

Special Report

**Fiscal Impact Study
Green Buildings Tax Credit**

April 2006



Office of the County Auditor
Baltimore County, Maryland

Special Report

**Fiscal Impact Study
Green Buildings Tax Credit**

Fiscal and Policy Analysis
Project Team

Elizabeth J. Irwin, Director

Scott P. Gates, Senior Analyst

Carrie B. Vivian, Staff Analyst



Office of the County Auditor
Baltimore County, Maryland



BALTIMORE COUNTY, MARYLAND
OFFICE OF THE COUNTY AUDITOR

BRIAN J. ROWE, CPA
COUNTY AUDITOR

COURTHOUSE - ROOM 221
TOWSON, MARYLAND 21204
410-887-3193
410-887-4621 (Fax)

MARY P. ALLEN, CPA
DEPUTY COUNTY AUDITOR

April 21, 2006

Honorable Members of the County Council
Baltimore County, Maryland

We were asked to determine the fiscal impact that would result from proposed legislation to establish a 10-year, 100% Property Tax Credit for high performance ("green") buildings. The property tax credit would apply to buildings that achieve at least a Silver rating according to the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) Green Building Rating System. We were also asked to consider changes that would serve the environmental purpose of the legislation while not jeopardizing the fiscal well being of the County.

Based upon our research, we recommend that the criteria for buildings to achieve at least a Silver rating be maintained, but that the proposed legislation be amended to limit eligibility to commercial construction by referencing only LEED-NC standards and impose a cap (e.g., \$10 million) on the cumulative amount of tax credits to be granted. If the proposed legislation is amended as recommended, we estimate the first-year impact would be \$75,000 for new construction and \$60,000 for renovation projects based on an assumed eligibility rate of 5%.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Brian J. Rowe".

Brian J. Rowe, CPA
County Auditor



Fiscal Impact Study – Green Buildings Tax Credit

Bill 9-06 - Property Tax Credit for High Performance Buildings – provides a 10-year, 100% property tax credit for high-performance (“green”) buildings that would apply to buildings achieving at least a Silver rating according to the U.S. Green Building Council’s (USGBC) Leadership in Energy and Environmental Design (LEED) Green Building Rating System.¹ Our task was to determine the Bill’s fiscal impact and to consider any policy changes that would serve the environmental purpose of the legislation while not jeopardizing the fiscal well being of the County.

Based upon an assumed eligibility rate of 5%, we estimate the first-year impact to be \$75,000 for new construction and \$60,000 for renovation projects. These estimates, however, are based upon one assumed refinement to the bill that would limit eligibility to buildings that achieve at least a Silver rating according to LEED-NC standards, which apply only to commercial construction. This refinement would exclude other projects from eligibility for the tax credit, including residential projects, core and shell projects, neighborhood development projects, and projects that aim exclusively to optimize building performance and interior design. If the bill is amended accordingly, we believe the 5% eligibility rate is a reasonable assumption. In the highly unlikely event of a 100% commercial building eligibility rate, the first-year fiscal impact could be as high as \$1.5 million and \$1.2 million for new construction and renovation projects, respectively. If the bill is not amended to specify that eligibility is limited to buildings achieving at least the LEED-NC Silver rating, it is likely that many more projects would be eligible for property tax credits, and the fiscal impact to the County would be greater but difficult to estimate. In either event, consideration should be given to capping the total amount of property tax credits to be granted under the program, similar to what the State does for its green building income tax credit program.

Recommended Amendments to Bill 9-06

As noted, we recommend excluding certain types of projects from Bill 9-06 by narrowing eligibility to only those buildings attaining LEED-NC certification at the level of Silver or higher. Our estimates exclude consideration of residential,² “core and shell,” and “neighborhood development” projects, for example, because the applicable LEED programs are still in their pilot phases and the standards, which directly affect costs to the developer, are subject to change. Should full-scale (rather than pilot-level) implementation of these programs occur, the potential fiscal impact of Bill 9-06, as

¹ There are currently no buildings certified Silver or above in Baltimore County, and there are two buildings certified Silver or above in Maryland. Of the six certified buildings with less than a Silver rating in Maryland, three are in Baltimore County; of these three buildings, two are federally owned.

² According to the USGBC, the initial phase of LEED for Homes will focus on construction of market rate single-family homes. Construction of affordable and multi-family homes will also be considered. Over the next year, specifications will be developed to address multi-family housing. Multi-family housing structures that are over three stories are covered under LEED for New Construction (LEED-NC). No standards are in effect or under development for residential renovations (“existing”) homes.

written, would be greater but difficult to estimate at this time for the aforementioned reason. Finally, projects that aim to optimize building performance and interior design are also excluded from our estimates because they do not represent building construction, per se, and they require re-certification every five years for elements that are more related to building management than to building construction.³ Again, if developers are permitted to apply for property tax credits for these projects, the fiscal impact of Bill 9-06 would be significantly higher. Accordingly, we believe that it would be fiscally prudent to exclude these types of projects from the bill at this time, as well as to cap the amount of the property tax credits to be granted under the program – at least until the County gains sufficient experience implementing a green building property tax credit program.

Background

LEED is a national rating standard for high-performance buildings that is intended to promote whole-building design, encourage green building, recognize environmental leadership, and raise consumer awareness of green building benefits. LEED recognizes water and energy savings, materials selection, indoor environmental quality, and environmental protection; these categories include certain pre-requisites that must be met for all projects. The U.S. Green Building Council (USGBC) has established distinct LEED rating systems for different types of construction projects and approves projects at the Certified, Silver, Gold, and Platinum certification levels. Specific LEED rating systems include LEED-NC, LEED-EB, LEED-H, and LEED-CS⁴ as follows:

- LEED-NC is specifically applicable to new commercial construction and major renovation projects. In order to achieve at least a Silver rating, a building must earn a minimum of 33 points on the LEED-NC checklist in the following areas: water efficiency, materials and resources, indoor environmental quality, sustainable sites⁵, and innovation and design process.
- LEED-EB is a benchmark rating system for measuring efficiency upgrades, maintenance programs, and system upgrades in existing buildings. LEED-EB standards are intended to enhance a building's performance and reduce its environmental impact while minimizing upgrade costs. In order to achieve a Silver certification, a building must earn a minimum of 40 points in the following categories: sustainable sites, water efficiency, energy and atmosphere, materials and resources, indoor environmental quality, and innovations in

³ These projects are considered under LEED-EB: Existing Buildings and LEED-CI: Commercial Interiors standards.

⁴ Leed-CI: Commercial Interiors and LEED-ND: Neighborhood Development projects are not detailed in this report.

⁵ Sustainable site practices ease the impacts of construction and landscaping on the environment. These practices encourage alternative transportation, brownfield redevelopment, pollution reduction, local habitat protection, and open space maximization.

upgrades, repair, and maintenance. It may be less difficult for buildings to achieve an EB certification compared to an NC certification since EB focuses on criteria such as implementing recycling programs and using environmentally friendly cleaning products.

- LEED-H is a pilot project for residential construction, running through 2007. The USGBC selected 12 regional providers to advise builders on technical, marketing, and verification matters related to LEED-H certification. These 12 regions do not cover the entire United States. There are no providers or registered builders for Maryland or the greater Washington, D.C. area, and there are no registered LEED-H projects in Maryland. Nationwide, there are also no LEED-H certified homes, although the first are expected to appear within the next few months.
- LEED-CS is a pilot project for new “core and shell” commercial construction projects. The standard is aimed at addressing base building elements, including the structure and building-level systems, such as central HVAC, and it recognizes that owners and tenants are responsible for different building elements. LEED-CS targets projects in which the owner does not control the interior design of the building and evaluates only those elements that are under the owner’s control. LEED-CS considers site selection, water and energy efficiency, building materials, and indoor environmental quality. The USGBC is still accepting applications for this pilot program.

Green Building Incentive Programs

Properly designed, an incentive program encourages a desired behavior without fully subsidizing the behavior. Striking the proper balance in designing a tax incentive for green building requires an understanding of the costs and benefits of green building. Financially, there are clear benefits to the green builder, even in the absence of an incentive program. Green buildings demonstrate an average 30% reduction in energy usage when compared to “regular” buildings. For the average commercial building in Baltimore County, such annual energy savings would total \$9,799. In addition, achieving a Silver certification may add only a 2% premium to construction and initial design costs⁶, and following research and discussions with practitioners we found no evidence that increased maintenance and administrative costs are necessarily related to building green. For the average commercial building in Baltimore County, there would be a one-time added cost premium of up to \$61,438. Thus, even without the tax incentive, the developer sees a break-even point

⁶ Source: Greg Kats, Capital E, “The Costs and Financial Benefits of Green Buildings: A Report to California’s Sustainable Building Task Force.” October 2003. This study of 33 LEED projects found an average green design and construction premium of 2.11% for Silver buildings. If materials are chosen wisely and green-conscious planning is utilized from the beginning of the project, Silver buildings can be constructed with a lesser premium or none at all. The KEMA study “Managing the Cost of Green Buildings” (October 2003) had similar findings for Silver-certification construction premiums.

between construction costs and energy savings of less than seven years. In terms of recouping the cost premium through property tax savings resulting from a 100% property tax credit, we estimate that the average project could break even in three years, assuming an average of \$20,677 in property tax savings per year.

Despite the net benefits, many developers are hesitant to build green because of perceived costs. Many developers are unfamiliar with green techniques and must consider the time it will take to learn new construction methods. In addition, many developers may be reluctant to pay USGBC registration and certification fees and incorrectly believe that green building maintenance and administration are significantly more expensive than for “regular” buildings. Other developers are simply reluctant to try new construction methods and would prefer to rely on the “tried and true.” Finally, there is the persistent assumption that green building is significantly more expensive than “regular” building. Thus, for many, the perceived costs of green building outweigh the perceived benefits. For this reason, despite our finding that there are inherent incentives for building green, a tax incentive may be useful in motivating green construction.

Numerous policy tools can and have been employed to encourage green building, including loans, workshops and technical assistance, incentives such as rebates and tax credits, and requirements for government buildings. Several jurisdictions offer tax incentive programs for green building. New York State, for example, has a green building income tax credit (with a \$25 million cap and costs spread over 9 years) for owners and tenants of buildings over 20,000 square feet which meet green standards in the areas of energy efficiency, indoor air quality, and reduction of environmental impacts. The buildings must obtain yearly eligibility certificates. Maryland also has a green building initiative. The green buildings income tax credit (with a \$25 million cap and costs spread over 11 years) has a tiered allocation that costs the State \$1–5 million per year; the program is aimed at businesses that construct or renovate buildings of at least 20,000 square feet in order to save energy and reduce environmental impact. The caps limit both states’ fiscal losses to predictable amounts, a sound practice given that it is difficult to foresee the number of businesses that may take advantage of these credits. It is also difficult to assess the effectiveness of these credits in promoting green building, although it is notable that both New York and Maryland fully allocated the money authorized for the tax credits.⁷

Maryland Code §9-203 (Exhibit A) authorizes the City of Baltimore and Maryland counties to grant property tax credits for buildings that implement energy conservation measures such as solar and geothermal energy devices. Anne Arundel County, for example, has a one-time property tax credit

⁷ New York authorized \$25 million for 2000–2004, and because all the money was used, an additional \$25 million was allocated for 2005–2009. SB 1009, which was under consideration in the Maryland General Assembly during the 2006 session, would have, among other things, increased Maryland’s allocation from \$25 million to \$50 million for the same reason; however, no action was taken on the bill.

for residences that use solar energy equipment for heating or cooling; the amount of the credit is the lesser of either the yearly property tax or the cost and installation of the energy conservation equipment (Anne Arundel County Code §1-105, Exhibit B). Harford County also offers a maximum \$1,000 property tax credit for the lesser of either the cost of solar energy units or the residential property tax bill; the County caps the annual fiscal impact of the bill to \$150,000 (Harford County Code §123-44, Exhibit C). Baltimore County offers no property tax credits for energy conservation measures.

Fiscal Impact of Bill 9-06

Because LEED is a recently developed set of standards, green building is an emerging movement, developers are reluctant to build green without incentives, and few if any local jurisdictions offer uncapped property tax credits similar to the one proposed for the County, projecting the number of developers who would take advantage of this credit is difficult.

Focusing solely on the LEED-NC standard, our estimated fiscal impact assumes an average County commercial building value of \$1,854,457⁸, a 6% annual growth in value, a tax rate of \$1.115 per \$100 of assessed value, and an annual average of 72.4 new non-residential building permits.⁹ Exhibit D illustrates the net present value of the County's fiscal impact if 5%, 10%, 25%...100% of new, non-residential buildings achieved at least a Silver certification and claimed the tax credit in a given year. The maximum first-year fiscal impact, assuming that 100% of buildings are eligible and claim the credit, would be \$1,497,015; we expect, however, that the likely percentage of qualifying buildings will be much less, perhaps closer to 5%, with a first-year fiscal impact of \$74,851. Therefore, assuming that 5% of buildings would claim the credit in a given year, the County's fiscal loss over 10 years would be approximately a net present value of \$4,237,000. The net fiscal impact would depend on the number of years the policy is in effect and the percentage of buildings claiming the credit each year.

This estimate reflects only new construction, though the LEED-NC criteria may also be applied to buildings undergoing major renovations; for our calculations, we have considered AAR (additions, alterations, and repairs) projects that may qualify for LEED-NC criteria to have permit values of 25% of the average building value in Baltimore County.¹⁰ An average of 57.4 non-residential AAR

⁸ This amount is equal to the weighted average of the values of improved commercial and industrial properties in the County (for 2006, there are 4,632 improved commercial properties with an average value of \$1,637,018, and there are 1,077 improved industrial properties with an average value of \$2,789,930).

⁹ This figure excludes institutional buildings because they are exempt from property taxes.

¹⁰ Projects with lower values are excluded from our calculations because the costs to achieve green certification may be impractical for the builder to assume; however, these projects would not be excluded from eligibility for the tax credit.

permits valued at \$463,614 and above are issued each year.¹¹ Using the County's tax rate, average building value, and value growth rate of 6%, Exhibit D illustrates the net present value of the County's fiscal impact if 5%, 10%, 25%...100% of those AAR buildings considered achieve at least a Silver certification and claim the tax credit in a given year. The first-year fiscal impact, assuming that 5% of buildings are eligible and claim the credit, would be \$59,343; the fiscal impact over 10 years would total approximately \$3,359,000. The net fiscal impact would again depend on the number of years the credit is in effect and the percentage of buildings claiming the credit each year.

The following table shows the combined estimated fiscal impact for new construction projects and AAR projects:

**Year 1 Estimated Fiscal Impact of a 100% Credit
USGBC LEED-NC Silver-and-Above-Rated Projects**

Percentage of Buildings Claiming the Credit	5% (Likely)	100% (Maximum)
New Construction Projects	\$74,851	\$1,497,015
AAR Projects	\$59,343	\$1,186,860
Total	\$134,194	\$2,683,875

OCA, April 2006

Given our estimate that a developer could pay off the green building cost premium within approximately three years of the 100% property tax credit, a less generous credit could be considered. For example, if a 75% tax credit were offered, the 10-year effect, assuming that 5% of buildings earned the credit, would be approximately \$3,178,000 for new construction and \$2,519,000 for major renovations. However, if a 50% tax credit were offered, the 10-year effect, assuming that 5% of buildings earned the credit, would be approximately \$2,118,000 for new construction and \$1,679,000 for major renovations. (See Exhibits E and F.) A tiered tax credit dependent upon certification levels is another possibility, but we do not believe it would be any more effective in encouraging green building than a uniform tax credit for all buildings certified at the Silver level or above.

¹¹ This figure excludes institutional buildings because they are exempt from property taxes.

As noted, projecting the number of developers who may take advantage of the tax credit is difficult. By looking at trends, however, we can see that while the green building movement has exhibited considerable growth, the effects of existing incentive programs have yet to be momentous. In 2003, for example, there were only 429 LEED registered projects in the U.S., growing to 790 projects in 2004 and 1,343 projects in 2005.¹² In 2003, only 29 of the registered projects were located in Maryland, with the number growing to 47 in 2004 and 74 in 2005. As of January 2006, Baltimore County has only four registered projects, two of which are government-owned. As of the end of 2005, there were only 118 Silver, 103 Gold, and 17 Platinum buildings nationwide.¹³ Only two projects in Maryland, located in Montgomery and Anne Arundel Counties, have been certified Silver or above. (See Exhibit G.)

Thus, these numbers indicate that Baltimore County is unlikely to see a sudden explosive growth of green buildings. Yet, in case the property tax credit prompts unprecedented levels of green building, a useful tool for controlling fiscal impact could be a cap on the amount of money that the County would allocate to this program (e.g., \$10 million). Such a cap would help to allay concerns that the property tax credit might create a “green building boom” with a fiscal impact that exceeds projections and is therefore substantially injurious to the County’s fiscal well-being.

¹² LEED registered projects are those projects awaiting LEED certification.

¹³ Of LEED certified projects, 39.4% are Certified (i.e., less than Silver), 30.0% are Silver, 26.2% are Gold, and 4.3% are Platinum. The numbers presented in this section—for both registered and certified projects—are for all LEED standards (LEED-NC, LEED-EB, etc.). LEED-NC constitutes the great majority.

Scope, Objectives, Methodology

We analyzed the fiscal impact that would result from Bill 9-06, which proposed a 10-year, 100% property tax credit for high-performance (“green”) buildings that achieve at least a Silver rating according to the U.S. Green Building Council’s Leadership in Energy and Environmental Design (LEED) Green Building Rating System. We also considered policy changes that would serve the environmental purpose of the legislation while not jeopardizing the fiscal well being of the County.

The purpose of our study was to estimate the amount of property tax revenue loss that would result from the proposed green buildings tax credit and to recommend policy changes that serve the environmental purpose of the legislation but do not jeopardize the fiscal well being of the County.

Our study consisted of researching published studies and documents, USGBC standards, and other state and local legislation to encourage green building. In addition, we contacted officials in other jurisdictions to obtain information related to tax credit programs in their jurisdictions and spoke to building industry experts to gain insight into developer acceptance of green building concepts. Our study did not constitute an audit conducted in accordance with generally accepted government auditing standards. Our work was conducted during the period February to April 2006.

Source:

Maryland Code/TAX-PROPERTY /TITLE 9. PROPERTY TAX CREDITS AND PROPERTY TAX RELIEF/SUBTITLE 2. STATEWIDE OPTIONAL /§ 9-203. Energy devices.

§ 9-203. Energy devices.

(a) *Tax credit.*- The Mayor and City Council of Baltimore City or the governing body of a county or of a municipal corporation may grant, by law, a tax credit against the county or municipal corporation property tax imposed on a structure, if to heat or cool the structure or to provide hot water for use in the structure, the structure uses:

- (1) a solar energy device;
- (2) a geothermal energy device; or
- (3) a qualifying energy conservation device.

(b) *Amount, duration, and definitions.*- A county or municipal corporation may provide, by law, for:

- (1) the amount of a property tax credit under this section;
- (2) the duration of a property tax credit under this section not exceeding 3 years;
- (3) the definition of:
 - (i) a solar energy device;
 - (ii) a geothermal energy device; and
 - (iii) a qualifying energy conservation device; and
- (4) any other provision necessary to carry out this section.

[An. Code 1957, art. 81, § 12F-5; 1985, ch. 8, § 2.]

CODE

County of
ANNE ARUNDEL, MARYLAND

Article 6 FINANCE AND TAXATION

TITLE 1. PROPERTY TAXES

SUBTITLE 1. IN GENERAL

§ 1-105. Solar energy tax credit.

- (a) In this section, "solar energy equipment" means collectors, panels, storage tanks, and all other hardware that is necessary and used as a part of the operating mechanism that collects, stores, and distributes energy by using the rays of the sun.
- (b) There is a one-time tax credit from County real property taxes levied on residential buildings that use solar energy equipment for:
- (1) heating or cooling the buildings; or
 - (2) except for heating water for swimming pools, providing hot water for use within the buildings.
- (c) Application for the tax credit created by this section shall be filed on or before June 1 immediately before the taxable year for which the tax credit is sought. If the application is filed after June 1, the credit shall be disallowed that year but shall be treated as an application for a tax credit for the next succeeding taxable year.
- (d) (1) The tax credit shall be credited from the taxes levied on the buildings, and may not be credited from the taxes levied on the land.
- (2) The total tax credit allowed under this section shall be the lesser of:
- (i) the cost of materials and installation or construction of the solar energy equipment, less the amount of federal and State solar energy tax credits;
 - (ii) the real property taxes levied against the buildings for the year in which the tax credit is granted; or
 - (iii) for tax credits applied to qualifying properties during fiscal years 1986, 1987 and 1988, \$400.
- (e) An application for the tax credit shall be:
- (1) submitted to the Controller on forms that the Office of Finance requires;
 - (2) under oath, containing a declaration preceding the signature of the applicant to the effect that it is made under the penalties of perjury provided for by The Tax-Property Article, § 1-201 of the State Code; and
 - (3) accompanied by documented receipts of the purchase of materials or supplies, and actual installation cost.
- (f) An application may be filed only once for the duration of the tax credit.
(Code 1967, § 17-712; Bill No. 23-04, § 2)
State Code reference-- § 9-203 of the Tax Property Article.

CODE OF HARFORD COUNTY, MARYLAND, v38 Updated 8-10-2004

PART II GENERAL LEGISLATION

Chapter 123, FINANCE AND TAXATION

ARTICLE II, Real Property Tax Credits

§ 123-44. Credit for solar energy units. [Amended by Bill Nos. 80-25; 82-20]

§ 123-44. Credit for solar energy units. [Amended by Bill Nos. 80-25; 82-20]

A. For the purposes of this Article, "solar energy unit" shall mean a heating or cooling system, including collectors, panels, storage tanks and all other hardware that is necessary and used as a part of the operating mechanism, that provides energy by using the sun's rays.

B. In accordance with the provisions of the Annotated Code of Maryland, 1957, Article 81, § 12F-5, ^{EN1} there is hereby created a tax credit from county real property taxes levied on residential or nonresidential buildings or other structures that use solar energy heating or cooling units for heating and cooling buildings or structures or for supplying hot water for use within the buildings or other structures. The tax credit shall be credit from the taxes levied on the buildings or other structures and not from the land.

C. An application for a tax credit for using solar energy heating or cooling units shall be filed on or before the first day of October immediately prior to the taxable year for which the tax credit is first sought. If the application is not so filed, it will be disallowed that year.

D. The total real property tax credit allowed under the provisions of this section shall be the lesser amount of up to a maximum of one thousand dollars (\$1,000.) for the cost of materials and installation or construction of the solar energy unit, to apply against one (1) year of property taxes, or the total amount of the real property taxes levied against the buildings or structures that is to be paid by the taxpayer for one (1) year following the approval of the application.

E. All applications for tax credits under this section shall be submitted to the Director of Administration only on forms prepared by his office. An application shall be filed one time only for the duration of the tax credit. Each application shall be made under oath or affirmation and shall contain a declaration preceding the signature of the applicant to the effect that it is made under the penalties of perjury as provided for by the Annotated Code of Maryland, 1957, Article 81. § 5.^{EN2} Each application shall be accompanied by documented receipts of such purchase of materials or supplies and actual installation cost, if available; otherwise, the application shall be accompanied by a statement of the cost of the materials, supplies and installation cost, verified in the same manner as the application by a person competent to so certify.

F. The total tax credit allowed by Harford County for any one (1) year may not exceed one hundred fifty thousand dollars (\$150,000.). The granting of credits shall be on a first-come-first-served basis, and, when the limitation is reached, any subsequent applications will be carried over to the next succeeding year or years.

^{EN1} Editor's Note: For current statutory provisions, see § 9-203 of the Tax-Property Article of the Annotated Code of Maryland.

^{EN2} Editor's Note: For current statutory provisions, see § 1-201 of the Tax-Property Article of the Annotated Code of Maryland.

Fiscal Impact of 100% Property Tax Credit

Eligibility Scenarios

New Non-Residential Construction

Year	Revenue	Net Present Value @ 5%	if 5%	5% cumulative**	if 10%	if 25%	if 40%	if 50%	if 60%	if 75%	if 85%	if 100%	100% cumulative
1	\$20,677	\$20,677	\$74,851	\$74,851	\$149,701	\$374,254	\$598,806	\$748,507	\$898,209	\$1,122,761	\$1,272,463	\$1,497,015	\$1,497,015
2	21,918	20,874	75,564	150,414	151,127	377,818	604,509	755,636	906,763	1,133,454	1,284,581	1,511,272	3,008,287
3	23,233	21,073	76,283	226,698	152,567	381,416	610,286	762,833	915,399	1,144,249	1,296,815	1,525,665	4,533,952
4	24,627	21,273	77,010	303,707	154,020	385,049	616,078	770,098	924,117	1,155,146	1,309,166	1,540,195	6,074,147
5	26,104	21,476	77,743	381,451	155,486	388,716	621,946	777,432	932,918	1,166,148	1,321,634	1,554,864	7,629,011
6	27,670	21,681	78,484	459,934	156,967	392,418	627,869	784,836	941,803	1,177,254	1,334,221	1,569,672	9,198,683
7	29,331	21,887	79,231	539,165	158,462	396,155	633,849	792,311	950,773	1,188,466	1,346,928	1,584,621	10,783,305
8	31,091	22,095	79,986	619,151	159,971	399,928	639,885	799,856	959,828	1,199,785	1,359,756	1,599,713	12,383,017
9	32,956	22,306	80,747	699,898	161,495	403,737	645,979	807,474	968,969	1,211,211	1,372,706	1,614,948	13,997,966
10	34,933	22,518	81,516	781,415	163,033	407,582	652,132	815,164	978,197	1,222,747	1,385,779	1,630,329	15,628,295
Total		\$215,860	\$781,415	\$4,236,684	\$1,562,829	\$3,907,074	\$6,251,318	\$7,814,147	\$9,376,977	\$11,721,221	\$13,284,050	\$15,628,295	\$84,733,678

*Assumes an average of 72.4 new non-residential construction permits per year at an average value of \$20,677 in forgone property taxes per project. Excludes institutional projects.
 ***Cumulative** refers to the fact that a new set of projects may become eligible for the tax credit each year. When the new set of projects is added to the projects already receiving the credit, the result is the cumulative fiscal impact.

Eligibility Scenarios

Additions, Alterations, & Repairs

Year	Revenue	Net Present Value @ 5%	if 5%	5% cumulative**	if 10%	if 25%	if 40%	if 50%	if 60%	if 75%	if 85%	if 100%	100% cumulative
1	\$20,677	\$20,677	\$59,343	\$59,343	\$118,686	\$296,715	\$474,744	\$593,430	\$712,116	\$890,145	\$1,008,831	\$1,186,860	\$1,186,860
2	21,918	20,874	59,908	119,251	119,816	299,541	479,265	599,082	718,898	898,622	1,018,439	1,198,163	2,385,023
3	23,233	21,073	60,479	179,730	120,957	302,394	483,830	604,787	725,745	907,181	1,028,138	1,209,574	3,594,597
4	24,627	21,273	61,055	240,785	122,109	305,274	488,438	610,547	732,656	915,821	1,037,930	1,221,094	4,815,691
5	26,104	21,476	61,636	302,421	123,272	308,181	493,089	616,362	739,634	924,543	1,047,815	1,232,724	6,048,415
6	27,670	21,681	62,223	364,644	124,446	311,116	497,786	622,232	746,678	933,348	1,057,794	1,244,464	7,292,879
7	29,331	21,887	62,816	427,460	125,632	314,079	502,526	628,158	753,789	942,237	1,067,868	1,256,316	8,549,194
8	31,091	22,095	63,414	490,874	126,828	317,070	507,312	634,140	760,968	951,211	1,078,039	1,268,281	9,817,475
9	32,956	22,306	64,018	554,892	128,036	320,090	512,144	640,180	769,216	960,270	1,088,306	1,280,360	11,097,835
10	34,933	22,518	64,628	619,519	129,255	323,138	517,021	646,277	775,532	969,415	1,098,670	1,292,553	12,390,388
Total		\$215,860	\$619,519	\$3,358,918	\$1,239,039	\$3,097,597	\$4,956,155	\$6,195,194	\$7,434,233	\$9,292,791	\$10,531,830	\$12,390,388	\$67,178,358

*Assumes an average of 57.4 non-residential AAR permits per year at an average value of \$20,677 in forgone property taxes per project. Excludes institutional projects and includes only those projects costing 25% or more of average building value.
 ***Cumulative** refers to the fact that a new set of projects may become eligible for the tax credit each year. When the new set of projects is added to the projects already receiving the credit, the result is the cumulative fiscal impact.

Fiscal Impact of 75% Property Tax Credit

New Non-Residential Construction		Eligibility Scenarios											
Year	Revenue Loss*	Net Present Value @ 5%	if 5%	5% cumulative**	if 10%	if 25%	if 40%	if 50%	if 60%	if 75%	if 85%	if 100%	100% cumulative
1	\$15,508	\$15,508	\$56,139	\$56,139	\$112,278	\$280,695	\$449,112	\$561,390	\$673,668	\$842,084	\$954,362	\$1,122,779	\$1,122,779
2	16,438	15,655	56,672	112,811	113,344	283,360	453,376	566,720	680,064	850,079	963,423	1,133,439	2,256,218
3	17,425	15,805	57,214	170,025	114,428	286,070	457,712	572,141	686,569	858,211	972,639	1,144,281	3,400,500
4	18,470	15,955	57,757	227,782	115,515	288,787	462,059	577,574	693,089	866,361	981,876	1,155,148	4,555,647
5	19,578	16,107	58,307	286,089	116,614	291,534	466,455	583,069	699,682	874,603	991,217	1,166,137	5,721,785
6	20,753	16,261	58,863	344,952	117,726	294,315	470,905	588,631	706,357	882,946	1,000,672	1,177,262	6,899,046
7	21,998	16,415	59,423	404,376	118,846	297,116	475,386	594,232	713,078	891,348	1,010,194	1,188,464	8,087,510
8	23,318	16,572	59,989	464,365	119,979	299,947	479,915	599,894	719,873	899,842	1,019,820	1,199,789	9,287,299
9	24,717	16,729	60,561	524,926	121,121	302,803	484,485	605,606	726,727	908,409	1,029,530	1,211,211	10,498,510
10	26,200	16,889	61,137	586,063	122,275	305,686	489,098	611,373	733,647	917,059	1,039,334	1,222,746	11,721,256
Total		\$161,896	\$586,063	\$3,177,528	\$1,172,126	\$2,930,314	\$4,688,502	\$5,860,628	\$7,032,754	\$8,790,942	\$9,963,068	\$11,721,256	\$63,550,551

*Assumes an average of 72.4 new non-residential construction permits per year and based on an average property tax bill of \$20,677. Excludes institutional projects.
 ***Cumulative** refers to the fact that a new set of projects may become eligible for the tax credit each year. When the new set of projects is added to the projects already receiving the credit, the result is the cumulative fiscal impact.

Additions, Alterations, & Repairs		Eligibility Scenarios											
Year	Revenue Loss*	Net Present Value @ 5%	if 5%	5% cumulative**	if 10%	if 25%	if 40%	if 50%	if 60%	if 75%	if 85%	if 100%	100% cumulative
1	\$15,508	\$15,508	\$44,508	\$44,508	\$89,016	\$222,540	\$356,064	\$445,080	\$534,096	\$667,619	\$756,635	\$890,159	\$890,159
2	16,438	15,655	44,931	89,438	89,861	224,653	359,444	449,305	539,166	673,958	763,819	898,611	1,788,770
3	17,425	15,805	45,360	134,799	90,721	226,802	362,883	453,603	544,324	680,405	771,125	907,206	2,695,976
4	18,470	15,955	45,791	180,590	91,582	228,955	366,329	457,911	549,493	686,866	778,448	915,822	3,611,798
5	19,578	16,107	46,227	226,817	92,453	231,134	369,814	462,267	554,721	693,401	785,854	924,534	4,536,332
6	20,753	16,261	46,668	273,484	93,335	233,338	373,342	466,677	560,012	700,015	793,351	933,354	5,469,686
7	21,998	16,415	47,112	320,596	94,224	235,559	376,894	471,118	565,341	706,676	800,900	942,235	6,411,921
8	23,318	16,572	47,561	368,157	95,121	237,803	380,485	475,607	570,728	713,410	808,532	951,214	7,363,135
9	24,717	16,729	48,013	416,170	96,027	240,067	384,108	480,135	576,162	720,202	816,229	960,270	8,323,404
10	26,200	16,889	48,471	464,641	96,941	242,354	387,766	484,707	581,649	727,061	824,002	969,414	9,292,819
Total		\$161,896	\$464,641	\$2,519,200	\$929,282	\$2,323,205	\$3,717,128	\$4,646,409	\$5,575,691	\$6,969,614	\$7,898,896	\$9,292,819	\$50,384,000

*Assumes an average of 72.4 new non-residential construction permits per year and based on an average property tax bill of \$20,677. Excludes institutional projects and includes only those projects costing 25% or more of average building value.
 ***Cumulative** refers to the fact that a new set of projects may become eligible for the tax credit each year. When the new set of projects is added to the projects already receiving the credit, the result is the cumulative fiscal impact.

Fiscal Impact of 50% Property Tax Credit

New Non-Residential Construction		Eligibility Scenarios											
Year	Revenue Loss* Value @ 5%	Net Present Value	if 5%	5% cumulative**	if 10%	if 25%	if 40%	if 50%	if 60%	if 75%	if 85%	if 100%	100% cumulative
1	\$10,339	\$10,339	\$37,427	\$74,854	\$187,136	\$299,417	\$374,272	\$449,126	\$561,408	\$636,262	\$748,544	\$748,544	
2	10,959	10,437	37,782	75,565	188,912	302,260	377,825	453,389	566,737	642,302	755,649	1,504,193	
3	11,616	10,536	38,141	113,350	190,703	305,124	381,405	457,686	572,108	648,389	762,810	2,267,003	
4	12,313	10,636	38,504	151,854	192,519	308,031	385,039	462,047	577,558	654,566	770,078	3,037,081	
5	13,052	10,738	38,871	190,725	194,356	310,970	388,712	466,455	583,069	660,811	777,425	3,814,506	
6	13,835	10,840	39,241	229,966	196,206	313,929	392,411	470,893	598,617	673,448	784,822	4,599,328	
7	14,665	10,943	39,615	269,581	198,073	316,916	396,146	475,375	594,218	677,009	792,291	5,391,619	
8	15,545	11,048	39,992	309,573	199,960	319,837	399,921	479,905	599,881	679,866	799,842	6,191,461	
9	16,478	11,153	40,374	349,947	80,742	201,869	322,930	403,737	484,485	605,606	807,474	6,998,935	
10	17,467	11,259	40,759	390,706	81,518	203,795	326,072	407,590	489,108	611,385	815,179	7,814,115	
Total		\$107,930	\$390,706	\$2,118,339	\$781,411	\$1,953,529	\$3,125,646	\$3,907,057	\$4,688,469	\$5,860,586	\$6,641,997	\$7,814,115	\$42,366,783

*Assumes an average of 72.4 new non-residential construction permits per year and based on an average property tax bill of \$20,677. Excludes institutional projects.
 **"Cumulative" refers to the fact that a new set of projects may become eligible for the tax credit each year. When the new set of projects is added to the projects already receiving the credit, the result is the cumulative fiscal impact.

Additions, Alterations, & Repairs		Eligibility Scenarios											
Year	Revenue Loss* Net Present Value	if 5%	5% cumulative**	if 10%	if 25%	if 40%	if 50%	if 60%	if 75%	if 85%	if 100%	100% cumulative	
1	\$10,339	\$10,339	\$29,673	\$59,346	\$148,365	\$237,383	\$296,729	\$356,075	\$445,094	\$504,440	\$593,459	\$593,459	
2	10,959	10,437	29,955	59,628	149,773	239,637	299,546	359,455	449,319	509,228	599,092	1,192,551	
3	11,616	10,536	30,238	89,866	151,192	241,908	302,385	362,862	453,577	514,054	604,770	1,797,320	
4	12,313	10,636	30,527	120,393	152,633	244,212	305,266	366,319	457,898	518,952	610,531	2,407,851	
5	13,052	10,738	30,818	151,210	154,089	246,542	308,178	369,814	462,267	523,903	616,356	3,024,208	
6	13,835	10,840	31,111	182,321	155,555	248,888	311,110	373,333	466,666	528,888	622,221	3,646,428	
7	14,665	10,943	31,407	213,729	157,036	251,257	314,071	376,885	471,107	533,921	628,142	4,274,571	
8	15,545	11,048	31,706	245,435	158,532	253,652	317,064	380,477	475,597	539,010	634,129	4,908,700	
9	16,478	11,153	32,009	277,444	160,045	256,072	320,090	384,108	480,135	544,153	640,180	5,548,880	
10	17,467	11,259	32,314	309,758	161,572	258,515	323,144	387,773	484,716	549,345	646,289	6,195,168	
Total		\$107,930	\$309,758	\$1,679,457	\$619,517	\$1,548,792	\$2,478,067	\$3,097,584	\$3,717,101	\$4,646,376	\$5,265,893	\$6,195,168	\$33,599,135

*Assumes an average of 72.4 new non-residential construction permits per year and based on an average property tax bill of \$20,677. Excludes institutional projects and includes only those projects costing 25% or more of average building value.
 **"Cumulative" refers to the fact that a new set of projects may become eligible for the tax credit each year. When the new set of projects is added to the projects already receiving the credit, the result is the cumulative fiscal impact.

Exhibit G

Certified LEED Projects, Nationwide
(Source: USGBC, February 2006)

Year	Certified	Silver	Gold	Platinum	Total
2000	7	4	0	1	12
2001	2	1	2	0	5
2002	9	4	7	1	21
2003	18	12	12	4	46
2004	49	34	32	4	119
2005	70	63	50	7	190
Total	155	118	103	17	393