

**Presentation to the Consortium for Energy Efficiency
on Leveraging U.S Federal Tax Incentives
David Goldstein September 26, 2007**

Why are the tax incentives so important to energy efficiency? Why should this group care about tax incentives that only apply to a tiny fraction of the market at the moment?

As an energy program administrator, tax incentives are helpful because they attract attention to *advanced energy efficiency targets*. Tax incentives help administrators to move these new technologies from the bleeding edge of near-unavailability to an exploitable niche market from which you can get significant energy savings. The tax incentives validate the use of high tech goals by showing that the U.S. government cares enough about the potential of these technologies to recognize them in the law. This validation applies equally whether the administrator is located in Canada or the United States.

Secondly, administrators can use the tax incentives to promote energy efficiency with other people's money, at least in the United States.

As a manufacturer, tax incentives are important because they create a market for the very highest value-added products and services: items that are better for the customer and more profitable for the producer and the distribution chain.

The conceptual basis for tax incentives is similar to that for CEE's market transformation programs, but it goes even farther in that direction. Tax incentives, at least as implemented in the U.S. Energy Policy Act of 2005 (EPACT) for buildings and appliances, are aimed at the very highest levels of technology that could be mass produced. Their goal is to move these technologies into the market. This is what CEE does, but the tax incentives address an even higher level of innovation and technology.

One key advantage of focusing on the highest levels of efficiency is that there are no free riders: For air conditioners, for example, when the tax incentives were first being developed in the Senate Finance Committee, I was asked whether the specification for qualifying for the tax credit could be met by three different manufacturers. I was unable to find three manufacturers, although I could find three brand names. The total number of products complying was less than 10 out of more than 100,000 air conditioners available. Similarly, for commercial buildings, the New Buildings Institute has been able to identify only about 100 buildings that currently meet the specification level of 50% savings. And for new homes, the 50% savings target was considered an ambitious goal that was met or almost met by only the most advanced demonstration subdivision homes that DOE's Building America program was encouraging. And that's when 50 % was the savings compared to a SEER 10 baseline, in contrast to the SEER 13 baseline in the legislation. In all three cases, there are virtually no free riders because the technology specified is higher than anyone is doing except on a one-off basis.

This focus on high technology may not do much for utilities and program managers that are struggling to meet goals for 2007 and 2008. But it plants the seeds for new programs in the time period of roughly 2009 to 2013. At this point, many of today's conventional technology opportunities will have been exhausted, but program administrators will still have to achieve an energy savings compared to a higher base. By developing these next generation technologies now, we are preparing for the ability to achieve significant market share of these in the mid-term.

Another way of looking at it is that the tax incentives are based on the concept of continent-wide harmonization and multi-year program certainty. That's what manufacturers have been asking CEE and its members for over the years. It's not just the manufacturers though, that demand harmonization and multi-year goals; professionals need help as well. An architect is not going to learn to design 50%-savings buildings when the market at best demands 25 or 30%: the investment in professional development isn't worth the small amount of additional business.

The tax code offers one of the few ways in which multi-year incentives with essentially limited budgets¹ can be offered and provide the manufacturing and professional community with the certainty that they need to embark on ambitious plans.

This conceptual structure is not just theory: it is already working in practice. For example, California utilities have been promoting the tax credit-eligible air conditioners for the last two years, adding their own rebates on top of the federal tax credit (but also demanding improved performance in terms of quality installation following the CEE Initiative guideline). Sacramento Municipal Utility District reports that 15% of the air conditioner sales into the residential replacement market in their entire service territory qualified for the tax credit in the calendar year 2006, and that the other California utilities were achieving similar market shares. This is a remarkable change (from less than 1/100 of 1 % of the models, much less the sales) qualifying just a few years before.

The new homes program has worked remarkably well, too. Despite getting off to a slow start (with I.R.S. not issuing the implementation regulations until June, 2006 and with some of the documentation containing typographical errors that made compliance more difficult than was intended) over 8,500 site-built homes and 7,000 manufactured homes - - about 1% of the market - - qualified for the tax credit in 2006. 2007 is off to a much faster start: year-to-date some 3,000 homes qualified in California alone (compared to less than 2 dozen for all of calendar year 2006).

¹ An essentially unlimited budget is essential because no architect or manufacturer can know how many qualifying products or building their competitors will sell. If budgets are limited, a multi-year effort that is successful may end up not getting the incentive because the budget is exhausted. This cannot happen with a tax incentive unless it is affirmatively repealed by Congress. And the lack of limits on the budget is not a problem if the technology demands are high enough. Either only relatively few products or installations will qualify, or else in the case of runaway success the benefits in terms of energy savings and market transformation will be so visible that they will clearly be seen as worth the money.

I described a moment ago how important it was to have multi-year commitments through the tax code. But somehow Congress in its wisdom took a multi-year program from the underlying bills and truncated it to two years in the final Energy Policy Act of 2005. That isn't enough to transform markets, so we are seeking to extend the incentives and to correct some of the administrative flaws that have prevented the commercial buildings deduction, in particular, from getting traction in the marketplace.

The Senate Finance Committee passed a bill that extends the commercial buildings provision through 2013, the new homes provision through 2011, the HVAC and hot water provisions through 2009, and also offers (a slightly watered down version of) manufacturer credits tax credits for super-efficient appliances, most of which are based on CEE specifications.

The HVAC and water heater credits make two important changes as well: first, they clarify that the intent of the EF 80 specification on water heaters applies whether or not the water heater is classified as a residential or commercial product, by allowing a manufacturer to demonstrate qualification with a thermal efficiency of 90% rather than having to use only the energy factor method. This change clarifies the original intent of Congress and resolves a legal ambiguity as to whether the commercial water heaters that would meet an EF 80 if they could be legally tested and promoted that way would qualify under the current law. Second, it harmonizes the heat pump specification to the 2008 CEE specification, although it apparently through a typographical error fails to do so for central air conditioners, an error that we are asking to be corrected.

In the House of Representatives, the Energy Bill contains an extension of the commercial buildings deduction through 2013, it has the correct version of the manufacturer tax incentives for super-efficient appliances, and it offers tax credit bonds - - which amount to zero interest loans to municipalities and states - - to finance other energy efficiency improvements.

The prospects of these bills are very unclear procedurally. Even by Washington standards, staff in key positions are uncertain about what will happen. But there is widespread support for these incentives, and with continued expressions of interest by those in this audience who can lobby, there is an excellent chance that we can pass these incentives, with needed corrections I will describe next, by the end of 2007; and if not, an even better chance that they can be enacted next year before most of the incentives expire.

Effective advocacy on these issues would focus on:

- The need to adopt the full range of measures in the Senate Finance bill and get it through both houses;
- The need to adopt technical fixes, especially for the commercial buildings deduction.

The deduction was intended to be administered similar to California's Title 24 building code, using simple and widely available compliance software that generates a pass-fail grade without much engineering effort. But rather than rely on the reference California documents cited in the law, DOE and IRS chose to develop an approach that is simpler from the point-of-view of the agency's drafting tasks but much more complicated from the point-of-view of the end user. This choice undermines the intent of the EPACT law and makes it bureaucratically far too difficult to demonstrate compliance.

The current guidance is so complicated to the taxpayer that even a huge corporation like WalMart that constructs lots of new buildings and already meets or comes close to meeting the target levels of efficiency has testified that the bureaucratic *cost to demonstrate compliance is higher than the value of the deduction itself*. This can be changed by adoption clarifying language from the Snowe-Feinstein bill S822 that was developed in a partnership effort between trade associations, corporations, and the public interest community. This language would *allow simple prescriptive checklist compliance* where appropriate and would require the government to set standards on software analogous to the Title 24 software standards that will induce private sector software companies to introduce *user-friendly and simple compliance tools*.

The second correction is for the HVAC section to correctly reference and harmonize with the highest 2008 CEE tier for air conditioners.

The third correction is to use the House version of the manufacturer tax credits for appliances. This version is the one negotiated by efficiency advocates and manufacturers as part of a broad package that includes the efficiency standards for these appliances in both House and Senate energy bills. It includes the highest CEE tiers, which inexplicably were left out of the Senate Finance bill, (inexplicably because the highest tiers produce by far the greatest benefit for the cost, and cost very little in any event).

I will next discuss the opportunities that the current and proposed incentives offer for administrators and for CEE.

For commercial buildings, the federal tax incentives can be used as a higher tier for current new construction programs, or as the basis for a very ambitious new construction program all in itself.

The EPACT incentives are available separately for any combination of lighting, HVAC, and envelope systems. So far, the greatest market traction has been from the lighting discipline, probably because of its shorter lead time. The New Buildings Institute (NBI) has developed technical support material for utility customers and for the design professions showing how easy it is to meet the tax deduction levels using state-of-the-art equipment that provides higher quality lighting than current standard issue equipment. See <http://www.newbuildings.org/gtf/index.htm>.

NBI can work with CEE and its members to disseminate this kind of technical information. Secondly, the law envisioned the creation of an infrastructure to make

compliance easy to the taxpayer: on the technical side, user-friendly software, and on the people side, an infrastructure of inspectors/raters who can certify that a building owner has complied. Program administrators can work with NBI and RESNET - - the non-profit organization that oversees a parallel people infrastructure for home energy raters (see <http://resnet.us/>) - - in developing such software and people infrastructure *whether or not* the federal government does the right thing nationwide.

For new homes, utilities can integrate the tax credit level into an existing new construction program that might currently offer incentives for a lower level of efficiency. For example, utilities that are supporting the ENERGY STAR[®] program will find that the home energy rating specification for ENERGY STAR is 85 (meaning 15% savings in whole house energy) in most parts of the country; the tax credit level is equivalent to about 65 or 70. Thus it offers a Tier II program with about twice the savings of ENERGY STAR (and the same certification procedures and EnergyStar, so little or no extra administrative cost is incurred by the builder and the building automatically receives the ENERGY STAR label).

For HVAC, in territories where utilities have offered parallel programs and their own additional rebates, market share has been very high. This could be achieved by administrators in other parts of the country, or for administrators anywhere with products that have not yet taken off in market share, such as water heaters and gas furnaces and the fans that circulate air from them.

For appliances, if the new tax credits pass, program administrators can foresee the availability of lots of equipment at the highest levels of efficiency, including some of the very highest (and in the case of dishwashers even beyond the highest) CEE tiers. Parallel promotional efforts for these products would be much more successful because the manufacturers are already planning to produce them. As an example, it is reasonable to forecast the availability of refrigerators at the 30% savings level if the manufacture tax credits pass; otherwise, structuring a rebate program around this level would probably not produce much result.

Finally, there is an opportunity offered by residential retrofits. While many utilities offer “widget-based” residential efficiency programs, very few administrators offer incentives based on whole-house performance as verified by a rating. A provision to do this was included in the Snowe-Feinstein bill (S. 822) but did not make it into the Senate Finance bill or the House bill.

But of all the advanced programs, this is one that administrators can undertake by themselves without the need for national harmonization or long-term commitments. RESNET has completed over the past two years an existing homes rating protocol based on whole house energy use; thus, an administrator could structure a program based on achieving a minimum threshold of energy savings for the whole building - - save 20% - - and a sliding scale incentive based on the actual level of kW or kWh or therms of savings.

Such a program would encourage the homeowner and the contractor to think about whole systems and the interactions between different components that would realize the energy savings. PG & E is very excited about the ability to supplement their existing (and continuing) “widget-based” program with a performance-based program and will be piloting this incentive in early 2008.

In summary, here is what you can do to expand the menu of energy saving options based on the existing and prospective tax incentives:

1. Organizations who lobby can support the technical modifications to the Senate Finance bill and can encourage their senators and congress members to make sure that energy efficiency incentives are included in any energy bill that is passed this year. NRDC has a sign-on letter and we would welcome utilities, state energy offices, and manufacturers to sign on. We also encourage individual meetings and contacts with members and staff.
2. Whether or not your organization lobbies, you can submit comments to the Internal Revenue Service asking for the improvements in the Commercial Buildings Incentives implementation rules as I have discussed. Several organizations, representing both business interests and environmental/energy efficiency interests, have jointly signed on to comments as well as submitting their own. There is virtually no difference in opinion among any of the stakeholders on what to do: it is merely a matter of convincing DOE and IRS that the work is important enough to do.
3. You can spread the word on these incentives. Many customers are not aware that they exist or, if they are aware, are under the misimpression that the incentives are virtually impossible to meet. Program administrators can provide information exchange showing reliable ways of meeting both the commercial and new homes tax incentive level. With some staff effort, you can identify regionally-specific solutions that will work even better than the national solutions that have been identified by the New Buildings Institute and to a lesser extent by RESNET.
4. Program administrators can initiate complementary programs that can promote the acceptance of products and buildings at the tax incentive level, by offering information, streamlined compliance options for commercial buildings, and if necessary targeted additional financial incentives.