



**ENERGY EFFICIENCY IN COMMERCIAL BUILDINGS:  
Top Priorities for the Obama Administration Using Existing Authorities  
January 21, 2011**

Last year, the U.S. Green Building Council, assisted by the Natural Resources Defense Council, Johnson Controls, Inc., and The Real Estate Roundtable, spearheaded an effort that culminated in an April 29, 2010 report, “Using Executive Authority to Achieve Greener Buildings: A Guide for Policy Makers to Enhance Sustainability and Efficiency in Multifamily Housing and Commercial Buildings.”<sup>1</sup> The “Existing Authorities Report” identifies dozens of immediate actions that the Obama Administration can take now – without the need for new legislation from Congress – to encourage greater energy efficiency in buildings, stimulate jobs to boost a new energy economy, and reduce the built environment’s carbon footprint.

This memo highlights three priorities from the Existing Authorities Report. We recommend significant actions that the Obama Administration can take now to make immediate progress on energy efficiency in commercial buildings. We suggest focused consideration of the following three “Top Priorities”:

<b>Top Priority</b>	<b>Implementing Agencies</b>	<b>Existing Authority</b>	<b>Priority Summary</b>
<b>1. Green Real Estate Appraisal Standard</b>	Federal Financial Regulatory Agencies	Financial Institutions Reform, Recovery, and Enforcement Act (FIRREA), 12 U.S.C. §§ 3332, <i>et seq.</i>	<ul style="list-style-type: none"> <li>Start public notice and comment process to develop green real estate appraisal standard.</li> </ul>
<b>2. Improve Existing 179D Tax Deduction</b>	DoE IRS	Internal Revenue Code, 26 U.S.C. § 179D	<ul style="list-style-type: none"> <li>DoE: Simplify and standardize performance modeling and make it less costly.</li> <li>DoE: Issue “prescriptive regulations” to enable greater use of partial deductions.</li> <li>IRS: Develop form to assist taxpayers in claiming 179D deduction.</li> </ul>
<b>3. Loan Guarantee Pilot Program for Efficiency Retrofits</b>	DoE	Energy Policy Act (2005) Title XVII, 22 U.S.C. §§ 16511, <i>et seq.</i>	<ul style="list-style-type: none"> <li>Conduct project solicitation for a pilot program</li> <li>Provide loan guarantee specifically for private, whole-building retrofits upgrading multiple systems. Managed through web-based technologies, and deployed through energy services performance contracts.</li> </ul>

<sup>1</sup> Available at [www.usgbc.org/ShowFile.aspx?DocumentID=7186](http://www.usgbc.org/ShowFile.aspx?DocumentID=7186).

## 1. GREEN REAL ESTATE APPRAISAL STANDARD

### a. Issue

Greater energy efficiency may increase the value of a building by lowering the regular operating costs borne by the owners and occupants. Yet the real estate industry currently lacks standards to account for the energy efficiency attributes of a building in the process of property valuation and loan underwriting. This can lead to inaccurate and inconsistent valuations today and suppress investments in efficiency.

Stakeholders from all perspectives – lenders, building owners and managers, and energy efficiency advocates – suffer from the general lack of data in the marketplace about the monetary benefits that energy efficiency components might bring to real estate. A corrected appraisal standard – a “green” standard – would be a significant step to institutionalize the metrics to monetize any added value from efficient equipment and operations of buildings, which is necessary to spur greater investment in efficiency. Moreover, a green appraisal standard can help thaw frozen lending markets in the efficiency arena. It can encourage banks to develop a portfolio of loans for energy upgrades and better assess the risks associated with projects that will save money through energy savings.

### b. Existing Authority

The existing statutory authority for a green real estate appraisal standard is Title XI of the Financial Institutions Reform, Recovery, and Enforcement Act (FIRREA).<sup>2</sup> FIRREA was created in 1989 as a response to the savings and loan crisis. Title XI’s purpose is to ensure that “real estate appraisals utilized in connection with federally related transactions<sup>[3]</sup> are performed in writing, in accordance with uniform standards, by individuals whose competency has been demonstrated and whose professional conduct will be subject to effective supervision.”<sup>4</sup>

Under FIRREA, the “Federal financial institution regulatory agencies”<sup>5</sup> have an obligation to “prescribe appropriate standards for the performance of real estate appraisals.”<sup>6</sup> Real estate appraisal standards must be written<sup>7</sup>, and developed through the public notice and comment process established by the Administrative Procedure Act.<sup>8</sup> The law also calls on the private appraisal industry – through the Appraisal Foundation and its two independent boards, the Appraiser Qualifications Board and the Appraisal

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<sup>2</sup> 12 U.S.C. § 3332, *et seq.*

<sup>3</sup> FIRREA defines “federally related transaction” as “any real estate-related transaction which – (A) a federal financial institutions regulatory agency or the Resolution Trust Corporation engages in, contracts for, or regulates; and (B) requires the services of an appraiser.” 12 U.S.C. § 3350(5).

<sup>4</sup> *Id.* § 3331.

<sup>5</sup> The Board of Governors of the Federal Reserve System, the Federal Deposit Insurance Corporation, the Office of the Comptroller of the Currency, the Office of Thrift Supervision, and the National Credit Union Administration. *Id.* § 3350(6).

<sup>6</sup> *Id.* § 3339.

<sup>7</sup> *Id.* § 3339(2).

<sup>8</sup> *Id.* § 3336.

Standards Board – to establish uniform minimum appraiser qualifications and professional standards of practice.<sup>9</sup>

c. **Immediate Action from Financial Regulatory Agencies**

The Obama Administration should start the public notice and comment process to develop a green real estate appraisal standard to better account for energy efficiency and to ensure a consistent methodology.

FIRREA allows the financial regulatory agencies to develop new appraisal standards from time to time to suit changing economic conditions. The law states that “[e]ach agency ... may require compliance with *additional standards* if it makes a determination in writing that such additional standards are required in order to properly carry out its statutory responsibilities.”<sup>10</sup>

Last year on Earth Day, the House of Representatives Financial Services Committee marked-up bipartisan legislation known as the “Green Resources for Energy Efficient Neighborhoods” (GREEN) Act. Section 18 of the GREEN Act would amend the FIRREA provisions discussed above and require the federal financial regulatory agencies to develop an appraisal standard for “consideration of any renewable energy sources for, or energy efficiency or energy-conserving improvements or features” of real property.<sup>11</sup>

The Obama Administration can start that process now to develop a green appraisal standard and does not need to wait for congressional action. The relevant financial regulatory agencies need only commence a public notice and comment process – that is, publish a proposed green appraisal standard in the Federal Register; provide stakeholders a 60-day period to provide comments; consider those comments; and then publish a final standard thereafter in the Federal Register.

An improved standard would enable certified and licensed appraisers to use a consistent methodology to assess information about the property’s energy efficiency features in determining a market value. Such information can include labels or ratings of buildings and installed appliances; blueprints; construction costs; incentives regarding the installation of energy- and water-efficiency components and systems; and third-party verifications of the property’s energy performance.<sup>12</sup>

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<sup>9</sup> *Id.* § 3345.

<sup>10</sup> *Id.* § 3339 (emphasis supplied).

<sup>11</sup> H.R. 2336, as reported with an amendment on Sept. 22, 2010, § 18, p. 66 lines 20-23 (111<sup>th</sup> Congress) (available at <http://thomas.loc.gov/cgi-bin/thomas>).

<sup>12</sup> *Id.* p. 67 lines 23-25, p. 68 lines 1-14.

## 2. IMPROVE EXISTING 179D TAX DEDUCTION

### a. Issue

Enacted as part of the Energy Policy Act of 2005, Section 179D of the Internal Revenue Code provides a tax deduction of up to \$1.80 per square foot to commercial building owners that install energy efficient interior lighting, HVAC, hot water systems, and building envelopes.<sup>13</sup>

To qualify for the maximum deduction, the equipment must be certified as part of an overall building's design to reduce energy consumption by 50% above the baseline of an ASHRAE 90.1 (2001) "reference building."<sup>14</sup>

The 179D incentive targeted new construction by setting the goal on a scale related to current code minimums, and therefore has not impacted the retrofit market for existing buildings. There are compliance problems with the deduction for new construction as well, because the IRS's compliance guidance is not clear and, as a result, few commercial building owners have been able to claim the \$1.80/sf deduction. The performance modeling alone to show the 50% improvement above ASHRAE is complicated and expensive. Modeling costs typically exceed the amount of the tax incentive. Further, modeling guidance and standards required by the statute have never been developed, adding more uncertainty to the process.

Section 179D's partial compliance methodology that exists for lighting has driven some use of the incentive. However, further prescriptive agency regulations – required by the statute itself – have never been developed to encourage maximum use of the partial deductions. We understand that the Department of Energy has taken steps to simplify modeling and provide needed guidance, and we believe continued attention to this matter is warranted and must be encouraged.

### b. Existing Authority

Various subsections of 179D provide authority for the specific regulatory actions set forth below. The Emergency Economic Stabilization Act of 2008 extended the 179D deduction through the end of 2013.<sup>15</sup>

### c. Immediate Action from DoE/IRS

- **Guidance and Qualified Software to Calculate Energy Savings:** To simplify 179D performance modeling and make it more cost efficient, DoE/IRS should:
  - **Compute projected energy savings based on California method:** The very text of section 179D states that IRS/DoE "shall promulgate regulations which describe in detail the method for calculating and verifying energy power

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<sup>13</sup> 26 U.S.C. § 179D(b).

<sup>14</sup> *Id.* § 179D(c)(D).

<sup>15</sup> § 303, Pub. L. 110-343, 122 Stat. 3765 (enacted Oct. 3, 2008).

consumption and costs, based on ... the 2005 California Nonresidential Alternative Calculation Method Approval Manual.”<sup>16</sup> In a letter dated November 25, 2009 to Senator Olympia Snowe (R-ME), the IRS acknowledged it had “not yet issued regulatory guidance under section 179D” but rather offered that a series of piecemeal notices were effectively the practical equivalent of regulations.<sup>17</sup> These informal efforts have clearly not catalyzed interest or clarity in the marketplace regarding 179D. Final and more detailed regulations explaining the computation methodology of the California ACM should be issued – a clear mandate from Congress – that set forth a clear, step-by-step, “how to” approach laying forth the process to compute energy savings

- **“Reference Building” software:** Section 179D states that energy savings calculations must be prepared by “qualified computer software.”<sup>18</sup> As per the California ACM manual, the IRS should also require that qualified modeling software automatically generate the “reference building” against which energy savings are measured. In short, software should allow a building owner seeking the deduction to compare energy use to the ASHRAE reference building. Software meeting this requirement would save considerable time and effort for potential applicants. To further assist applicants seeking the deduction, the qualified software should also provide uniform regional energy cost assumptions for use in estimating building energy savings. Moreover, as one of the sources for modeling guidance that can be used to establish eligibility for the 179D deduction, DoE can announce its approval of the guidelines offered by the Commercial Energy Services Network (COMNET).<sup>19</sup>
- **Prescriptive Guidance on Partial Deduction for Specific Systems:** Section 179D allows a “partial deduction” of \$.60/sf for a “system” that meets “energy savings targets” established by the IRS.<sup>20</sup> Specifically, the systems are installations for interior lighting, HVAC, hot water, and envelope. Unlike the full \$1.80/sf deduction, the partial deduction for specific systems does not require costly software modeling. Regulations from IRS/DoE -- as expressly required by the tax code<sup>21</sup> -- are needed to clarify a prescriptive approach to meet the specific system savings targets that do not depend on computer modeling. Again, informal guidance issued to date has not generated use of partial allowances outside of lighting upgrades.<sup>22</sup>
- **A Tax Form is Needed:** The IRS should develop and provide a specific form for the 179D deduction. To claim the deduction, the taxpayer must certify the project. Yet the taxpayer is not required to attach the certification to the return but must keep its own books and records sufficient to establish entitlement to, and amount of, any deduction

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<sup>16</sup> 26 U.S.C. § 179D(d)(2).

<sup>17</sup> Available at [www.irs.gov/pub/irs-wd/09-0226.pdf](http://www.irs.gov/pub/irs-wd/09-0226.pdf).

<sup>18</sup> 26 U.S.C. § 179D(d)(3).

<sup>19</sup> See <http://www1.resnet.us/comments/comnet/>

<sup>20</sup> 26 U.S.C. § 179D(d)(1)(A)(ii).

<sup>21</sup> *Id.* § 179D(d)(1)(B).

<sup>22</sup> See November 25, 2009 letter to Senator Snowe, fn. 17.

claimed. Without forms, the IRS also has no way of tracking how many taxpayers have claimed the deduction and for what amount. The IRS should produce a form to provide taxpayers with greater certainty (and documentation in the case of an audit).

### 3. LOAN GUARANTEE PILOT PROGRAM FOR WHOLE-BUILDING RETROFITS

#### a. Issue

DoE's current loan guarantee program, at Title XVII of the 2005 EAct and as supplemented with 2009 Recovery Act funding, has to date been used for large-scale nuclear, renewable energy, and power transmission projects. However, major strides in energy efficiency are being missed because the program has not supported private-sector debt for capital investments to retrofit commercial buildings. Moreover, energy services performance contracts (ESPCs) have worked well in the Municipal-University-School-Hospital (MUSH) market. But this success has not translated to privately owned and managed buildings, in part because private sector lenders and ESCOs have not been willing to assume the default risk of highly-leveraged, single-asset real estate owners (usually formed as limited liability companies, or "LLCs") in taking on more debt for capital investments. Credit enhancement through a DoE loan guarantee – scaled to address deep, whole-building retrofits that achieve contracted energy savings through an ESPC – fits within the intent of Title XVII. Such a guarantee by the federal government could help create a vibrant retrofit market in the private sector, where the biggest problem to date has been lack of access to capital and financing for building upgrades.

#### b. Existing Authority

EAct section 1703 provides that DoE can make loan guarantees for projects that reduce greenhouse gas emissions and "employ new or significantly improved technologies as compared to commercial technologies."<sup>23</sup> Congress gave DoE broad leeway in deciding which projects are eligible for guarantees. It simply stated that ineligible "commercial technology means a technology in general use in the marketplace."<sup>24</sup> Furthermore, Congress contemplated that innovative building retrofits fall within Title XVII's ambit when it specifically singled-out "[e]fficient end use energy technologies" as one of the categories eligible for loan guarantees.<sup>25</sup>

Of course, a simple equipment or lighting change in a building would constitute ineligible "commercial technology." But DoE has the discretion to determine which types of deep, whole building commercial retrofit projects do, in fact, rise to the level of "significantly improved" technologies eligible for Title XVII loan guarantees. Indeed, the innovative deep retrofit at the Empire State Building – which takes advantage of energy services performance contracting – is by no means a retrofit "in general use in the marketplace." In addition, retrofits using state of the art, web-based operations and maintenance programs for multiple building systems are indeed rare in the commercial real estate sector and far in advance of the current state of smart grid technologies.

In the Federal Register preamble to the present Title XVII regulations, DoE stated:

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<sup>23</sup> 42 U.S.C. § 16513(a).

<sup>24</sup> *Id.* § 16511(a).

<sup>25</sup> *Id.* § 16513(b).

“There is no one universally accepted or agreed upon definition of the term ‘technology.’ Generally, technology is thought to be the practical application of science to industrial or commercial objectives. Technology may also include electronic or digital products and systems considered as a group. DoE believes that the term ‘technology’ in Title XVII was intended to have a very broad meaning, given the purposes of Title XVII, and therefore does not believe it is advisable to set down by rule a narrow definition of what will be considered a technology for purposes of this program.”<sup>26</sup>

It is significant that DoE wrote that, in its administrative interpretation of the Title XVII statute, “technology” has a “broad meaning,” and can include “systems considered as a group.” Whole-building retrofits that combine upgrades of HVAC, envelope, lighting and other systems, which are managed through web-based technologies and can be deployed through an ESPC, would fit amply within DoE’s pronouncement. Such an innovative retrofit would satisfy the requirement that the agency support “significantly improved” technologies for purposes of Title XVII.<sup>27</sup>

DoE’s current regulations provide that ineligible commercial technologies are those that are “being used in three or more commercial projects in the United States ... and [have] been in operation ... for a period of at least five years.”<sup>28</sup> We are unaware of any other multi-tenant office retrofit project in the United States on the scale of the Empire State Building upgrade – and certainly not one that has been in existence for five years. Nevertheless, if DoE believes this regulation might be an obstacle to conduct the pilot program of the sort proposed here, of course it is fully within the Department’s ability and authority to amend its rules following a notice and comment process conducted under the Administrative Procedure Act.

### c. Immediate Action

DoE should commit to a pilot program using its Title XVII authority to guarantee retrofit financing and support projects similar to that undertaken at the Empire State Building. The Department’s Loan Program Office is facile with issuing project solicitations.<sup>29</sup> It should conduct a similar process announcing interest to extend guarantees for deep, whole commercial building retrofits that deploy technologies such as those set forth through an ESPC mechanism. Such a pilot program would be meaningful even if supported by a small number of innovative whole-building retrofits. DoE support would help generate market transformation not due to the iconic status of a particular retrofitted

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<sup>26</sup> 72 Fed. Reg. at 60117, col. 3 (emphasis supplied).

<sup>27</sup> “[T]he term ... ‘new or significantly improved’ ... must mean that the technology itself is either newly developed, or it must constitute a significant improvement over technologies currently in U.S. commercial use.” 72 Fed. Reg. at 60118, col. 1 (emphasis supplied). “[A] ‘significantly improved’ technology may in fact be ‘old’ but a significant improvement over technologies currently in commercial use in the United States.” 72 Fed. Reg. at 60118, col. 2 (emphasis supplied).

<sup>28</sup> 10 C.F.R. 609.2.

<sup>29</sup> Title XVII project solicitations issued by DoE to date are listed at [http://lpo.energy.gov/?page\\_id=58](http://lpo.energy.gov/?page_id=58).



structure. Rather, a loan guarantee pilot can demonstrate for the real estate industry at large that transactional and financing hurdles can be overcome to upgrade multi-tenant buildings in our cities and suburbs.

Section 1703 projects require that the Credit Subsidy Cost (CSC) – or, the expected long-term liability to the federal government in issuing the loan guarantee and covering the risk of default – must either be covered by an appropriation from Congress or by the borrower. Of course, for purposes of this paper which does not call for action by Congress, any CSC must be covered by the borrower of an eligible whole-building retrofit project.

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