



Clean Energy Policy Brief for Agriculture and Forestry Partners August 2011

Introduction

Although the renewable energy sector has been the fastest growing domestic energy sector over the last five years, further expansion of biomass energy solutions in America is not assured and, in fact, is at risk. Support for biofuel and biopower energy solutions from farms, ranches, and forests is softening as the federal government strives to reduce spending, all while pushback from fossil energy stakeholders, food companies, and environmental groups intensifies. Biomass-based energy systems are being challenged on multiple fronts, including land use change and crop acre reallocation; feedstock competition; the price and availability of food; net energy balances; contributions to greenhouse gas emissions; and impacts on soil, water and air quality, wildlife habitat, and natural landscapes.

In addition, policy conversations around America's energy future are increasingly dominated by fossil fuel interests who seek to redefine what constitutes clean energy. Recent efforts to include natural gas and "clean" coal in proposed federal clean energy standards bring powerful competitors into the national clean energy policy arena and require an organized effort on the part of the agricultural and forestry sectors to differentiate biomass energy from fossil systems. Biomass energy systems enjoy distinct economic, national security, and environmental benefits over fossil energy, and these benefits must be proactively communicated to policy makers, opinion leaders and the public at large. This brief discusses the current energy policy environment for the agriculture and forestry sectors, highlighting several key opportunities and challenges ahead for bioenergy development.

Background

Over the last two years, a wide variety of energy and/or climate bills have been introduced and debated in Congress. In June 2009, the American Clean Energy and Security Act (H.R. 2454) passed the House of Representatives, creating momentum for comprehensive energy and climate legislation in the Senate. This bill, also known as the Waxman-Markey bill, contained an economy-wide greenhouse gas (GHG) "cap and trade" system, a renewable energy standard, and other policies designed to lower GHG emissions.

By January 2010, it was clear that this measure lacked sufficient support to pass the Senate, leading to the development of other bipartisan energy and climate bills. One example was the American Power Act (S. 1733), also known as the Kerry-Lieberman bill, which was introduced in May 2010. Like Waxman-Markey, Kerry-Lieberman was comprehensive in scope, supporting measures designed to improve national security and create jobs. Though there were significant differences in the bills, they each promoted a broad range of GHG reduction strategies, including energy efficiency standards for commercial buildings and appliances, provisions to encourage carbon capture and storage (CCS), incentives for electric vehicles, and reduced petroleum use in the transportation sector. The bills diverged on the future role of nuclear energy; the Senate version included measures to expand use of nuclear. However, unlike the House bill, the Kerry-Lieberman was never brought to the Senate floor for a vote, nor was any other piece of comprehensive energy legislation.

Given the current economic and budgetary climate, along with the lack of consensus within the 112th Congress on the mechanisms, and even the need to address GHG emissions, attempts to pass comprehensive energy and climate legislation have been put on hold. While the new Congress will not address carbon emissions through comprehensive legislation, such as a “cap and trade” system or a carbon tax, there are many actions that they could take that would impact further bioenergy and renewable energy development. One idea that has emerged and has been embraced by President Obama is a national **Clean Energy Standard** requiring 80 percent of our nation’s electricity to come from sources that emit “less” carbon than traditional sources. Such a policy would classify nuclear, “clean” coal that provided for carbon-capture and storage, and natural gas as clean energy, creating competition for ag and forestry based renewable energy solutions.

The **Farm Bill** will also play a key role in shaping the build out of renewable energy production systems. The 2008 Farm Bill’s Energy, Conservation, and Rural Development titles provided much needed support for biomass and bioenergy. However, many of these programs do not have a budgetary baseline beyond FY 2012 and are in danger of being cut or eliminated as part of the new Congress’ efforts to reduce spending.

The **Clean Air Act** is another important factor. Through a 2007 US Supreme Court decision, EPA was confirmed to have the authority to regulate carbon dioxide as a pollutant. EPA concluded in 2009 that CO₂ emissions endanger human health and has begun the process of developing and implementing rules. This may present opportunities for the agriculture and forestry sectors to take part in market-based carbon reduction systems. How they account for greenhouse gas emissions associated with the burning of biomass will have a major impact on further bioenergy development.

Regional groups and state governments may hold even more potential at present to advance clean energy policies. Some states now have, or are considering, carbon offset programs and low-carbon fuel standards. States can be an important testing ground for innovative renewable energy projects like CLEAN incentive payments for distributed energy. But at all levels of government, pushback should be expected from bioenergy skeptics and legacy energy groups who misrepresent the links between bioenergy and the environment as well as the “food vs. fuel” debate.

The private sector can be influential as well in forming opportunities for bioenergy. One example is the development of value chain sustainability criteria and certification initiatives which will have major impacts on the way food and agriculture products are produced and sold into the marketplace.

While forging consensus and passing comprehensive energy or climate legislation is not likely before the 2012 Presidential election, there are a number of policies and programs which will be considered whose outcome would create fresh opportunities as well as challenges for the agriculture and forestry sectors. A brief review of some key programs follows:

Transportation Fuels (Biofuels)

- The Renewable Fuel Standard, a volumetric standard with emissions reduction aspects, is ensuring the continued progress of fuel sources produced from feedstocks such as corn, soybeans, farm and forestry residues, and, increasingly, purpose-grown biomass.
- Low Carbon Fuel Standards represent another source of demand and support for biomass feedstocks and bioenergy.

Emissions Reduction Programs

- Emerging state and regional cap and trade programs are creating opportunities to provide carbon offsets from forestry and anaerobic digesters at prices above \$10 per ton of CO₂ equivalent. This pioneering effort will help demonstrate whether mandatory cap and trade systems can be operationally efficient *and* benefit the ag sector.
- The EPA's implementation of greenhouse gas emissions reductions under the Clean Air Act is expected to cover over 70% of total U.S. emissions from stationary sources. Depending on how the system is developed, it could entail significant bioenergy and biomass producer benefits or impediments. Thus far, because of the strong work of bioenergy supporters, the results have been positive. The EPA recently announced that is treating biogenic emissions favorably over the next three years while they confirm the best scientific evidence.

The agricultural and forestry sectors have significant natural advantages over fossil energy alternatives. Some of the advantages which bioenergy systems hold are already embedded in currently authorized programs. These programs must be defended and expanded. Others are just emerging and require education, analysis, and work to be realized in policy solutions.

Select Federal Clean Energy Policy Tools

The following policies were selected from myriad energy policies based on their relevance to agriculture and forestry sectors and potential impacts on the renewable energy sources they provide.

Renewable Portfolio Standard

A Renewable portfolio standard (RPS) - also referred to as a renewable energy or electricity standard (RES) - provides a market mechanism to increase renewable energy generation. An RPS requires utilities to provide a given amount of their electricity from renewable sources, often on a specified timetable. RPS policies can enable utilities to buy or sell tradable renewable energy certificates (RECs) to demonstrate compliance. Many states have a mandatory RPS while others have established non-binding RPS goals. While there is currently no federally mandated RPS, the goal of producing 25% of the total energy consumed in the United States from renewable sources by 2025 (25x'25) was adopted as part of the Energy Independence and Security Act of 2007.

Key Issues

Because thirty seven states already have some form of an RPS, interest in and support for this policy tool continues to grow. However, as Congress continues to consider the merits of a federal RPS, further discussion around how this mechanism will affect states and their current renewable energy goals will be required since each state RPS differs in terms of target, timetable, and eligible technologies. In the event that a federal RPS is established, the responsibility to meet these requirements would fall on utilities which would have access to national markets for their RECs.

Outlook

While a renewable portfolio standard (RPS) is not being considered by itself this Congress, President Obama called for consideration of a national Clean Energy Standard (CES) in his 2011 State of the Union address, which would include the same energy sources as an RPS plus nuclear, clean coal with CCS, and possibly energy efficiency. In early 2011, the Senate Energy Committee solicited comments on a CES, but there has been no legislative action in the Senate and no action at all in the House. Meanwhile, states have been further strengthening RPS policies. As of June 2011, twenty-nine states have established firm RPS policies, while eight states have adopted non-binding renewable portfolio goals. Most southeastern states do not have either policy. State targets and timelines range from 10% renewables by 2015 in Wisconsin to 40% renewables by 2030 in Hawaii.

Renewable Fuels Standard

The Renewable Fuels Standard (RFS) was the first renewable fuel by volume mandate in the US. The program, created under the Energy Policy Act (EPA) of 2005, required 7.5 billion gallons of renewable fuel to be blended into gasoline by 2012. The Energy Independence and Security Act (EISA) of 2007 expanded the program (RFS2) to mandate the production of 36 billion gallons of renewable fuels by 2022. In addition, the RFS2 set separate volumetric requirements for each fuel type: cellulosic biofuel, advanced biofuel, renewable fuel, and, for the first time, biomass-based diesel. The legislation requires EPA to apply lifecycle greenhouse gas performance threshold standards to ensure that each category of renewable fuel emits fewer greenhouse gases than the petroleum fuel it replaces.

In late 2010, EPA issued a final rulemaking for the RFS2 that established minimum volumes and percentages of renewable fuel consumption broken down by the four categories. It also approved amendments to RFS2 to broaden the allowed feedstocks and pathways for renewable fuel production.

Key Issues

In order to meet the RFS2, significant investment and improved infrastructure are required to process, transport, blend, and distribute the increases in renewable fuels mandated under the policy. Numerous USDA, DOE and IRS incentive programs and drivers exist for biofuel production. Examples include:

- **E15** –Although not an incentive program, EPA’s recently approved an increase of the maximum blend of ethanol into gasoline from 10% (E10) to 15% (E15), and could be viewed as complementary to the RFS2 mandate. This has significant implications for the RFS2 and is a milestone to removing the “blend wall,” the point where ethanol production reaches the maximum limit of what can be legally blended into gasoline. However, E15 is only approved for vehicles newer than 2001, and the ability to dispense a variety of fuels at the pump is limited across the country. Grants or other incentives will be necessary for these important infrastructure improvements and upgrades. In addition, consumers will need to be educated on the new fuel options available.
- **VEETC** – The Volumetric Ethanol Excise Tax Credit (VEETC), or “blender’s credit,” is administered by the Internal Revenue Service and provides an incentive via a tax credit to petroleum refiners for blending ethanol into gasoline. Although VEETC was granted a one year extension in 2010, it will expire, barring some unforeseen development, on December 31, 2011. Along with it, the tariff on imported ethanol will expire on December 31st as well

- **Biomass Crop Assistance Program (BCAP)** was established under the 2008 Farm Bill and is administered by USDA Farm Service Agency (FSA). The program provides financial assistance to eligible owners and operators of agricultural and non-industrial private forest land who establish, produce, and deliver biomass feedstocks.
- **DOE Loan Guarantee Program** is administered by DOE to support innovative clean energy technologies, including cutting edge biofuels projects. A loan guarantee is a contractual obligation between the government, private creditors and a borrower—such as banks and other commercial loan institutions—that the Federal Government will cover the borrower's debt obligation in the event that the borrower defaults. The loan guarantee program has been very slow to make guarantees, and none to date have gone to biofuel producers.

Another concern within RFS2 has been its **definition of eligible feedstocks**. In order for a biofuel to be considered a "renewable fuel" under RFS2, it must be produced from feedstocks that conform to EPA's new definition of "renewable biomass": *Renewable biomass includes feedstocks such as crop residues (corn stover, wheat straw, rice straw, citrus residues), animal wastes, algae, forest thinnings and solid residue remaining from forest product production, secondary annual crops planted on existing crop land, separated food and yard waste, and perennial grasses like switchgrass and miscanthus.* However, to address concerns about the possible use of natural ecosystems for biofuel feedstock production, eligible land for sourcing feedstocks was restricted to land cleared or cultivated before December 19, 2007. By including this date limitation, the renewable biomass definition excludes a significant amount of potential feedstocks from idle cropland, naturally occurring forestland, public lands or former industrial land. Data from the latest USDA National Resources Inventory shows that there are more than 18 million acres of ineligible uncultivated cropland and pasture in the New England and Mid-Atlantic States alone.

Outlook

EPA will annually evaluate volumetric requirements for the renewable fuel targets based on market availability and other factors. In June 2011, EPA released a "proposed rulemaking" that recommends volumetric requirements for cellulosic ethanol that are lower than what was mandated in EISA, this is in large part due to delays in the development of commercial-scale cellulosic and advanced biofuel production. The comment period for the rulemaking ended in August 2011, and will be finalized this fall. This proposed rulemaking states renewable fuels will comprise 9% of all fuel use. Significant investments in research and development, as well as infrastructure, are needed for cellulosic fuel production to overcome technical and commercial barriers. On a state level, policies such as the low carbon fuel standard, described below, can significantly impact our nation's ability to meet the RFS2.

Low Carbon Fuel Standards

A Low Carbon Fuel Standard (LCFS) represents another policy tool for reducing carbon emissions. A LCFS places a limit on the "life-cycle carbon intensity" of transportation fuels, meaning that it measures the carbon emissions associated with the fuel not just from the tailpipe, but also in its production and transport. While there is currently no national LCFS, several states are actively exploring their value and possible use. LCFS policies are usually technology neutral, containing simple percentage reduction goals. For example, California, which adopted the nation's first and only LCFS in 2009, requires a reduction of average fuel carbon intensity of 10% by 2020 from 2010 levels. Depending on how a LCFS is structured, it can create additional demand and support for biofuels.

Key Issues

The implementation of California's LCFS has highlighted some of the more controversial aspects of LCFS policies. One unresolved question is how to account for the carbon sequestration of plants used for biomass based fuels. Another contentious matter is whether "indirect land use change" associated with biofuel production should be used in determining carbon intensity. Indirect land use change (ILUC) advocates argue that GHG accounting for biofuels should include the theory that planting crops for biofuel production within the U.S. causes farmers in other countries to convert lands that have traditionally functioned as carbon sinks, such as rainforests or grasslands, to food production in order to meet changes in supply. Opponents of the theory contend that it remains unproven and that, even if proven to some degree, it would be difficult to accurately calculate. They also argue that if ILUC is factored into decision-making, then all causes and drivers of land use change must be considered. After considerable debate, California incorporated ILUC in its policy, resulting in significantly higher carbon reductions being credited to biofuels derived from crops like sugar cane than corn. Midwestern corn ethanol, being dually penalized by ILUC and for the use of fossil fuels in refining, was rated with higher carbon intensity than even standard gasoline.

Outlook

While there has been little discussion of a LCFS on the federal level (a provision was removed from the 2009 American Clean Energy and Security Act prior to its passage in the House), the 10 states comprising the Midwest Governor's Association (MGA), the 10 Northeast states that make up the Regional Greenhouse Gas Initiative (RGGI), as well as Washington, Oregon, and Pennsylvania have expressed interest in the policy. RGGI states and Pennsylvania are expected to release the results of a policy study by the end of September 2011. Preliminary documents suggest that the states will be considering a target reduction in carbon intensity of between 5 and 15 percent over a period of 10 or 15 years.

Federal Regulation of Greenhouse Gas Emissions

Through a 2007 US Supreme Court decision, EPA's authority to regulate greenhouse gas emissions under the Clean Air Act was affirmed. In the absence of congressional legislation addressing greenhouse gases, EPA has begun development of an emissions reduction strategy which is expected to initially focus on the largest emitters. This is expected to impact the sources of nearly 70% of U.S. total GHG emissions from stationary sources. Currently, EPA's ruling does not include emissions from farms, small businesses, and most other small point sources. Depending on how the system is developed, it could entail significant bioenergy and biomass producer benefits and/or impediments.

Key Issues

As with many carbon policies, the key consideration will be how bioenergy GHG emissions are accounted for. EPA announced that it would defer permitting requirements for biomass-fired and biogenic sources for three years to allow for additional time to study the best way of determining bioenergy emissions and their environmental impact. While the three-year deferment is beneficial for bioenergy producers, it has also resulted in market uncertainty, thereby creating another hurdle further impeding new investments in bioenergy solutions.

25x'25 has been active in this conversation, recommending scientists for the EPA panel reviewing emissions accounting. We have also submitted comments to the EPA, emphasizing that:

1. Biomass emissions should take into account the CO₂ that plants remove from the air through photosynthesis during their growth.
2. GHG accounting should differentiate between feedstocks grown specifically for use as energy crops versus those that would be otherwise left to release carbon naturally into the atmosphere through decomposition or fire.
3. Indirect land use change, being better addressed through other policy mechanisms, should not be included in the accounting process.
4. The final policy should incentivize bioenergy over fossil fuels providing markets for forest products to help forests remain forests.

Outlook

EPA is expected to announce the members of its science panel studying bioenergy related GHG emissions in September. The authority of EPA to regulate greenhouse gas emissions remains a subject of contention between Congress and the White House. On April 6, 2011 the Senate held four failed votes on amendments which would have eliminated or reduced EPA's authority, including a vote which failed by a 50-50 margin. The House has passed legislation eliminating EPA authority to regulate GHG under the Clean Air Act.

Given that the White House has vowed to veto any legislation reducing EPA authority under the Clean Air Act, the EPA rules are likely to proceed under the Obama administration unless Congress takes the improbable step of passing specific legislation addressing GHG emissions.

Clean Energy Standard

During his 2011 State of the Union address, President Obama announced a new goal of producing 80% of our nation's electricity from "clean" energy sources by 2035. Such a Clean Energy Standard (CES) would require that utilities generate a specific portion of their electricity from sources that emit less pollution like renewable energy, nuclear energy, efficient natural gas and possibly "clean coal".

A properly constructed CES has the potential to advance the 25x'25 goals of increased renewable energy generation, economic development, and improvements in energy security and environmental quality. However, poorly constructed legislation could lead to little additional renewable energy generation and could even impede the progress of renewables. For instance, if a clean energy standard did not sufficiently advantage true forms of renewable energy, it is possible that utilities could achieve greenhouse gas reductions primarily by converting their aging coal plants to natural gas or by transitioning to nuclear power.

Key Issues

While there has been interest within the White House and the Senate Energy and Natural Resources Committee in a CES, there remain many unanswered questions about the details of the policy. To solicit stakeholder input before developing a draft bill, the Senate Energy Committee posed a series of questions on key aspects of possible legislation. Examples of questions posed by the committee include:

1. What is the definition of “clean”? Does it only take into account greenhouse gas (GHG) emissions, or will it include other potentially harmful emissions?
2. What is the ideal timetable for goals? Should there be interim goals set within the legislation?
3. Will partial credit be given to “cleaner” technologies such as natural gas and coal plants using carbon capture and sequestration? What role will nuclear energy play?
4. What utilities should be subject to the new law? Should an exception be made for smaller utilities with fewer resources such as Rural Electric Cooperatives?
5. Will there be a specific carve-out for renewable energy, such as a renewable energy portfolio standard (RES)?
6. Will energy efficiency improvements count towards meeting a standard?
7. How will biomass fit into a standard?

Outlook

Since declaring his support for a CES, the President has made it a centerpiece of his 2011 energy and climate change policy priorities, holding multiple meetings with Congressional leaders and regularly highlighting its potential benefits for job creation. Despite his efforts, the House of Representatives has shown little interest in taking up CES legislation. Similarly, the outlook is not positive in the Senate with Energy and Natural Resources Chair Jeff Bingaman (D-NM) and Ranking Member Lisa Murkowski (R-AK) expressing doubts about the ability to advance the legislation out of their committee, let alone Congress. As of August 2011, the Committee is still processing the numerous responses they received from their request for comments and have not yet released a timetable for completing their evaluation.

One of the major challenges to the legislation is the lack of a bipartisan consensus on the need to regulate greenhouse gas emissions. While a CES is very different from “cap and trade,” it nonetheless remains entrenched in a deeply partisan debate over the causes of climate change and what, if anything should be done about it. In the current political landscape, it is unlikely that CES legislation will pass through either chamber of the 112th Congress.

Path Forward

Today the path forward for energy and climate legislation is unknown, and energy stakeholders remain deeply divided over a number of major provisions. Some agricultural and forestry leaders are narrowly focusing on policy provisions that could result in increases in fuel, fertilizer, and energy costs, or could place U.S. producers at a competitive disadvantage with producers in other countries where steps are not being taken to reduce greenhouse gas emissions. Underappreciated in the debate within the agricultural community is the fact that properly constructed policies designed to reduce carbon emissions could raise net returns to farmers through higher commodities prices, the creation of new bioenergy markets, and additional revenue from the high-quality, low-cost offset services that the agriculture and forestry sectors can provide. Largely absent from the debate is a recognition that most experts believe that some type of carbon reduction policy will be eventually adopted. The question is not whether or not the nation will move to reduce its carbon footprint; the question is what vehicle will be employed to accomplish this objective!

For the latest objective updates on clean energy solutions, and for more information on how you can help to shape our nation's energy future, join 25x25 by going to our website at www.25x25.org. Please contact us with any questions or suggestions you may have by emailing info@25x25.org or calling 410-252-7079. We look forward to hearing from you!