

## “Clean” Bill of Energy Health II: A Conversation With a Washington Insider

### J. Michael Horwitz

mhorwitz@pacgrow.com  
415.274.6889

### Ben Kallo, CFA

bkallo@pacgrow.com  
415.274.6859

### Ralph Fong

rfong@pacgrow.com  
415.274.6857

### SUMMARY

- Recently we had the opportunity to interview Steve McBee, CEO of McBee Strategic regarding the progress of the Energy Bill and other proposed legislation that could affect the Clean Technology space. Steve will be a featured luncheon presenter on Wednesday November 7<sup>th</sup> at the Pacific Growth Equities’ Clean Technology and Industrial Growth conference.
- Despite many news headlines claiming an Energy Bill will not be passed under this administration, we think some form of Energy Bill will be passed and our conversation with Mr. McBee reinforces our opinion.
- We continue to believe passage of the legislation will be extremely positive for the Clean Technology universe, and specifically we continue to see the Energy Efficiency/Demand Response, Renewable Electricity, and Alternative Fuel spaces benefiting. Specifically think the following names will benefit: AMSC, AVR, CVA, ESLR, FSLR, ITRI, MXWL, NGLPF, ORA, SPWR, UGTH, and VSE.

### CONCLUSION

In late June the Senate passed their version of the Energy Bill and in August the House of Representatives also passed a version of an Energy Bill before their recess. Now that Congress has returned from recess, speculation on the future of the bill has been renewed. Despite news reports that a passage of the Bill under this Administration and Congress is unlikely, we have taken a different view and believe some form of the Energy Bill will likely be passed before the election. Our conversation with Steve McBee, CEO of McBee strategic substantiates this view, and we believe the Clean Technology Sector will benefit from the passage of the bill. We believe Energy Efficiency, Demand Response, Renewable Electricity Sources, and Alternative Fuels will all benefit from the passage of the Energy Bill and a corresponding tax package that would extend the Production Tax Credit and Solar Credits. Additionally, we think portions of the bill favoring Energy Efficiency, Production Tax Credits, and Alternative Fuels are areas of the bill likely to find the needed support for passage. We think stocks that will specifically benefit from proposed legislation are AMSC, AVR, CVA, ESLR, FSLR, ITRI, MXWL, NGLPF, ORA, SPWR, UGTH, and VSE.

### Required Disclosures

Please call (415) 274-6821 to receive required certifications and Disclosures

### Pacific Growth Equities, LLC

Investment Banking | Institutional Brokerage

One Bush Street, Suite 1700 | San Francisco, CA 94104 | (415) 274-6800

225 Franklin Street, Suite 1700 | Boston, MA 02110 | (617) 695-7200

641 Lexington Avenue, Suite 1517 | New York, NY 10022 | (212) 328-953

---

## **Energy Bill Overview:**

We have updated investors numerous times over the past several months on the progress of the Energy Bill. In late June, the Senate passed their version of the Energy Bill, and in August, the House of Representatives also passed their version of the Energy Bill before leaving for recess. We detailed the Energy Bill's progress in our last policy update: A "Clean Bill" of Energy Health. The next step in the political process is for both the House and Senate to construct legislation that can pass in each chamber of Congress as well as receive the President's endorsement. The Senate and House Bills each contain substantially different provisions which has created rampant speculation an agreement will not be reached before next year's November election. Major differences in the Senate and House Bills include (i.) the Senate Bill contains both CAFÉ standards which regulate fuel standards of automobiles (ii.) the Senate Bill contains Renewable Fuel Standards (RFS) which regulate the amount of ethanol and biofuels used in the refining process (iii.) The House Bill contains tax legislation which extends the Production Tax Credit and Solar Tax Credits (iv.) The House Bill also contains a Federal Renewable Portfolio Standard (RPS). Although many of these areas are being debated, we continue to believe Congress will work through these differences and pass legislation before the next election in November, 2008. In the Addendum to this report, we have included a summary of key differences between the bills as well as a summary of the key provisions in both the House and Senate Tax Pieces of Legislation.

The Tax Portion of the Bill passed by the House of Representatives (**H.R. 2776**) represents one of the key pieces of legislation benefiting the Clean Technology and Industrial Growth Universe. This legislation includes the extension of the Production Tax Credit and Solar Tax Credit as well as additional subsidies that we detailed in our last legislative update. Although the revenue source for the package has been an area of much debate, we continue to feel the extension of the Production Tax Credit and Solar Credit has broad support in Congress, and we continue to believe it will be part of the final Energy Bill. This portion of the bill could benefit Solar, Wind, Geothermal, Waste-to-Energy, and Biomass companies. Specifically, we believe this piece of legislation could benefit AMSC, CVA, ENER, ESLR, FSLR, MXWL, NGLPF, ORA, SPWR, and UGTH.

In addition to the Tax Portion of the legislation, we believe legislation favoring Energy Efficiency/Demand Response is an important piece of legislation, and we continue to believe legislation favoring Energy Efficiency/Demand Response is an area with broad political support. We think Energy Efficiency/ Demand Response providers would benefit from the passage of the Bill. Finally, we think Alternative Fuel favorable legislation, similar to legislation passed by the Senate, will be included in the final Energy Bill. Although we believe this area of legislation faces opposition from the Oil Industry, we think Alternative Fuel favorable legislation will be included in the final Energy Bill because of strong support from the President and both political parties. We also note, if Alternative Fuel favorable legislation is not included in the final bill, we anticipate the legislation could also be included in a Farm Bill. Ethanol companies such as AVR and VSE would benefit from passage of Alternative Fuel favorable legislation.

We recently had the opportunity to interview Steve McBee, Chief Executive Officer of McBee Strategic, on his views surrounding current Federal legislation. Mr. McBee's commentary reinforces our opinion that the passage of an Energy Bill is likely before the next election, and we have provided the interview below to provide investors with a better understanding of the "politics" underlying Bill negotiations. We note Mr. McBee will join us at the Pacific Growth Equities' Clean Technology and Industrial Growth conference for a "Fireside Chat" during lunch on Wednesday, November 7<sup>th</sup>, to update investors on Washington.

### **Steve McBee Biographical Information**

*Steve McBee is the President and Chief Executive Officer of McBee Strategic. He founded the company in 2002. McBee manages the development and application of a full suite of integrated solutions driven by client objectives, data-driven inputs, informed strategy, and superior performance. With a team of highly motivated professionals, McBee Strategic delivers outcome based sector analysis, government relations, public affairs, communications, and business development products across a full spectrum of practice areas. McBee Strategic works with a broad portfolio of clients from diverse sector areas including energy, defense and aerospace, transportation, aviation, and information technology. In addition to McBee Strategic's private sector work, the firm also enjoys large public sector and non-profit practices. Previously, McBee spent three years at Denny Miller McBee Associates as Chief Operating Officer. There, he was responsible for day-to-day operations of the business and served as the primary client interface for the firm. Prior to entering the private sector, McBee served for over a decade on Capitol Hill for several members of Congress. A Washington State native, Steve currently lives in Washington DC with his wife Jennifer and their sons Brody and Fin. He enjoys mountain biking, snowboarding, and hiking.*

### **Overview:**

***Do you think the legislation will be broken up and voted on or do you see the bill as one package that will either be passed all together or not at all?***

First, contrary to guidance coming off Wall Street, I believe that Congress will pass an energy bill before the November elections. Pronouncements that the bill is “dead” don’t reflect the state of negotiations.

In my conversations with Members of Congress this week, my sense is that while negotiations are intense and sometimes unhappy, there is steady momentum toward resolution. A month ago I’d say the process was maybe at the fifty yard line – today we’re inside the ten. While the final ten yards is sometimes the hardest, the trend-lines are moving in the right direction.

Part of this is the atmospheric around the bill. Negotiations are being conducted against the backdrop of some very powerful dynamics that create political imperative for change. Macro-drivers like \$95 oil, high retail gas prices, the war in Iraq and saber rattling in Iran have a significant impact on political calculations and argue for action. At the same time, you’ve got a Democratic Congress with low approval ratings that needs points on the board in the form of accomplishments and a Democratic base putting a lot of pressure on the system to get something done on the energy front.

Breaking the package into a smaller bill that includes broadly popular items like the RFS, grid upgrades, tougher energy efficiency standards and public investment in clean energy solutions is certainly on the table but we’re not yet at a point in the process where that is viewed as a serious option. The goal is to get a comprehensive bill.

If I were an industry leader making strategic planning decisions or an investor contemplating capital allocation in clean technology verticals, I’d plan for and assume Congressional action will occur before the next election. With some luck, it may happen before the end of this year.

---

***What type of timeframe should investors watch? Is there a specific date we should watch, i.e., when do lawmakers run out of time in getting the bill passed?***

In the near term, the process variable to key off of is the ticking clock on the current legislative session. Right now, Congress is heading toward a Christmas adjournment consumed by the anticipated showdown between the White House and Congress on Fiscal Year 2008 spending priorities.

If you care about the energy bill getting done, hope the Democrats choose to challenge the President aggressively and hunker down for a pitched battle over priorities that runs up to Christmas. The longer the session drags on, the more time and space it provides for negotiations and the more pressure it places on all sides to demonstrate the ability to govern and get things done. Watch the vetoes – more vetoes mean a harder fight on spending which will drag the session out.

If legislation is not passed this year, things get tougher, but not impossible. Generally speaking, the performance of Congress in election years is relatively dim, simply because politics channel the legislative process into a tit-for-tat proxy battle used by both parties to re-enforce the broader objectives of their respective election strategies.

However, the energy bill may not play to form in this case. As I mentioned earlier, there are some heavy duty political trend-lines that argue for action and election year pressure in this instance may serve as jet fuel for resolution.

***What's the President's incentive to pass an energy bill? Is the President's veto threat a negotiating strategy at this point?***

I believe at some level this is viewed by the President as part of his legacy. There is a lot of speculation about where the White House is on this issue but my sense is the veto threat is more of a negotiating strategy than anything at this point.

Congressional Leaders are going to need to decide whether they want to take the win or take the issue. Taking the win requires them to send the President a bill he'll sign. If they want the issue instead, they'll send him a bill constructed exclusively on their terms, force a veto, and then take the issue to the voters in 2008 and let them decide who is right.

However, the same political pressure driving action in Congress is meaningful to the White House. If you read a poll, you connect the dots pretty quickly about the peril of being on the wrong side of this issue.

My sense at this point is that everyone would like the win but the veto threat may be more real if Congress sends the President a bill loaded with provisions that knee-cap the oil and gas industry.

***Do Republicans have incentive to get an energy bill passed or is it better strategy to stall until after the election? How about the Democrats?***

When it comes to energy policy, the political chessboard is being scrambled by engagement from an unusually broad spectrum of the political continuum that is challenging conventional political wisdom about who is for what in this area.

Energy politics traditionally have been informed by geographic and regional interests as much as ideology, and in many instances that remains the case. At a strategic level, Republicans are motivated to deny the Democrats a victory on an issue that will be viewed by the mainstream media and by the Democratic base as a substantial victory. However, many of the most hotly contested races for both the House and Senate for the 2008 elections have Republicans under pressure in states like Maine, Oregon, New Hampshire and Rhode Island where voters want to see action on energy policy. Anticipate that those members will vote their state and local interest over guidance coming from the national party. That's a fair number of Republican YES votes which again supports the idea of passage before next November.

The interesting point underlying your question is the extent to which the politics of energy are changing both on Main Street and in Washington. The demand for change toward more progressive energy policy is no longer the exclusive domain of environmentalists and Bay area liberals.

For a lot of members on both sides of the aisle, the push to overhaul energy policy is more about security than anything else. The Iraq war, Iran, and terrorism create the imperative for energy policy that relies on domestic source for generation rather than mid-east oil.

For some members, energy policy is about Main Street economic anxiety and feeling some urgency about getting voters off their backs about high pump prices. For green Democrats and evangelical Republicans, the imperative for energy and climate change policy is a moral call to arms to save a warming planet.

Finally, for a growing number of lawmakers, a new architecture for energy policy is fundamentally about competitiveness and the need to leverage ingenuity, energy and financial capital to establish a position of global leadership in clean technology. There is a sense that cleantech is an example of what we're great at as a country – applying knowledge, information, innovation and the efficient deployment of capital – and that we ought to lean into rather than shy away from bold, structural change.

The upshot of all of this is that you have a number of Members of Congress, who for very different reasons, are driving toward the same fixed target, which is to overhaul current energy policy.

***What are the most contentious areas of the bill? What are the least contentious areas of the bill?***

From a strategic perspective, it is important to keep in mind that the debate on the energy bill is only partly about the energy bill itself. The provisions in the bill are being hotly contested not just because resolution one way or another creates winners and losers in the near term, but because all sides view resolution of each issue as a proxy battle informing political momentum for or against climate change legislation which is the big prize.

In that sense, the energy bill is something of a scrimmage for the climate change debate. A watered down bill strengthens the hand of those who would prefer energy and climate change policy to move slowly or not at all. A strong bill has the effect of juicing the climate change debate, perpetuating the notion that the politics of energy has been transformed, and creating political vulnerability for being on the wrong side of the issue.

To your question directly, the one component of the energy bill that enjoys broad based support on the Hill and in the Administration is the RFS. Whatever the final piece parts are for future energy policy, broad consensus exists that a muscular renewable industry is a vital piece of the foundation. The build out of infrastructure and capacity in the bio-fuels industry is stagnating under feedstock prices, overcapacity and tight margins has the attention of lawmakers.

There is a sense that an RFS would provide a needed shot of adrenaline to the industry. I think regardless of what happens to the broader bill you will see Congress act to support this industry. Energy efficiency, upgrades to the grid and public investment in clean energy technology also enjoy widespread support.

It gets tougher after that. CAFE, RPS, reduction of the tax breaks for big oil, and price gouging provisions are highly charged issues with a lot of politics on all sides. However, with the exception of the oil industry tax rollbacks, I see the basis for a deal on all these issues given where discussions stand at present. The roll-back issue will be the last and hardest issue decided.

---

*How big of an issue is Energy Policy/Global Warming/Energy Security heading into the Presidential race? Do you think it's one of the top 3 issues?*

Public opinion on this issue is moving. Two years ago, polling data barely registered concern about the environment and global warming and now it falls just behind the tier-1 issues voters care most about – namely Iraq, security, the economy and healthcare. This won't be a top-3 issue heading into next November but it will be part of the public debate and it will be addressed in the context of the Presidential campaign. The extent to which it plays in the debate is in part predicated on oil prices, the war and foreign policy on Iran.

Still, I would emphasize that voters have moved the broad issue of energy up the food chain of priorities they care about which gets the attention of the politicians. Polling from swing state Senate races that I've seen and polling from major Presidential candidates suggest this is no longer a back burner issue.

This issue has greater currency with Democratic voters than Republican voters in general, but as I mentioned earlier, the politics here are moving. That portions of the evangelical movement are coming to the table on climate change has the potential to be transformative. Senator McCain was one of the earliest proponents in the United States Senate for climate change legislation. It will be important as the issue of energy continues to evolve to dissolve traditional assumptions of where the politics are on this issue.

**Tax Portion: H.R. 2776:**

*Does funding of the tax portion of the bill make it one of the most jeopardized pieces of energy legislation?*

The short answer is yes.

When the Democrats regained control of Congress, the repeal of oil and gas incentives was one of the first major actions of the new majority fulfilling a central campaign promise. The repeal was done in a politically charged way that effectively drew a line in the sand by establishing a delineation point between Democrats and Republicans on energy. This makes the tax portion the most difficult section to resolve.

When issues get framed on the basis on politics rather than substance – no one feels they can afford to back down. Both sides see benefit in the utility of having the issue and using it to their advantage. Neither side wants to compromise and give the issue away.

In addition, the Senate's inability to move a tax component has further complicated the issue as the House's tax title stands alone with no counter balance position from the Senate.

That being said, expect it to be included because both parties recognize that a tax title is critical to meet their energy policy objectives.

*Where will funding for the tax portion come from if not from repeal of oil and gas subsidies?*

At the end of the day, some of the revenue to offset the tax package will come from repeal of oil and gas tax breaks. However, the tax package added to the Senate Farm Bill includes some energy tax breaks funded by other mechanisms such as the reduction of five cents per gallon in the Volumetric Ethanol Excise Tax Credit (VEETC). This will allow the energy bill tax package to be reduced substantially from the Senate Finance Committee-passed version and reduce the overall impact of revenue-raisers on the oil and gas industry. Somewhere in this area is the basis for a deal.

---

***Is there opposition to extending the Production Tax Credit? What other pieces of legislation could the extension be attached to?***

Overall, there is very little opposition to extending the Production Tax Credit. The issue is technology eligibility, the ceiling on the price cap for total project cost, and the financing mechanism for the tax credit.

In terms of alternative vehicles for moving the tax credits, the Farm Bill is a logical first choice. There are also a couple of tax packages moving in the next several months – one for the Alternative Minimum Tax (AMT) and one omnibus tax corrections bill – that could each carry the PTC provision. Finally, Congress is likely to pass spending bills in one comprehensive package rather than as separate measures. End of the year omnibus spending bills are great vehicles for bolting on provisions that are not otherwise moving through regular order – so the PTC could also be carried there. There are a lot of options and my sense is this will move one way or another.

***What groups do you see driving the passage of the legislation?***

It's an interesting question. To be sure there is advocacy coming from the institutional environmental organizations and from various trade associations representing renewable energy and other interests. There is also some episodic support from entrepreneurs and investors out of the cleantech industry. However, for the most part the driving force behind moving the bill has come not from third party stakeholders but from the members themselves – particularly House Speaker Pelosi and Senate Majority Leader Reid.

Something that the cleantech industry has to wake up to is that the oil and gas industry spent on the order of \$40 million last year on engagement and advocacy. They are active, organized, and sophisticated. The cleantech industry who stands to benefit from many of the major provisions in the bill has not been at the table in a meaningful way, however, and has effectively ceded the lobbying, advocacy, information and education channel to those in favor of the status quo.

It's far easier in Washington to slow down progress than to compel change – and the oil and gas guys are the masters of the slow roll. They understand how to play the inside game extremely well. The cleantech industry has to decide whether they're going to play ball or lay back and hope it turns out the right way.

***Besides the oil and gas industry is there any other major opposition to the bill?***

The oil and gas industry is definitely the main source of opposition—they are well financed and formidable. However, there are other institutional players working hard in opposition to this measure, most notably the U.S. Chamber of Commerce.

***Do you believe there will be a cap associated with the PTC, i.e., only a certain % of project cost can be recovered?***

It does not appear that there will be a cap placed on the PTC extension that will limit its availability beyond current levels. The question that Congress will need to answer is how many years it is willing to extend it. The renewable electricity industry would like to see a five year extension, although that may be too expensive.

***Do CREBs have major opposition; who opposes them?***

CREBs do not have major opposition. However, like all other expensive tax provisions, the challenge to extending them and expanding them will be in the choice of revenue raisers used to pay for them.

*How are programs for energy efficiency viewed in the bill?*

The few, relatively modest provisions in the Senate Finance-passed and House-passed energy tax bills designed to encourage energy-efficiency have broad, but generally not deep support. Since most of the provisions are inexpensive relative to the higher profile items, I anticipate most of that content to remain in the final bill.

**Renewable Portfolio Standards:**

*What types of electricity sources are being debated for a National RPS – for example nuclear, efficiency?*

The RPS, unlike many issues being considered in the energy bill, is informed in many ways by pressure at the state level where a number of Democratic and Republican Governors have moved forward with individual RPS policies. State pre-emption and how to synthesize Federal and state policy in this area is going to be a significant issue going forward.

While the Senate has previously passed RPS legislation four times, the effort has always died in the House. In the absence of Federal legislation, a growing number of states have implemented their own RPS mandates, which has led to a patchwork of regulations across the country. Establishing a National RPS would not only determine what types of sources and activities could be counted toward meeting a renewable electricity mandate, but also set the baseline for any future state action.

The House-passed bill would require utilities to provide 15 percent of their power from renewable sources by 2020, beginning with 2.75% by 2010. The House bill does not include nuclear power, but focuses on wind, solar, ocean, tidal, geothermal energy, biomass, landfill gas, or incremental hydropower achieved through additional electric generation from new efficiencies or adding capacity at existing hydropower facilities.

The bill exempts publicly owned utilities and rural electric cooperatives. Also, in response to concerns that an RPS would disadvantage Southeastern states, the Democratic leadership added a provision allowing up to 4% of the 15% mandate to be achieved through efficiency improvements.

The RPS was hotly debated in the Senate, particularly over concerns raised by Senators from Southeastern states, but also by proponents of nuclear power. In the end, the Senate leadership pulled the RPS from consideration.

*What is the President's stance on a RPS? Would he veto if one is included?*

The President's Economic Advisor, Allan Hubbard, sent a letter to Congressional Leaders outlining the President's policy objectives and concerns with the energy legislation being considered. He made it clear that the President opposes the inclusion of a RPS in the energy bill.

In our discussion with Administration officials, the primary concern seems to be that a one-size-fits-all Federal mandate fails to consider the regional and economic needs of individual states. However, if the energy bill were broadly acceptable to the President in most respects, but included a more limited Federal percentage on the RPS than was passed in the House, I think they would sign the bill.

## **Renewable Fuel Standards:**

*Senate Bill contained legislation on Renewable Fuel Standards (RFS). Do you see this as part of a final bill? Opposition?*

Despite sustained attacks on ethanol and the RFS by the oil industry, the cattle and poultry feeders and some environmental groups, Congressional support for a large new RFS remains high and it is extremely likely to be included in any energy bill. In fact, inclusion of a RFS in an energy bill will likely be necessary in order to generate sufficient support among Midwestern Republican senators to overcome a potential filibuster.

*If the President outlined a RFS-type plan in the State of the Union, who is opposing it now?*

Opposition to the President's plan is relatively widespread, ranging from the oil companies concerned about displacing petroleum too rapidly to environmentalists who oppose coal-to-liquids eligibility in the criteria. The version of the RFS passed by the Senate also has seen opposition, coming most intensely from the oil industry, but also from some environmental groups that worry about the impact on land use and cattlemen and poultry feeders who object to higher corn prices.

*Which bill is more likely to pass before the end of the term – Farm Bill or Energy Bill?*

The Farm Bill is really a must-pass bill for Midwestern lawmakers who simply cannot face the electorate without having moved a reauthorization bill. While the energy bill has a lot of complex variables around passage as we've discussed, I don't see a scenario where the Farm Bill doesn't pass before next November.

One of the strategic issues being contemplated by Congressional leaders is whether to load some portions of the energy bill such as the RFS onto the Farm Bill to ensure it gets done this year. Either way, there are also a number of important provisions in the Farm Bill that matter a lot to the bio-fuels industry including R&D investment and loan guarantees for cellulosic ethanol.

## **Coal-to-liquids/Clean Coal Portion:**

*How has sentiment towards clean coal changed over the past year?*

A lot of how this issue will be dealt with is predicated on whether the debate in Congress shapes up around energy independence and security or climate change and the need to move toward cleaner, greener sources of energy. If the debate is framed around domestic sustainability, it's hard to ignore coal given its abundance in the United States.

Coal presents some very thorny political issues inside the Democratic caucus. The environmental community's opposition to coal is a threshold issue but at the same time a number of key oversight committee chairmen and large blocks of Democratic votes come from coal states. There is also serious union support for leveraging coal reserves.

The sentiment on coal is black and white. For some members it's a threshold environmental issue and any legislation that positions coal as a core part of US energy policy is a show-stopper. However, I'd say that a slim majority of lawmakers view coal with great hope and promise. The reserve volume and the push for domestic sustainability make it an extremely attractive option. It's hard for me to see an energy policy that doesn't at a minimum include coal as a component part of the solution going forward.

***What types of incentives do you think will be included for carbon capture and sequestration and CTL?***

Both the House and Senate-passed energy bills include similar provisions intended to promote carbon capture and sequestration. Both proposals would require the Department of Energy to conduct large-volume carbon sequestration tests and large-scale demonstrations of carbon capture technologies. In addition, both bills authorize funding for additional research, development, and other testing activities. Given that the House and Senate included similar proposals, it is highly likely that some version of them will remain in the final negotiated bill.

On the tax side, only the Senate version of the bill – which did not pass the Senate – included incentives directed for carbon capture and sequestration and other clean coal technology. While the House tax bill was silent, given the strong bipartisan interest in developing technology capable of capturing and storing carbon, the final tax bill will likely have some components of the Senate proposal, but what those are specifically will be determined by how much revenue is available to support them.

CTL, on the other hand, was one of the most controversial provisions championed by the coal lobby. Earlier this year, House Speaker Nancy Pelosi and House Energy and Commerce Committee Chairman John Dingell engaged in a very public fight over CTL and whether it should be included in the Committee's draft RFS. That standoff almost derailed the energy bill and eventually resulted in the House dropping its RFS title entirely. A similar fight over CTL erupted on the Senate floor as it considered its version of the energy tax package. In that debate, coal state lawmakers tried several times to add CTL production tax credits and other incentives, but the Senate rejected all of them and the bill was eventually pulled from consideration. Given the concerns raised about CTL's carbon footprint, it seems more likely that the Congress will focus on promoting carbon capture and sequestration technology than CTL as the package moves forward.

***Do you see carbon capture and sequestration as part of a global warming type bill?***

At this point – absolutely. The two most politically credible global warming bills in the Senate, the Bingaman/Specter bill and the Lieberman/Warner bill, both designate a portion of the auction proceeds to the research and development of this technology and provide a pool of bonus allowances to encourage deployment. On the House side, Congressman Rick Boucher who represents a coal district is the key subcommittee chair of the House Energy and Commerce Committee that will be drafting global warming legislation. My strong sense is he is planning to ensure that there are generous incentives for carbon capture and sequestration in the global warming legislation produced by the House of Representatives.

**Other Legislation:**

***What other bills should investors focused on Clean Technology follow? For example, water bills? Carbon reduction bills? Global warming bill?***

There is growing action on climate change and carbon reduction policy but the serious battle on that issue is going to come with the next Administration. However, beyond the energy bill there are important secondary policies that will impact the market.

First is the Farm Bill which we've discussed. The Senate Farm Bill contains an energy title as did the House-passed Farm Bill that passed in July. The energy titles in the Farm bills are substantial -- \$1 billion in the Senate and more than \$3 billion in the House. The Farm Bill is also a potential legislative vehicle for items like the RFS if the energy bill collapses. We have already seen this as precedent with the addition of the tax credit extensions to the Senate Farm Bill being considered.

Secondly is the America COMPETES Act, a competitiveness bill signed by the President last August that among other things established the Advanced Research Projects Agency for Energy (ARPA-E). ARPA-E was established to address long-term and high-risk technological barriers in energy through collaborative research and development with private sector and government. In Fiscal Year 2008, this program was authorized at \$300 million.

A final program we think has a lot of upside for the cleantech industry is the DOE Loan Guarantee Program. The 2005 energy bill established this program to issue loan guarantees to projects that support early commercial use of advanced technologies. Although this program still has its first round of loans pending, the program is projected to grow from \$2 billion in 2005 to as much as \$9 billion this year with greater increases in loan volume projected in the out years. The program is designed to catalyze facilities build out of cutting edge energy production facilities and provide huge competitive advantage in the form of cheaper money for recipients.

---

## ADDENDUM

### Key Differences Between the House and Senate Versions of the Energy Bill

---

#### Senate Bill

##### CAFÉ Standards

Establishes CAFÉ Standards which regulate emissions allowable by automobiles. This portion of legislation also establishes a R&D program for the use of advanced materials in auto production and also establishes a credit system that allow companies to beat the standards to trade to auto manufacturers that don't meet new requirements.

##### Renewable Fuel Standards

Would Create Renewable Fuel Standards (RFS) that require 36B gallons of advanced fuel used by 2022. The piece of legislation also sets requirements on the amount of biofuels used to meet the standard.

#### House Bill

##### Tax Portion of Legislation

Unlike the version of the Energy Bill passed by the Senate, the House's version included a tax and incentive piece of legislation (H.R 2776). This portion of legislation extends the Production Tax Credit, creates Clean Renewable Energy Bonds (CREBs), and extends the Solar Investment Tax Credit. H.R. 2776 provides for these expenditures through revenue generated by removing subsidies to the oil and gas industry.

##### National Renewable Portfolio Standard

The House Bill included a Federal Renewable Portfolio Standard (RPS) which requires that 15% of the electricity come from Renewable Sources. The legislation allows for 4% of the renewable electricity to come from Energy Efficiency.

Source: United States House of Representatives, United States Senate, Pacific Growth Equities' Estimates

---

**Tax Portion of House Energy Bill**

---

**H.R. 2776**

**Production Tax Credit Extension**

Extension of Section 45 Production Tax Credits. Extends the PTC for five years (through Dec 31, 2013). Includes PTC eligibility for wind, biomass, geothermal, landfill gas, and trash combustion. Adds tidal energy as energy as a qualifying source. Caps aggregate amount of tax credits at 35% of the present value of the facility's cost. Cost ~\$6.6B over 10 years.

**Solar Energy and Fuel Cell Investment Tax Credit**

Extends 30% investment tax credit for solar energy property and qualified fuel cell property through 2016. Increases cap for qualified fuel cells to \$1,500 per half kilowatt of capacity. Bill also removes limitation of public utilities claiming investment tax credit. Cost \$563M over 10 years.

**Clean Renewable Energy Bonds (CREBs)**

Authorizes \$2B of new CREBs for qualifying facilities which include wind; biomass, geothermal, landfill gas, and trash combustion. Cost \$550M over 10 years.

**Cellulosic Alcohol & Biodiesel Production Tax Credit**

In addition to the existing small producer credit, the bill would create a new production tax credit of \$0.50 per gallon for cellulosic alcohol. The bill would also extend the biodiesel tax credit and tax credit for diesel created from biomass. Cost ~\$300M over 10 years.

**Qualified Energy Conservation Bonds**

Allows States and municipalities to issue approximately \$3.6B in Tax Credit Bonds for community programs to reduce greenhouse gas emissions. Cost \$1.5B over 10 years.

**Energy Efficiency Assistance Bonds and Commercial Buildings**

Creates tax credit bonds that will provide low-interest loans and grants for energy efficient properties. Authorizes up to \$2.4B of bonds. Also, extends deduction for energy efficient buildings for five years. Cost ~\$1.8B over 10 years.

**Five Year Depreciation for Smart Meters**

Would allow utilities to use accelerated depreciation (over 5 years) to depreciate smart electric meters. Cost ~\$1.3B over 10 years.

Source: United States House of Representatives, Pacific Growth Equities' Estimates

**Tax Portion of Senate Energy Bill**

**Senate Tax Portion<sup>1</sup>**

**Production Tax Credit Extension**

Extension of Section 45 Production Tax Credits. Extends the PTC for five years (through Dec 31, 2013). Includes PTC eligibility for wind, biomass, geothermal, landfill gas, and trash combustion. Adds tidal energy as energy as a qualifying source. Also extends in service date through December 31, 2013 for refined coal. Does not caps aggregate amount of tax credits at 35% of the present value of the facility's cost. Cost ~\$10.1 over 10 years.

**Solar Energy, Fuel Cell, and Microturbine Investment Tax Credit**

Extends 30% investment tax credit for solar energy property and qualified fuel cell property through 2016. Removes cap for qualified fuel cells. Bill also removes limitation of public utilities claiming investment tax credit. Also extends the 10% credit for microturbines. Cost \$691M over 10 years.

**Clean Renewable Energy Bonds (CREBs) & Clean Energy Bonds**

Authorizes \$3.6B of new CREBs (\$900M annually 2008-2011) for qualifying facilities which include wind; biomass, geothermal, landfill gas, and trash combustion. Cost \$1.3B over 10 years. Also includes provision allowing for the issuance of up to \$3B of tax credit bonds for clean coal power plants. Cost ~\$1.06B over 10 years.

**Domestic Fuel Security**

The Domestic Fuel Security portion of the Bill contains many subsidies for both ethanol and biofuel. For example, the legislation would create production tax credits for cellulosic fuel, small ethanol producers, biodiesel, CTL, and Renewable Diesel. This portion of the legislation would cost approximately \$5.2B over 10 years.

**Qualified Energy Conservation Bonds**

Allows States and municipalities to issue approximately \$3.6B in Tax Credit Bonds for community programs to reduce greenhouse gas emissions

**Energy Efficient Commercial Buildings**

Would extend deduction for energy efficiency in commercial buildings for five years. Also increases the amount of deduction to \$2.25 per square foot. Cost \$1.3B over 10 years.

**Seven Year Depreciation for Smart Meters**

Would allow utilities to use accelerated depreciation (over 7 years) to depreciate smart electric meters. Smart Meters is defined as a meter that allows real-time pricing (at least every 60 minutes) and two-way communication. Cost ~\$255M over ten years.

**Business Credit for Clean Coal**

Expands Investment Tax Credit to Clean Coal Facilities. The tax credit is 30% of all projects. An electricity producing power plant must capture 65% of carbon dioxide emissions to qualify while a gasification plant would need to capture 75% of carbon dioxide emissions to receive the credit. Cost ~\$3.8B over 10 years.

**CO2 Capture Credit and Accelerated Depreciation for CO2 Pipelines**

Provides a \$10 credit per ton for first 75M metric tons of CO2 captured and used in Enhanced Oil Recovery. Also, provides \$20 tax credit for CO2 captured and stored permanently in a geological formation. Also provides for accelerated depreciation (over 7 years) on first 300 miles of a new pipeline to transfer CO2. The legislation would also permit publicly traded partnerships to treat income from transporting and storing CO2 as qualified income. Cost ~\$1.5B over 10 years.

**Business Credit for Clean Coal**

Expands Investment Tax Credit to Clean Coal Facilities. The tax credit is 30% of all projects. An electricity producing power plant must capture 65% of carbon dioxide emissions to qualify while a gasification plant would need to capture 75% of carbon dioxide emissions to receive the credit. Cost ~\$3.8B over 10 years.

<sup>1</sup> Note: Senate Tax Legislation Did Not Pass as part of final Senate Energy Bill  
Source: United States Senate, Pacific Growth Equities' Estimates

**Publicly Traded Companies Listed in This Report**

<b>Exchange</b>	<b>Symbol</b>	<b>Company</b>	<b>Rating</b>
NASDAQ	AMSC	American Superconductors	<b>Buy</b>
NYSE	AVR	Aventine Renewable Energy Holdings	Not Rated
NYSE	CVA	Covanta Holding Corporation	<b>Buy</b>
NASDAQ	ESLR	Evergreen Solar, Inc.	<b>Buy</b>
NASDAQ	FSLR	First Solar, Inc.	<b>Neutral</b>
NASDAQ	ITRI	Itron, Inc.	<b>Buy</b>
NASDAQ	MXWL	Maxwell Technologies, Inc.	<b>Buy</b>
OTC	NGLPF	Nevada Geothermal Power, Inc.	Not Rated
NYSE	ORA	Ormat Technologies, Inc.	<b>Neutral</b>
NASDAQ	SPWR	SunPower Corporation	<b>Neutral</b>
OTC	UGTH	U.S. Geothermal	<b>Buy</b>
NYSE	VSE	VeraSun Energy Corporation	Not Rated

**HEALTH CARE**

**Patricia Bank**

*Specialty Pharmaceuticals*

(415) 263-6646

pbank@pacgrow.com

Jay Sarwar

(415) 263-6656

jsarwar@pacgrow.com

**Caroline Corner, Ph.D.**

*Regenerative Medicine and Convergent Technologies*

(415) 263-6618

ccorner@pacgrow.com

**Un K. Kwon-Casado, M.SC.**

*Life Sciences Tools & Diagnostics*

(415) 263-6634

ukwon@pacgrow.com

**Kimberly Lee, D.O.**

*Biotechnology / Biopharmaceuticals*

(415) 274-6842

klee@pacgrow.com

Cynthia Yee

(415) 274-6858

cyee@pacgrow.com

**Liana Moussatos, Ph.D.**

*Emerging Pharmaceuticals*

(415) 263-6626

lmoussatos@pacgrow.com

Cynthia Yee

(415) 274-6858

cyee@pacgrow.com

**Gregory R. Wade, Ph.D.**

*Biotechnology / Biopharmaceuticals*

(415) 274-6863

greg.wade@pacificgrowth.com

Jeremiah Shepard, Ph.D.

(415) 274-6841

jshepard@pacgrow.com

Rich Horn

Director of Research

(415) 274-6869

rhorn@pacgrow.com

**CLEAN TECHNOLOGY & INDUSTRIAL GROWTH**

**J Michael Horwitz**

(415) 274-6889

mhorwitz@pacgrow.com

Ben Kallo, CFA

(415) 274-6859

bkallo@pacgrow.com

Ralph Fong

(415) 274-6857

rfong@pacgrow.com

**TECHNOLOGY**

**Yun S. Kim**

*Internet Advertising/Marketing Services & Software*

(415) 263-6645

ykim@pacgrow.com

Mike Danziger

(415) 263-6692

mdanziger@pacgrow.com

**Kaushik Roy**

*Datacenter Technologies*

(415) 274-6873

kroy@pacgrow.com

**J. Derrick Wood, CFA**

*Infrastructure Software & Digital Media*

(415) 274-6822

dwood@pacgrow.com

Frank Law

(415) 274-6896

flaw@pacgrow.com