. Trade Representative in September 2009, urging a retaliation proceeding against the EU. A 2006 World Trade Organization challenge by the United States, Argentina, and Canada resulted in an appellate body decision chastising the EU for its slow and inconsistent (politicized) approach to regulatory approval.

In Europe's defense, member states (here, Germany and Spain) are free to interpret EU Directives (e.g., the Traceability Directive Regulation (EC) No 1831/2003). Moreover, the European Commission (EC) tried in August to accelerate the removal of a Cypriot law banning the sale of biofuels made from biotech crops. The original EU directive after which the Cypriot law was modeled had promoted the use of biofuels for transport; however, Cyprus included an additional banning clause without notifying the EC. Lastly, in early December 2009, the European Commission gave the last of the three events disrupting trade—MIR604 maize—a positive safety assessment from the European Food Safety Authority and full authorization from the EU. As usual, EU member states failed to give a majority decision so the dossier was sent back to the Commission for an authorization that is valid for 10 years.

There are signs that this episode is increasing the level of biotech acceptance. First and foremost, the German government, in keeping with promises made by a new pro-business coalition, voted in favor of a biotech corn event (MIR 604) for the first time, after years of abstention or outright opposition. Second, the Irish producers have also risen to the occasion. An Irish farmer recently stated, in an op-ed article, that 600 percent price increases for feed in Europe might result—truly cataclysmic impacts on EU feeding operations. The question remains, however, whether this trade disruption will repeat itself in coming years. After all, this is the first period in 12 years in which all biotech corn genetic events planted in the (current year) U.S. growing season have received EU import approvals.

The importers who lined up other high-priced sources are slowly adjusting to this news, and soybean meal is starting to flow—but what will the final tally of this folly be? Can an open, science-based political dialogue on GMOs happen in time to forestall future disruption of feed sources for the EU's livestock industry? Or can such a dialogue happen at all?

Marybelle C. Ang currently works on regulatory matters in the Power Procurement Business Unit of Southern California Edison. She can be reached at Marybelle.Ang@sce.com.

OBAMA ADMINISTRATION'S STANCE ON BIOFUELS

Dorian Slaybod

I. Introduction

Biofuels are an energy source that the current administration has been, and will continue to be, supporting and developing. President Barack Obama began discussing the importance of biofuels on the campaign trail. In a speech he gave in August 2008, he promised that if he were elected, he would “invest federal resources, including tax incentives and government contracts, into developing next generation biofuels.” Andrew C. Revkin, *The Obama Energy Speech, Annotated*, N.Y. TIMES DOT EARTH BLOG, Aug. 5, 2008, <http://dotearth.blogs.nytimes.com/2008/08/05/the-obama-energy-speech-annotated/>. He also said he would “make it a goal to have 6 billion gallons of our fuel come from sustainable, affordable biofuels” by 2022. *Id.*

That is a long-range goal, to be sure, but President Obama already has made good on his promise to stimulate the development of biofuels through tax incentives and government contracts. Further, he has appointed three cabinet members committed to clean energy, and he has signed a bill designed to fund biofuels researchers and developers. All of this suggests that the future is promising for biofuels.

II. The Stimulus Plan

Earlier this year, President Obama signed into law the American Recovery and Reinvestment Act (ARRA), which contained a number of biofuels-related provisions. Secretary Chu Announces Nearly \$800 Million from Recovery Act to Accelerate Biofuels Research and Commercialization, DOE Press Release (May 5, 2009), available at <http://www.energy.gov/news2009/7375.htm>. That legislation specifically earmarked \$2.5 billion for energy-efficiency and renewable-energy research, with \$800 million allocated toward biofuels. Erin Voegelé, *House: Stimulus Bill Includes Biomass Provisions*, BIOMASS MAG. (Feb. 2009), available at http://www.biomassmagazine.com/article.jsp?article_ID=2412.

The ARRA also contained other provisions that would assist in biofuels development, including (1) \$500 million to the U.S. Department of Labor for job training in energy efficiency and renewable energy; (2) \$4.5 billion to the Department of Energy for smart grid and energy storage technology research, known as “ARPA-E” grants; and (3) an extension to 2013 of the production tax credit for biomass energy. *Id.*

Some of those earmarks already have made their way to researchers and developers in the biofuels sector. For example, Bio-Cee in Minnesota received a \$2.2-million ARPA-E grant for research on the creation of energy with photosynthetic cyanobacteria. *BioCee Receives \$2.2 Million from ARPA-E for Biofuels from “Artificial Symbiotic Colony of Photosynthetic Cyanobacteria,”* BIOFUELS DIG. (Oct. 28, 2009), <http://www.biofuelsdigest.com/blog2/2009/10/28/biocee-receives-2-2-million-from-arpa-e-for-biofuels-from-artificial-symbiotic-colony-of-photosynthetic-cyanobacteria/>.

This sort of support for biofuels did not begin with the current administration, however. Mascoma of Massachusetts was awarded \$4.9 million from the U.S. Department of Energy in 2007 to create microorganisms that speed the conversion of cellulosic biomass into ethanol. *Mascoma Secures \$4.9M Funding from U.S. Department of Energy*, BUS.

WIRE, Mar. 28, 2007, <http://www.allbusiness.com/services/business-services/4305814-1.html>.

These existing projects, as well as new projects using federal stimulus funds, are just commencing. It is still unclear if any breakthrough technology will come of them. The Obama administration, however, has kept its promise to invest financial support into biofuels.

III. The Biofuels Interagency Working Group

In May 2009, the administration made a strong and specific commitment of resources to the development of biofuels. President Obama’s energy-related cabinet appointees (Steven Chu of Energy, Lisa Jackson of EPA, and Tom Vilsack of Agriculture) announced the creation of the Biofuels Interagency Working Group (BIWG). Matthew L. Wald, *White House Steps Up Support for Biofuels*, N.Y. TIMES GREEN INC. BLOG (May 5, 2009), <http://greeninc.blogs.nytimes.com/2009/05/05/white-house-steps-up-support-for-biofuels/>. The BIWG will consist of members of all three agencies and has several stated goals:

- (1) Develop the nation’s first comprehensive biofuel market development program, which shall use existing authorities and identify new policies to support the development of next-generation biofuels, increase flexible fuel vehicle use, and assist in retail marketing efforts;
- (2) Coordinate infrastructure policies impacting the supply, secure transport, and distribution of biofuels; and
- (3) Identify new policy options to promote the environmental sustainability of biofuels feedstock production, taking into consideration land use, habitat conservation, crop management practices, water efficiency and water quality, as well as life-cycle assessments of greenhouse gas emissions.

Press Release, Office of the White House Press Secretary, President Obama Announces Steps to

Support Sustainable Energy Options, Departments of Agriculture and Energy, Environmental Protection Agency to Lead Efforts (May 5, 2009), *available at* http://www.whitehouse.gov/the_press_office/President-Obama-Announces-Steps-to-Support-Sustainable-Energy-Options/.

The initiative also calls upon Vilsack and the U.S. Department of Agriculture (USDA) to preserve the current industry and accelerate the development of American biofuels. *Id.* Why would President Obama vest so much responsibility in Vilsack and his department to oversee the biofuels industry, while simultaneously creating a multiagency BIWG to do the same? The answer appears to involve a plan to phase out corn ethanol and to move toward next-generation technology.

Studies are adding up that call into question the environmental sustainability of corn ethanol. *See* Kate Galbraith, *New Study Tallies Corn Ethanol Costs*, N.Y. TIMES GREEN INC. BLOG (Feb. 5, 2009), <http://greeninc.blogs.nytimes.com/2009/02/05/new-study-tallies-corn-ethanol-costs/>. In a letter to several farm-state governors earlier this year, President Obama made this position clear, saying, “My administration is committed to moving as quickly as possible to commercialize an array of emerging cellulosic technologies so that tomorrow’s biofuels will be produced from sustainable biomass feedstocks and waste materials rather than corn.” Roberta Rampton, *Obama Seeks Growth in Biofuels Beyond Ethanol*, REUTERS (May 27, 2009), <http://www.reuters.com/article/GCAGreenBusiness/idUSTRE54Q67M20090527>.

This is not good news for corn ethanol producers, but there is an upside: the Obama administration wants to preserve that industry until new technology becomes more realistic and pragmatic. *Id.* President Obama has said, “[The] transition [to newer technology] will be successful only if the first-generation biofuels industry remains viable in the near term.” Therefore, until a workable alternative arrives, it appears the administration will support the existing ethanol industry.

IV. The Farm Bill Directive

On the same day President Obama established the BIWG, he ordered Vilsack and USDA to speed up the biofuels provisions of the 2008 Farm Bill, with only 30 days to do so. News Release, USDA Meets President Obama’s 30-Day Biofuels Directive to Help Meet Country’s Energy Needs, Release No. 0201.09 (Dep’t of Agric., June 8, 2009). http://www.usda.gov/wps/portal/!ut/p/_s.7_0_A/7_0_1OB?contentidonly=true&contentid=2009/06/0201.xml. USDA met that short deadline. *Id.* Among the provisions President Obama wanted to speed up were loan guarantees and grants for bio-refineries, which encouraged the use of them in place of fossil fuels. The other provisions provided funding for the development of “next-generation” biofuels; and provided logistical support for biomass facilities. *Id.*

Vilsack’s quick action demonstrates that he is on board with the administration’s policy agenda. President Obama has the cooperation and support of Vilsack and other cabinet members, who, at least for the time being, appear to share the president’s vision for biofuels.

V. The Renewable Fuel Standard

In addition to the BIWG and the USDA directive, the Obama administration’s EPA issued a Notice of Proposed Rulemaking on a Renewable Fuel Standard (RFS). The proposed RFS aims to increase the supply of renewable fuels to 36 billion gallons by 2022, as required by the Energy Independence and Security Act of 2007. *Obama Gives Biofuels a Presidential Jumpstart*, ENV’T NEWS SERV. (May 5, 2009), <http://www.ens-newswire.com/ens/may2009/2009-05-05-02.asp>. Although the overarching goal of reducing carbon emissions was uncontroversial, the specifics of the RFS were very controversial with major commodity groups. The biodiesel community expressed concern that their products would not meet the proposed RFS and criticized EPA’s methodology (particularly its position on “indirect land use change,” which suggested U.S. growers were causing Amazon rainforests to be cleared in response to high demand for commodities used in biofuel production). Kate

Galbraith, *Biodiesel Makers Lash Out at E.P.A. Rule*, N.Y. TIMES GREEN INC. BLOG (May 7, 2009), <http://greeninc.blogs.nytimes.com/2009/05/07/biodiesel-group-lashes-out-at-epa-rule/>.

In Congress, the Waxman-Markey climate change bill (H.R. 2454) passed by a close vote after long negotiations. House Speaker Nancy Pelosi and Rep. Collin Peterson, chairman of the House Agriculture Committee, agreed on language defining “indirect land use change,” which refers to carbon emissions caused by converting farmland for the use of making biofuels such as ethanol. That compromise put to rest the fears of the biodiesel industry. Erin Voegelé, *Waxman-Markey Bill to Address Indirect Land Use Change*, ETHANOL PRODUCER MAG. (July 2009), available at http://www.ethanolproducer.com/article.jsp?article_id=5781.

The agreement in H.R. 2454 would require a five-year study by an independent body, and then agreement by EPA, DOE, and USDA before a carbon penalty could be imposed for indirect land use change. *Id.* This agreement will safeguard biodiesel’s competitiveness for at least another five years. The final rule will be promulgated in December, which means that any independent study would not begin until 2010. Susanne Retka Schill, *EPA to Issue Final RFS2 Rule in December*, BIODIESEL MAG. (Nov. 2009), available at http://www.biodieselmagazine.com/article.jsp?article_id=3798.

VI. Conclusion

The Obama administration has done a lot during its first year to affect the biofuel industry, and nearly all of it appears to be positive. The president has made clear his preferences for cleaner fuels, like cellulosic ethanol, but he also has made clear that he has no immediate intention of restricting the existing biofuels industry. Congress and EPA have taken a similar approach, if somewhat less supportive. It is too early to pick the real winners of the president’s policy decisions. No one is sure when the breakthrough technology for a cleaner biofuel source will come or what it will be, and it is difficult to predict how strong the existing ethanol industry will be at the time the technology comes

around. The biofuels industry as a whole, however, appears to be highly regarded by President Obama. So, for at least the next three years, it looks as if biofuels will receive the goodwill and support of the administration

Dorian Slaybod is a third-year law student at the Ohio State University Law School.

Cooperative Federalism and Green Infrastructure Development

Quick Teleconference

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BIOFUELS: THE ENVIRONMENTAL DOWNSIDE

Guy R. Knudsen

Biofuels are obtained from living or recently living biological materials, typically plants and plant-derived products, in contrast to fossil fuels (coal, oil, natural gas) which were formed from plants and animals living up to 300 million years ago. Biofuels include ethanol and biodiesel, and are widely considered to be promising sources of renewable energy. Ethanol as a biofuel can be produced from a variety of crops including corn, sorghum, wheat, sugar cane, and fast-growing trees such as poplar. Ethanol typically is combined with gasoline, promoting more complete fuel burning and reducing certain harmful emissions including carbon monoxide and hydrocarbons. Biodiesel is derived from natural oils of plants including soybean, palm, and rapeseed, hemp, algae, etc., and also from waste vegetable oil and animal fat.

Because plant-derived biofuels represent a renewable resource, and since plants themselves remove CO₂ from the atmosphere, biofuels have been hailed as an effective and sustainable source of energy, with environmental benefits including mitigation of climate change. Backed by growers, politicians, and many environmentalists, subsidized biofuel production and use in the United States and Europe have expanded rapidly in recent years. In the United States, the 2007 Energy Act mandated significantly increased usage of cellulosic ethanol. The 2008 Farm Bill provides subsidies for growers of biofuels crops as well as for refiners who convert them to ethanol. Corn-based ethanol is currently the most widely used biofuel in the United States. In Europe, the EU several years ago set a target whereby biofuels such as rapeseed, palm oil, and bio-ethanol were to account for 10 percent of transport fuel by the year 2020 (although that target has recently been lowered to 6 percent).

However, an increasing number of scientists and economists are warning that problems associated with biofuels continue to be ignored by policy makers. One concern relates to “carbon-neutrality” and the actual energy yield of biofuels. Carbon-neutrality is based on

the idea that CO₂ released from combustion of biofuels is cancelled out by CO₂ absorbed by the growing plants. However, if the CO₂ released during crop production and biofuel processing is also factored into the equation, by some estimates many biofuels come up short. There are similar concerns about the true amount of net energy provided by different biofuels, with some (albeit controversial) studies indicating that for many crops, more fossil energy is required for biofuel production than is actually produced as fuel (e.g., E. Goffman, *Biofuels: What Place in Our Energy Future*, available at www.csa.com/discoveryguides/biofuel/reviewf.php.) A second major concern relates to the diversion of cropland from food production to biofuel production. When biofuel crops replace food crops, there may be an accompanying rise in food prices. When croplands are shifted to biofuel production in developing countries particularly, economic and social inequities may result.

The third area of concern about biofuel production, which will be the focus of the remainder of this article, is the often ignored or underestimated potential for environmental damage. There are several general areas of environmental concern related to biofuel production, including adverse effects on air pollution and global warming, deforestation and loss of habitat diversity, and production-associated problems involving water usage, fertilizers, and pesticides.

Adverse Effects on Air Pollution and Global Warming

At first glance, the production of biofuel crops, which actually remove CO₂ from the atmosphere, would appear to be environmentally benign. However, these crops have to grow somewhere, and in much of the world the conversion to biofuel crops involves removal (including burning) of the original tropical forest, peat land, or other vegetation. For example, there has been a major effort to plant and harvest oil palms in several tropical developing countries, including Indonesia, Malaysia, Thailand, and some West African countries. Production has approximately doubled in the last 20 years. The rapid release of CO₂ into the atmosphere that accompanies land clearing, as a result of biomass burning and decomposition of plant material and soil

humus, potentially negates any greenhouse gas benefits of subsequent biofuels crops, perhaps for many years to come.

Biofuel crops may contribute to atmospheric pollution in another way: production of both corn and rapeseed (the most widely planted biofuel crops in the United States and Europe, respectively) requires large inputs of nitrogen fertilizer. This can result in significantly higher release of nitrous oxide, a potent greenhouse gas, into the atmosphere. A recent study (P. J. Crutzen, 7 *ATMOS. CHEM. PHYS. DISCUSS.* 11,191–205 (2007)) estimated that biodiesel produced from rapeseed can result in up to 70 percent higher greenhouse gas emissions compared to fossil fuels, while corn can result in up to 50 percent higher emissions. To summarize, growing and burning many biofuels may actually raise rather than lower greenhouse gas emissions.

Deforestation and Loss of Habitat Diversity

Habitat loss due to the increasing conversion of wildlands to biofuel croplands will have lasting and deleterious effects on biological diversity, i.e., the numbers and distribution of species of plants, animals, and microorganisms in a given area. For example, oil-palm plantations cover over 13 million ha, primarily in Southeast Asia, where they have replaced the biologically rich tropical rainforest (Debra S. Finn et al., *Demographic Stability Metrics for Conservation Prioritization of Isolated Populations*, 23 *CONSERV. BIOL.* 348–58 (2009) (“Finn”). It was found that trees, lianas, epiphytic orchids, and indigenous palms were completely absent from oil-palm plantations, and that the majority of remaining plant and animal species in those plantations were of low conservation concern. The situation is similar with soya, used as a raw material for biodiesel, and production of which in large plantations is a major factor behind the destruction of the Amazon rainforests. Conversion of forested lands to short-rotation biofuel cropping systems has the potential for release of carbon stored as soil organic material, along with increased erosion and reduced soil fertility.

Another negative consequence of increased biofuel production in ecologically sensitive areas is the

potential increase in numbers of invasive species. As efforts continue toward identifying new biofuel crops, including nonnative species, it is important to realize that a number of plant traits considered to be ideal for a biomass crop (e.g., high biomass production per unit energy input, efficient use of light, water and nutrients, perennial growth) are also common features of invasive plant species. As an example of a poorly planned crop introduction, the plant known as Johnson grass was introduced as a forage grass and has now become an invasive weed in many states. Some of the same concerns about invasiveness arise around cellulosic agro-fuels based on fast-growing genetically engineered trees.

Despite the economic attractiveness of many of these new biofuel crops, and their purported benefits related to global climate change, the possible ecological risks associated with them need to be carefully assessed prior to their introduction. Indeed, programs aimed at reducing deforestation may well provide a more effective climate-change mitigation strategy than conversion of forests for biofuel production, and would have the additional benefit of helping countries to meet their international commitments for biodiversity support (Finn supra). Arguably, appropriate management practices will help to reduce potential deleterious environmental impacts of biofuel production. On the positive side, there is the possibility that if biofuels are produced so as to reduce rather than increase atmospheric greenhouse gases, a beneficial impact on biodiversity might be attained. Howarth, R.W., S. Bringezu, M. Bekunda, C. de Fraiture, L. Maene, L. Martinelli, O. Sala. 2009. Rapid assessment on biofuels and environment: overview and key findings. Pages 1-13 in R.W. Howarth and S. Bringezu (eds), *Biofuels: Environmental Consequences and Interactions with Changing Land Use*. Proceedings of the Scientific Committee on Problems of the Environment (SCOPE) International Biofuels Project Rapid Assessment, 22-25 September 2008, Gummersbach Germany.

Problems with Biofuel Corn

Corn-based ethanol is the most widely used biofuel in the United States; e.g., in 2006 approximately 18 percent of the U.S. corn harvest was directed toward

grain ethanol production. Unfortunately, corn ethanol may also be the most environmentally damaging of all the crop-based energy sources. The economic and political clout behind tax breaks for corn ethanol and subsidies for building ethanol plants in the United States are enormous, but critics suggest that as a strategy to reduce greenhouse gas emissions, corn ethanol falls far short of the claims made by its proponents.

Corn is a relatively inefficient biofuel crop, in part because of the extensive inputs needed to grow it. The National Agricultural Statistics Service (NASS) estimated that the 2005 corn crop consumed 157 million lbs. of herbicides and 4.8 million lbs. of insecticides. Continuous corn production (“corn-on-corn”), in particular, is a highly unsustainable agronomic system. A typical corn-soy rotation with soil-conserving no-till production of nitrogen-fixing soybeans is less potentially damaging to surrounding ecosystems. Corn typically uses more fertilizer than any other crop in the United States. Nitrate leaching, resulting from high levels of nitrogen fertilizer application, is the main contributing factor to nitrogen pollution of groundwater and surface and coastal waters. Also, via the process of denitrification, nitrates in soil are converted to the greenhouse gas nitrous oxide. Corn production results in significant soil erosion, causing a loss of soil fertility and impairing the quality of aquatic life and drinking water. Increased algal outbreaks and fish kills have been attributed to high fertilizer usage, including that associated with increasing corn acreage. The so-called dead zone in the Gulf of Mexico, where fertilizer runoff from Midwestern farms drains via the Mississippi River system, could worsen under corn-on-corn production that serves biofuels.

Are Governments Stepping Back from Biofuels?

In recent years, a number of national and local governments have quietly scaled back their previously enthusiasm toward the promotion and subsidy of biofuels. In Europe, several governments are rolling back their previous across-the-board biofuel subsidies, perhaps in tacit acknowledgment that the

environmental and economic benefits have often been overstated. For example, the Netherlands recently decided to no longer subsidize the importation of palm oil, a major source of “green” electricity generation, after it was realized that the supplying Asian plantations were largely being created from drained peat lands, with severe environmental consequences. Nations including Britain, France, Germany, the Netherlands, Switzerland, Australia, and Canada have reduced or revised incentives for biofuel growers and/or refiners. In many instances, the new guidelines will require that manufacturers and sellers quantify the net environmental effects of a biofuel before they become eligible for subsidies.

Closer to home, the city of Berkeley, California, is now reconsidering its six-year policy of using biodiesel in city trucks and machinery. In the wake of a new study claiming that biodiesel production and use actually may increase greenhouse gases worldwide, as well as exacerbate world hunger, Berkeley has stopped receiving shipments of soybean-derived biodiesel pending further analysis of the city’s Community Environmental Advisory Commission report and recommendation. The decision did not sit well with the National Biodiesel Board, a trade association representing the biodiesel industry, which claimed that the decision was based on “misunderstandings about how soybeans are farmed” (*see, e.g., Kimball Nill, U.S. Soybean Production Is More Sustainable Than Ever Before*, 10 AGRIC. MGMT. COMMITTEE NEWSL (A.B.A. SEC. ENV’T, ENERGY, & RESOURCES) 1 (Aug. 2006)). Increasingly, depending upon where and how these crops are grown, however, the scientific literature has been less than sanguine about the future of biofuels; for example, a recent Swiss study that concluded that environmental costs of fuels made from U.S. corn, Brazilian soy, and Malaysian palm oil may be greater overall than those of the fossil fuels they would replace (J.P.W. Scharlemann & W.F. Laurance, *How Green are Biofuels?*, 319 SCI. 52–53 (2008)). *See also*, Elisabeth King, *Smithsonian scientists highlight environmental impacts of biofuels* (Jan.2008), http://www.eurekalert.org/pub_releases/2008-01/stri-ssh010308.php.

Where Do We Go from Here?


As society attempts to transition from fossil fuels to renewable energy sources, it is likely that biofuels are here to stay, along with solar, hydro-, and geothermal power. Truly sustainable biofuel production may yet play a valuable role in mitigating global climate change and improving environmental quality. But in order to do so, it will be necessary for policy to be based on sound science rather than shortsighted economic considerations. Some crops will never be environmentally and economically viable biofuel candidates, despite intense political efforts to make them so. In a recent published policy statement, the Ecological Society of America summed up the need as follows: “Biofuels have great potential, but the ecological impacts of their development and use must be examined and addressed if they are to become a sustainable energy source. The sustainability of alternative biofuel production systems must be assessed now, in order to maximize the potential for developing truly sustainable scenarios—that is, profitable systems that can provide adequate biomass with the least amount of environmental damage” (<http://www.esa.org/pao/policyStatements/Statements/biofuel.php>).

Guy R. Knudsen is professor of microbial ecology and plant pathology at the University of Idaho, and a private practice attorney in environmental law. You may contact him via e-mail at gknudsen@uidaho.edu.

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REPORT ON ANSI'S DRAFT NATIONAL STANDARD FOR SUSTAINABLE AGRICULTURE

**Thomas P. Redick, Shawna M. Bligh, and
James Andreasen**

This article further updates recent progress toward adoption of the proposed national standard on sustainable agriculture under the auspices of the American National Standards Institute (ANSI). The very controversial SCS-001 Draft Standard for Trial Use (DSTU) called “Sustainable Agriculture Practice Standard for Food, Fiber, and Biofuel Crop Producers and Agricultural Product Handlers and Processors” (hereinafter SCS-001 Draft Standard) was published by Scientific Certification Systems (SCS) in 2007. As the drafter and principal promoter of the SCS-001 Draft Standard, SCS has funded nearly two years’ worth of meetings, stakeholder input, and activities using an ANSI standard-developing organization (SDO) called the Leonardo Academy in Madison, Wisconsin. If this standard becomes an American National Standard under ANSI rules, it could then become an International Standard under the International Organization for Standardization in Geneva, Switzerland. For a summary of past events leading up to this update, including other legal challenges with the SCS-001 Draft Standard, see Thomas Redick & Shawna Bligh, *Report on ANSI’S Draft National Standard for Sustainable Agriculture*, 12 CLIMATE CHANGE, SUSTAINABLE DEVELOPMENT, AND ECOSYSTEMS COMMITTEE NEWSL. (A.B.A. SEC. ENV’T, ENERGY, & RESOURCES) 25 (May 2009). <http://www.abanet.org/environ/committees/climatechange/newsletter/archiveslist.html>.

Background—Initial Drafting and Conception of a National Standard

The SCS-001 Draft Standard is largely based on a prior voluntary standard (not under ANSI) called “Veriflora®” which sets environmental and labor standards for flower and potted plant production. SCS certifies producers and handlers of flowers as an independent third-party verification body. In time, the VeriFlora certification standard and the SCS-001 standard could be used by SCS to generate income

from certification. Like Veriflora, the SCS-001 Draft Standard as initially proposed would promote a non-GMO, organic, and fair trade (i.e., fair labor) standard for agriculture that exceeds nearly all existing organic and nonorganic practices in U.S. agriculture. SCS Web site available at www.scs-certified.com/csrpurchasing/veriflora/, and ANSI Standards Action (Oct. 5, 2007).

The Leonardo Academy was chosen by SCS to handle the SCS-001 Draft Standard, in part, for its lack of existing contacts in agriculture. Leonardo's lack of agricultural standard-setting experience also meant lack of "conflicts of interest" of the sort SCS probably perceived in the American Society of Agricultural and Biological Engineers, which was given a copy of the SCS-001 Draft Standard to review in mid-2007 before the Leonardo Academy.

USDA Observes Instead of Objecting

Since it withdrew an appeal that sought the ANSI equivalent of a "death penalty" (seeking to have Leonardo's accreditation cancelled), USDA has peacefully observed the SCS-001 process. While appeals are still pending from various groups objecting to the imbalance in the membership of the standards committee (citing the exclusion of mainstream commodity agriculture while favoring certain specialty, floral, and organic sectors), those appeals are on hold pending the seating of new members in January 2009 (five seats of the fifty-eight-member standards committee are "open" and are being filled, with the application deadline in late December). USDA's appeal, as well as the pending appeals, objected to Leonardo Academy rules that gave at least 25 percent of the seats on the committee to "environmentalists," while three other sectors typical of ANSI committees got 25 percent ("users," "producers," and "general interest"). USDA's request to ANSI to withdraw Leonardo's accreditation was rejected by ANSI's Executive Standards Board.

Leonardo Academy correspondence to USDA in 2008 indicated a possible bias toward a "precautionary approach" to biotech crops and chemicals, including fertilizer use, but the academy has administered the standard over the past few months to

maximize the transparency for observers. USDA did not want a standard purporting to cover all sectors of the agricultural community to arbitrarily exclude biotech crops, fertilizers, peat moss, and most chemicals. Such inputs maintain high yields, particularly in times of food scarcity. Moreover, USDA maintains that any national agriculture sustainability standard should be consistent with the 1990 Farm Bill's definition of sustainability. *See Food, Agriculture, Conservation, and Trade Act of 1990 (FACTA), P.L. No. 101-624, tit. XVI, subtit. A, § 1603 (Washington, D.C.: GPO, 1990); NAL Call # KF1692.A31 1990; see also comments at National Agricultural Library, available at www.nal.usda.gov/afsic/pubs/agnic/susag.*

The votes of the standards committee also opened the door to more input from mainstream agriculture by (1) setting aside, in their first meeting, the troubling draft standard that excluded biotech crops and generally limited man-made inputs, and (2) adopting, in their second meeting, a performance-oriented and technology-neutral approach that allows "any technology" (including biotech crops, chemicals, fertilizers) to make its case for increasing the sustainability of agriculture. This vote included several major environmental groups, such as Environmental Defense and Natural Resources Defense Council, which hold "technology-neutral" positions on the role of biotech crops and safe use of agricultural chemicals in sustainable agriculture standards. These groups are involved in the Specialty Crop Initiative sustainable agriculture metrics process. *See Stewardship Index for Specialty Crops, available at www.stewardshipindex.org.*

At its second meeting of the full committee, the SCS-001 standards committee voted for a "performance" orientation that would focus on metrics first. This vote was further confirmed in December 2009 teleconferences of the structure and process subcommittee. While there may be some "practices" that help increase the sustainability of agriculture without verifiable metrics, those debatable subjects will be left for a later meeting of the standards committee. Last but not least, the standards committee narrowed the scope of the standard, to start with, to crop production to the farm gate. Livestock issues and processors were left for later "modules," if the first

module of crop production comes to fruition. On the question of imbalance in the standards committee (i.e., too many organic-floral voters according to appellants' briefing), the standards committee voted to have the Leonardo Academy reevaluate that issue in consultation with the leadership committee (now called the "coordinating committee").

Subcommittees Begin Drafting a Standard

Six subcommittees were formed at the second meeting, and they formed around 20 subgroups devoted to particular issues. The structure and process subcommittee established an outline for the standard and workflow documents to track the committee's work. In the three "criteria" subcommittees (environmental, economic, and social) work began in earnest to define key principles and write paragraphs defining key issues. As text is drafted and metrics are found and included, the standard will take shape as a set of core principles with metrics to guide other efforts at establishing agricultural sustainability.

Observers are welcome to participate—guidance is provided to educate newcomers to the process. While an observer on a subcommittee does not vote at meetings of the standards committee, the subcommittees hear all comments and attempt to reconcile them. Under ANSI procedures, a serious issue is generally raised by a voting committee member who concurs with an observer, and that can lead to a formal objection at the voting stage.

Selection of a Standards Committee— Status of Appeals

The appeals to ANSI filed by both mainstream agricultural interests and UDSA alleged that Leonardo Academy's bias led to a pattern of excluding representatives from major "materially interested" sectors (e.g., fertilizers, agricultural chemicals, etc.) and major agricultural sectors that are users of crops (e.g., livestock, biofuels, and processors). By narrowing the initial focus to exclude livestock operations that are not integrated with crops, the standards committee removed some of the pressure to expand their membership. As of December 2009, five seats opened

up on the standards committee, leading to a renewed effort by mainstream agriculture (e.g., the Fertilizer Institute, Cotton Council, etc.) to acquire those seats. New applications to the committee closed December 28, 2009.

Mainstream interests that were initially excluded from the standards committee (e.g., fertilizer) can still pursue appeals challenging the Leonardo Academy's decision in selection of members of the standards committee. If the Leonardo decisions in staffing the empty seats and reviewing the balance thereafter do not correct the alleged imbalance toward organic and floral interests in the standards committee, appeal hearings will take place to determine whether major agricultural industry sectors were improperly excluded.

While they did not file appeals seeking seats on the standards committee, a large number of organic agriculture stakeholders also saw this standard as a threat. The National Campaign for Sustainable Agriculture (NCSA) suggested that "ecosystems in which agricultural practices operate are extremely versatile and dynamic" so that it is risky to create "static, universal 'sustainable agriculture' standards" given "ever-changing and geographically different ecological conditions that govern agriculture." With that caution in mind, the standards committee has directed its focus toward establishing metrics that provide verification for practices helping to meet environmental, social, or economic objectives. This should help to keep sustainable agriculture as a movement toward goals and objectives rather than to try to capture it at one moment in time.

Next Steps

The third meeting of the standards committee will take place in late March 2010 at the University of Arkansas (with the standards committee chair, Marty Matlock, as host). The agenda for this meeting will surely include discussion of metrics and how they can aid a producer in growing his crops more sustainably. With pressure on producers to manage climate gasses, water pollution, biodiversity loss, and other issues that are increasing as well, producers may benefit from having

standards to define contentious issues like carbon reporting or management of runoff.

Conclusion

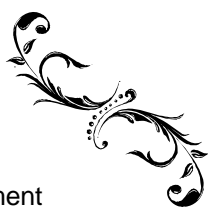
This process is open to the public, and anyone interested in observing need only send an e-mail to the Leonardo Academy. Assuming the standard is released for public comment in final form two years from now, public comments can be made and must be answered by Leonardo. USDA is not obligated to apply the standard if it ever becomes final, but a robust and balanced process of standard setting could have significant market influence if retailers and food manufacturers accept this standard for “green procurement” practices that are increasingly being reported in some food sectors.

Thomas P. Redick is principal of *Global Environmental Ethics Counsel in Clayton, Missouri*. **Shawna M. Bligh** is an associate with *The Session Law Firm in Kansas City, Missouri*. **James Andreasen** is of counsel with *Shook, Hardy & Bacon in Kansas City, Missouri*.

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FINAL MANDATORY GREENHOUSE GAS REPORTING RULE AND MANURE MANAGEMENT SYSTEMS

Shawna M. Bligh
Chris A. Wendelbo

On September 22, 2009, the U.S. Environmental Protection Agency (EPA) issued its Final Mandatory GHG Reporting Rule, which requires certain owners or operators of facilities that contain manure management systems (MMS) to report anthropogenic greenhouse gas (GHG) emissions (i.e., GHGs that are directly emitted by human activities). This article briefly summarizes the final rule including major terms, the facilities that are required to report emissions, what needs to be reported, and how the emissions will be calculated.

The final rule requires owners or operators of facilities that contain MMS, and all other source categories at the facility, that emit at least 25,000 metric tons of the GHGs methane and nitrous oxide per year, measured as carbon dioxide equivalents, to report emissions from source categories located at the facility.

A facility means any property, plant, building, structure, source, or stationary equipment located on one or more contiguous properties in actual physical contact or separated solely by a roadway or other right-of-way and under common ownership or control, that emits or may emit any GHG. An MMS is a system that stabilizes or stores livestock manure in one or more of the following system components:

- Uncovered anaerobic lagoons;
- Liquid/slurry systems;
- Storage pits;
- Digesters;
- Drylots;
- Solid manure storage;
- Feedlots and other drylots;
- High-rise houses for poultry production (without litter);
- Poultry production with litter;
- Deep bedding systems for cattle and swine; and
- Manure composting.

This definition of MMS encompasses the treatment of wastewaters from manure. However, an MMS does not include components at a livestock operation unrelated to the stabilization or storage of manure such as daily spread or pasture/range/paddock systems, and these emissions would not be reported.

A source category is simply one of the many general industrial categories listed in the final rule. For example, MMS are one source category, petroleum refineries are another source category. The only other source category likely to apply to owners or operators of MMS is the general stationary fuel combustion sources category that would include GHG emissions from combustion of fossil fuels in boilers, water heaters, engines, flares, or other combustion sources. This category is not discussed in this article.

GHGs are gases that influence the climate system by trapping heat in the atmosphere that would otherwise escape into space. GHGs include:

- Carbon dioxide;
- Methane;
- Nitrous oxide;
- Sulfur hexafluoride;
- Hydrofluorocarbons;
- Perfluorochemicals; and
- Other fluorinated gases.

However, the GHGs most relevant to owners or operators of facilities that contain manure management systems are methane and nitrous oxide. Anaerobic decomposition of materials in MMS produces methane, while nitrous oxide is produced as part of the nitrogen cycle through the nitrification of the organic nitrogen in livestock manure and urine. Manure management also produces carbon dioxide; however, this carbon dioxide is not counted in the GHG totals because it is not considered an anthropogenic emission.

GHGs vary in their capacity to trap heat and how long they remain stable in the atmosphere. Because they have these different properties, they are not directly comparable without translating them into common units. The Global Warming Potential (GWP), a metric

that incorporates both the heat-trapping ability and atmospheric lifetime of each GHG, is used to develop comparable numbers by adjusting all GHGs relative to the GWP of carbon dioxide. When quantities of the different GHGs are multiplied by their GWPs, the different GHGs can be compared on a carbon dioxide equivalent basis. The GWP of carbon dioxide is one; the GWP of methane is 21; and the GWP of nitrous oxide is 310.

Methods for calculating GHG emissions are detailed in the final regulation and are briefly described here. Under the final rule, for each system component other than digesters, owners or operators would calculate methane mass emissions using the following inputs and data: type of system component; average annual animal population; percent of manure handled in each component; annual average volatile solids value calculated from monthly manure samples sent to a laboratory for analysis; and maximum methane-producing potential of the managed manure and methane conversion factors provided in reference tables. The calculation for nitrous oxide is similar. Calculations for anaerobic digesters are significantly more complicated and involve continuous monitoring of methane concentrations, volumetric flow rates, temperature, and pressure.

While the final rule only requires *reporting* of GHG emissions, it may be a prelude to more onerous EPA regulation of GHGs. Currently the Obama administration is reviewing an EPA final “endangerment finding” that GHG emissions are a threat to the public health and welfare. Such a finding, if approved, would allow EPA to regulate GHG emissions under the Clean Air Act.

The failure to report could potentially subject the person to CAA enforcement and penalties (under the CAA) of up to \$32,500 per day.

Shawna M. Bligh and Chris A. Wendelbo are attorneys with *The Session Law Firm in Kansas City, Missouri*.

APPLICABILITY OF EPA'S AND WASHINGTON STATE'S GREENHOUSE GAS REPORTING RULES FOR AGRICULTURE, LIVESTOCK, AND FOOD PROCESSING OPERATIONS

Joy C. Fuhr

This article compares the new reporting rule from the U.S. Environmental Protection Agency (EPA) to Washington State's Greenhouse Gas Reporting Rules, which will require reporting from more dairies, food processing facilities, and other agricultural sources than EPA.

President Obama has pledged that the United States will reduce greenhouse gas (GHG) emissions by 83 percent by 2050. Washington State's legislature has enacted a statutory mandate that calls for the state to return to 1990 GHG emissions levels during the next decade and achieve reductions to 50 percent below 1990 levels by 2050. EPA estimates that agriculture accounts for approximately 7 percent of the nation's GHG emissions. Therefore, emissions from agricultural sources will be part of any comprehensive policy to achieve these goals.

As a first step toward policymaking that would achieve its proposed GHG emissions reductions, Washington State's Department of Ecology (Ecology) has published a Proposed Rule that would establish a mandatory GHG reporting requirement for certain emission sources. Although not faced with any congressional mandates to reduce GHG emissions, EPA has published its Mandatory GHG Reporting Rule, which takes effect on December 30, 2009. This article compares the two rules and discusses the implications for agriculture, livestock, and food processing operations under both rules.

The EPA's rule does not preempt any state from regulating or imposing its own GHG reporting requirements and Ecology has done just that. The purpose of both Ecology's and EPA's GHG reporting rules is to create a library of data that will only serve to inform future GHG emissions policy. Therefore neither rule limits nor requires the reduction of GHG emissions.

Until 2012, the applicability of both EPA's and Ecology's rules for a direct GHG emitter is "facility" (EPA) or "site" (Ecology) based. EPA defines "facility" as the physical property, plant, building, structure, source, or stationary equipment that is (1) on contiguous or adjacent properties or separated by a public roadway or right-of-way and (2) under common ownership or common control. Ecology's definition of "site" is very similar. Under both rules a facility or site may have multiple sources categories, each of which must be evaluated separately to determine if the owner needs to report GHG emissions. Beginning in 2012, Ecology's rule will require a company to report all of its GHG emissions covered by the rule if a single site meets the reporting threshold.

While the definitions and purpose of the two rules may be similar, the applicability of the two rules differs in important ways. EPA's rule does not include GHG emission sources directly associated with most agriculture or livestock activities. In addition, food processing, ethanol production, and wastewater treatment operations are not GHG source categories. However, agriculture, livestock, and food processing facilities may trigger the reporting requirement under EPA's rule if they emit GHGs from boilers, generators, manure management systems, or other sources that are covered by the rule. EPA reporting requirements for emissions sources most likely to be associated with such operations are triggered if the facility or site emits a threshold of 25,000 metric tons (MT) of carbon dioxide equivalent (CO₂e) per year.

Neither EPA nor Ecology includes anthropogenic nitrous oxide emissions from agricultural soils as emissions sources covered by their respective rules. However, EPA's rule specifically requires reporting of GHG emissions from manure management systems with combined methane and nitrous oxide emissions equivalent to 25,000 or greater MT CO₂e per year. To make the applicability determination easier, EPA has created a chart entitled "Animal Population Threshold Level Below Which Facilities Are Not Required to Report Emissions from Manure Management." The chart is one of several applicability tools EPA created to make it easier for companies to determine whether or not they will have to report emissions from various sources at a particular facility. In general, EPA

estimates that most facilities will fall way below or way above the threshold limits. EPA expects that only 100 or so of the largest livestock operations will meet the manure management reporting threshold.

Like EPA, Ecology's rule does not include emission sources from most agriculture or livestock activities. However, the scope of Ecology's rule differs from EPA's in several important ways. Most notably, it requires reporting from a broader array of GHG emission sources, including food processing and wastewater treatment operations. Ecology's rule also includes GHG emissions from biomass combustion, fleets of on-road motor vehicles, rail equipment, and marine vessels. Emissions from in-state aircraft operations will be reportable beginning in 2012. Furthermore, once a reportable threshold is met for a particular site, the owner must calculate and report indirect emissions from energy used for heating, cooling, and steam operations. Ecology intends to look to EPA's rule for guidance on how to calculate reportable manure management emissions.

For 2009, Ecology's reporting threshold for GHG emissions is 25,000 MT CO₂e per site. However, beginning in 2010, Ecology's threshold drops to 10,000 MT CO₂e. Moreover, on-road vehicle fleets need only generate 2,500 MT of CO₂e to trigger Ecology's reporting requirement. In 2009, 2010, and 2011, companies may calculate the reporting threshold separately for each individual site. In 2012, however, if only one of those sites triggers the reporting requirement, then a company must report GHG emissions from all sites.

The major emissions sources that would apply to agricultural, livestock, or food processing activities in Washington State are as follows:

- Stationary combustion units, which include generators, boilers, and crop heaters;
- On-road motor vehicles;
- HFC or PFC refrigeration systems that are not ammonia based. Ammonia is not a reportable gas; and
- Manure management

Ecology estimates that there are likely two or three dairy operations in Washington State that will be

reporting their GHG emissions to EPA. Ecology has not undertaken any investigation to determine whether any Washington State dairy or livestock operation has the manure management processes identified in the EPA reporting rule. Ecology has acknowledged that its lower reporting threshold could result in more dairy and livestock operations having reportable manure management emissions.

Ecology's broader emission sources and lower reporting threshold means that food processing facilities could find themselves reporting only to Ecology and not to EPA. For example, a food processing plant that has a gas-fired boiler, a biomass-fired boiler, and a wastewater treatment operation would need to calculate only the emissions from the gas-fired boiler under EPA's rule. The same facility would need to calculate GHG emissions from all three sources to see if they triggered reporting under Ecology's rule.

While agriculture-specific figures aren't available, the increased scope of Ecology's rule is expected to cover a total of 260 sites and fleets of nonroad mobile sources. Ecology expects that 193 sites with emissions less than 25,000 MT CO₂e will only report under Ecology's proposed rule. Seventy-eight sites are expected to report under both rules. Ecology expects manufacturer/emitters in the following industries and numbers: (1) five aircraft, (2) eight rail equipment, (3) thirty-six marine vessel, and (4) thirteen biomass-burning facilities will have to report under Ecology's rule.

EPA plans to further review public comments and other information before deciding on inclusion of ethanol production, food processing, and wastewater treatment operations. It is likely that the scope of EPA's rule will expand as additional GHG emissions sources are included. However, it is unlikely that Ecology will harmonize its rule with EPA's. Ecology is required by statute to create a GHG inventory that is comprehensive enough to allow the state to meet its GHG emissions reduction timetable. Therefore, GHG emitters will need to monitor and comply with the different requirements contained in both EPA's and Ecology's rules for the foreseeable future.

Joy C. Fuhr is a partner with *McGuire Woods LLP* in *Richmond, Virginia*.