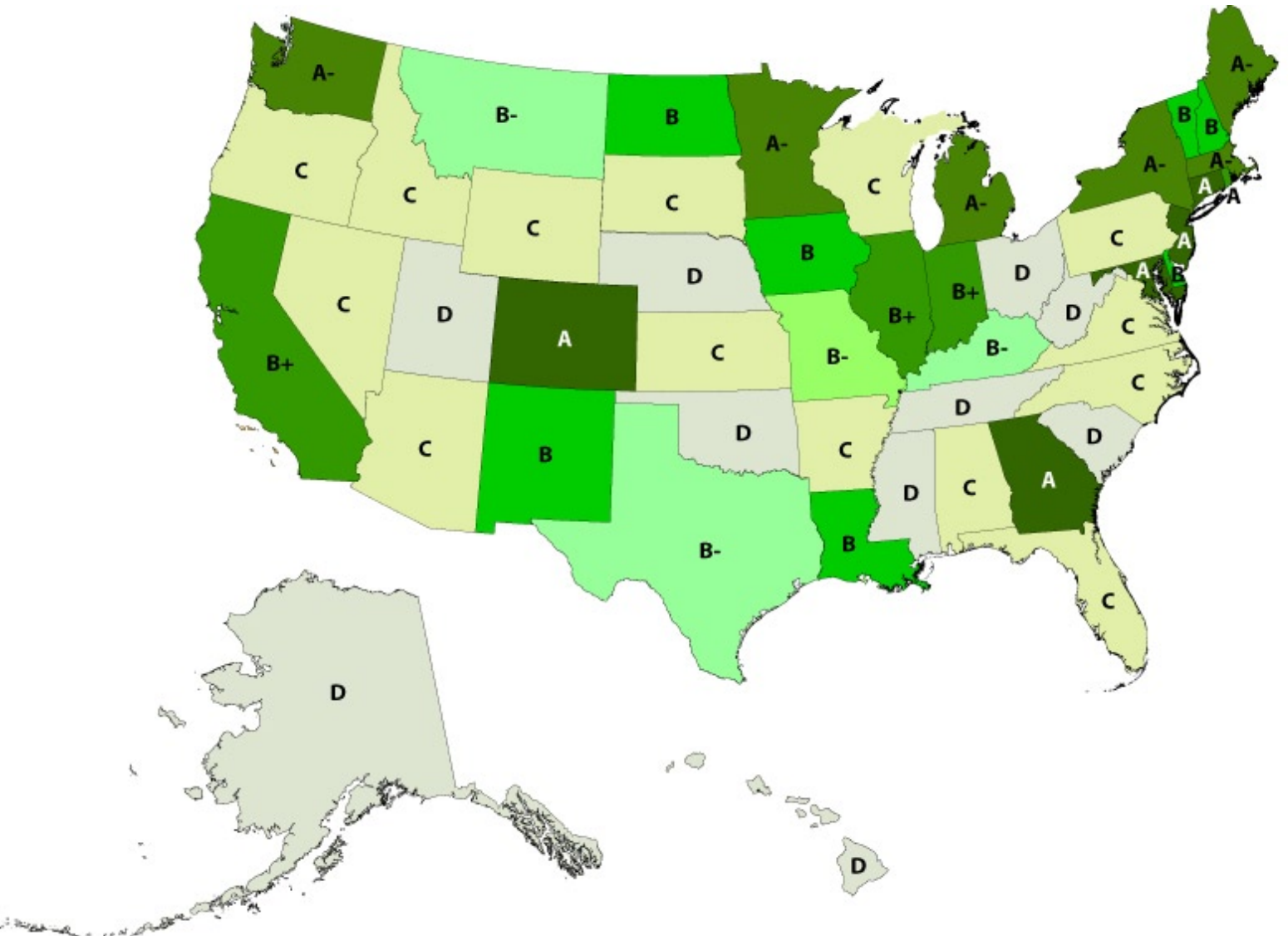




# Green Building Criteria in Low-Income Housing Tax Credit Programs

## 2010 Analysis



# Green Building Criteria in State Low-Income Housing Tax Credit Programs

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## Introduction

Qualified Allocation Plans (QAPs) are typically established by state housing finance agencies to guide the annual distribution of federal Low-Income Housing Tax Credits (LIHTC). 2010 marks the sixth year that Global Green USA has conducted an analysis and ranking of Qualified Allocation Plans (QAPs) for all 50 states. The analysis of the 2010 QAPs shows a continued increase in the incorporation of green building strategies, albeit at a slower rate than previous years. Nearly every state scored points in all four of the green building categories used in the analysis, demonstrating an increase in the degree of comprehensiveness with which green building is being addressed in the QAP documents.

## Analysis Methodology

Each 2010 QAP, and any document that accompanies or that is referenced (appendices, checklists, building standards, etc.), was reviewed for the inclusion of green building strategies related to the following four categories – Smart Growth, Energy Efficiency, Resource Conservation, and Health Protection. The methodology used for analyzing and rating the 2010 QAPs follows the same general approach established in Global Green's 2006 report, *Making Affordable Housing Truly Affordable: Advancing Tax Credit Incentives for Green Building and Healthier Communities*.

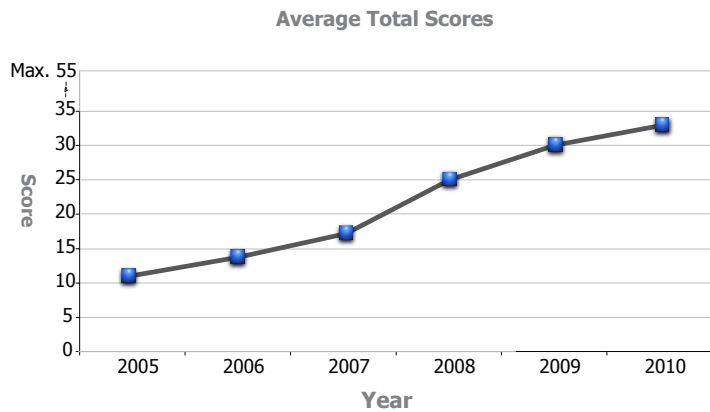
Points are awarded when various green building issues are referenced in the QAPs and bonuses are provided to states that achieve points in multiple categories, (thus demonstrating a comprehensive approach to green building,) and to states that encourage projects to participate in a comprehensive third-party green building program, such as the US Green Building Council's Leadership in Energy and Environmental Design (LEED) rating system, Enterprise Community Partner's Green Communities Initiative, or Southface Energy Institute's EarthCraft green building program. A maximum of 55 points are available. After determining the raw scores, the basic grading tiers were established using standard deviation from the mean; one standard deviation above the mean demarcated the B-range from the C-range and one standard deviation below the mean demarcated the C-range from the D-range. These distinctions were then compared to breaks that occurred in the raw scores in order to assign letter grades.

After the preliminary grading, each state was given an opportunity to review and comment on our findings. Individual state scorecards, the nationwide scoring table and information on our scoring criteria were sent to a list of contacts obtained from the National Council of State Housing Agencies (NCSHA). A two-week comment period was provided to identify any criteria that was insufficiently addressed and to clarify our methodology. Thirty-two responses were received from the relevant parties - the greatest number to date.

## 2010 Trends and Findings

The 2010 QAP analysis shows the continuation of the trend established in previous years of a steady increase in both required and optional green building measures. The rate of increase is slightly slower, with 33 states improving their scores from 2009 to 2010, (as opposed to 34 states seeing an improvement from 2008 to 2009). The mean or average score rose to 33 from 30. The median or highest occurring score had a similar increase to 33.5 from 30. This slight reduction in the pace of improvement is likely the result of many states having already adopted the easiest-to-implement measures in previous years.

The highest scores were given to Connecticut and Georgia, who tied for first for the second consecutive year by earning 50 points out of a possible 55. The next highest scoring state was Maryland, with a score of 48. Colorado was a new addition to the A group, gaining 30 points from the previous year due to the state's adoption of Enterprise Green Communities criteria as a mandatory component of their QAP. Washington and Massachusetts earned the same score but dropped from an A range to an A- as a result of the general upwards trend from 2009 to 2010.



Oregon and Illinois also experienced substantial point increases from 2009 to 2010. Illinois' 14-point increase is primarily attributed to its adoption of the mandatory portions of the Enterprise Green Communities requirements, which brought the state's grade up from a C to a B+. Oregon's 16-point increase is largely attributed to the more accurate consideration of Oregon's self-scored section of the QAP application. This section, which includes a number of green building items, was not reflected in Oregon's 2009 score. Including the self-scored items in analysis resulted in Oregon receiving giving a C in 2010, as opposed to a D in 2009.

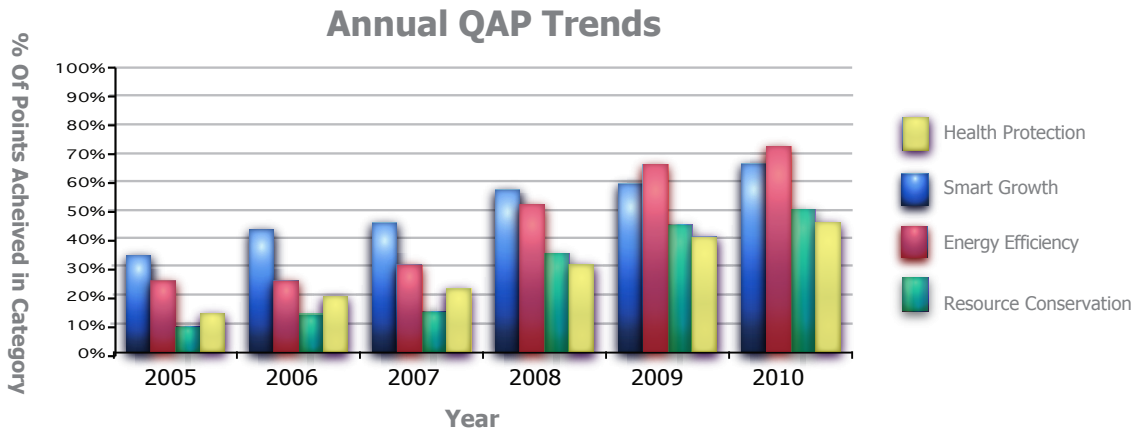
### Top Ten States of 2010

Connecticut (50)  
Georgia (50)  
Maryland (48)  
New Jersey (46)  
Colorado (46)  
Washington (44)  
Rode Island (44)  
Massachussets (42)  
Minnesota (42)  
New York (42)

In addition to the overall improvement, the 2010 QAPs showed an increase in the percentage of possible points obtained in each of the four green building categories. As in 2009, the greatest proportion of possible points was earned in the Energy Efficiency category, with 72% of the possible points obtained. This figure represents a 6% increase from 2009. Notably, all 50 states received points in two of the Energy Efficiency categories: Specified Efficient products (subcategory SP) and Existing Housing Rehabilitation (subcategory XH), making it the first time in which all states earned a point in a single category since Global Green started this analysis six years ago.

The next most represented category is Smart Growth, where states obtained 66% of all possible points, for an increase of 7%. Nineteen additional states earned points for the Adaptive Reuse (AR) category, increasing that number to 41 from 22. This significant jump stems, in part, from an adjustment made in scoring the Adaptive Reuse (AR) category criteria so that points were granted for both adaptive reuse and historic preservation, as historic preservation also promotes the reuse of existing structures. Disparities remained within this category however, with only nine states addressing brownfield redevelopment (BR subcategory).

Overall, the two least mentioned subcategories lie in the Resource Conservation category, with only eight states mentioning the use of Reused Materials (UM) or Renewable Materials (NM). Health Protection was again the category for which the lowest amount of points was achieved. Forty-six percent of the total possible Health Protection points were awarded in 2010, an increase of 5% from 2009. In this category, the greatest number of states earned points in the Environmental Assessment subcategory (EA), with 39 states requiring a Phase 1 Environmental Assessment.



## Scoring Third-Party Rating Systems

Nearly every state earned the maximum amount of bonus points for taking a comprehensive approach to green building by addressing all four sub-categories (earning points in 3 categories warrants a 2 point bonus, earning points in 4 categories warrants a 5 point bonus). More states received bonus points for referencing recognized third-party green building standards in 2010 as well, with a total of 16 states earning the bonus, up from 14 in 2009. It is noteworthy that not only A-graded states, such as Georgia or Connecticut who already had a high level of detail in their QAPs, referenced these standards - but also lower-graded states such as Ohio and Wisconsin. This trend may demonstrate the appeal among some states to reference third-party standards in lieu of developing detailed prescriptive green building criteria for the QAP.

In instances when the only reference to green building is by way of a third-party standard, it is not possible to determine which specific items will be addressed, and therefore difficult to assign points per the scoring methodology. Currently states are able to earn points by being more prescriptive in the documents themselves through explicit reference to green building criteria, rather than by referring to a third-party standard that include a combination of mandatory and voluntary items.

Due to this approach, states such as Virginia, which allocates a significant number of points in the QAP to committing to build to the EarthCraft standard but does not feature many other prescriptive requirements, suffer disproportionately in our ranking. As more and more states refer to third-party standards as both requirements and optional point-scoring criteria, Global Green will consider changing how we weigh references to third-party standards in future iterations of this analysis.

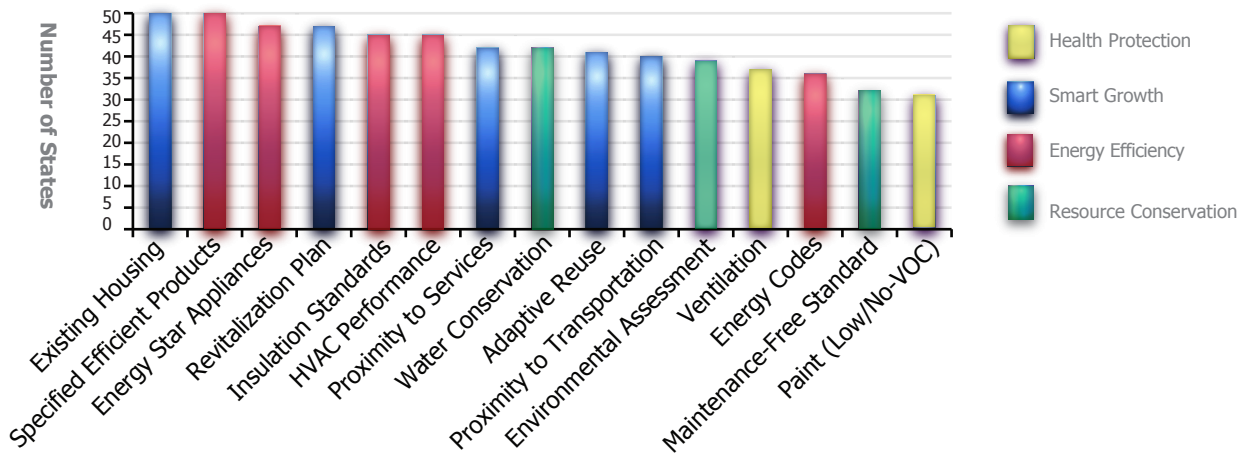
# 2010 Findings & Scoring

Grade	State	Smart Growth									Category Total	Energy Efficiency						Category Total	Resource Conservation							Category Total	Health Protection							Category Total	Bonus	Score				
		BR	UI	AR	PT	PS	XH	RP	HP	FP		WP	10 pts	PV	SP	IS	EP		HV	EC	EB	12 pts	EF	RC	MF		WC	NM	UM	CD	SW	12 pts	HZ				EA	HA	QP	QC
A	Connecticut	1	1	1	1	1	1	1	1	1	1	9	1	1	1	2	2	2	3	12	1	1	1	5	1	1	1	1	12	1	1	5	1	1	1	1	1	11	5	50
	Georgia	1	1	1	1	1	1	1	1	1	1	9	1	1	1	2	2	2	3	12	1	1	1	5	0	0	1	1	10	1	1	3	1	1	0	1	8	10	50	
	Maryland	1	1	1	1	1	1	1	0	0	1	7	1	1	1	2	2	2	3	12	1	1	1	5	0	0	1	1	10	0	1	3	1	1	1	1	8	10	48	
	New Jersey	1	0	1	1	1	1	1	1	0	1	7	1	1	1	2	1	0	3	9	1	1	1	5	0	0	1	1	10	1	1	3	1	1	1	1	9	10	46	
	Colorado	0	1	1	1	1	1	1	1	1	1	8	1	1	1	1	2	2	3	11	1	1	0	5	0	1	1	1	10	1	1	0	1	1	1	1	6	10	46	
A-	Washington	1	1	1	1	1	1	1	0	1	8	1	1	1	2	2	2	3	12	0	1	0	5	1	0	1	1	9	0	1	4	1	1	1	1	9	5	44		
	Rhode Island	1	1	1	1	1	1	1	1	1	9	1	1	1	2	1	0	3	9	1	1	1	5	0	0	1	1	10	1	1	5	1	0	1	1	10	5	44		
	Massachusetts	0	1	1	1	1	1	1	1	1	8	1	1	1	2	1	2	3	11	1	1	1	5	0	0	1	1	10	1	1	1	1	1	1	1	7	5	42		
	Minnesota	0	1	1	1	1	1	1	1	1	8	0	1	1	2	2	2	3	11	0	0	1	5	0	0	1	1	8	1	1	3	1	1	1	1	9	5	42		
	New York	1	1	1	1	1	1	1	1	1	9	1	1	1	2	2	2	3	12	1	1	0	4	0	0	1	1	8	0	1	2	1	1	1	1	7	5	42		
Michigan	1	1	1	1	1	1	1	1	1	9	1	1	1	2	2	0	0	7	0	1	0	5	0	1	1	1	9	1	1	5	1	1	1	1	11	5	42			
B+	Illinois	0	0	1	1	1	1	1	1	1	7	0	1	1	2	1	2	1	8	1	1	1	3	1	1	0	1	9	1	1	0	1	1	1	1	6	10	41		
	Indiana	0	1	1	1	1	1	1	0	1	7	0	1	1	2	2	1	3	10	0	1	1	3	0	0	1	0	6	1	1	1	1	1	0	1	6	10	40		
	California	0	0	1	1	1	1	1	0	0	5	1	1	1	2	1	2	0	8	0	1	1	5	1	1	1	1	11	0	1	1	1	1	1	1	6	10	40		
	Maine	0	1	1	1	1	1	1	0	1	7	0	1	1	2	2	2	0	8	1	1	1	5	1	0	1	0	10	1	1	3	1	1	1	1	9	5	40		
	Vermont	0	1	0	1	1	1	1	0	1	6	0	1	1	2	2	2	0	8	1	1	1	4	1	0	1	1	10	0	0	1	1	1	0	1	4	10	39		
B	Louisiana	0	1	0	1	1	1	1	0	1	6	0	1	1	2	2	2	0	8	1	0	1	5	0	0	0	1	8	1	1	1	0	0	0	1	4	10	37		
	Iowa	0	0	1	1	1	1	0	1	1	6	1	1	1	2	2	2	3	12	0	1	1	4	0	1	0	0	7	1	0	1	1	1	1	1	6	5	37		
	Delaware	0	1	1	1	1	1	1	1	0	7	1	1	1	2	2	2	3	12	1	0	1	3	0	0	1	1	7	0	1	4	0	0	0	1	6	5	37		
	North Dakota	0	1	1	1	1	1	1	0	0	6	1	1	1	2	2	0	0	7	0	1	0	5	0	0	0	0	6	0	1	0	1	1	1	1	5	10	35		
	New Hampshire	0	1	1	0	0	1	1	1	1	6	1	1	1	2	2	2	0	9	1	0	1	5	0	0	0	1	8	0	1	2	1	1	0	1	6	5	35		
New Mexico	0	1	0	1	1	1	1	0	0	5	1	1	1	2	0	1	0	6	1	1	1	5	0	0	1	1	10	1	0	0	1	0	1	1	4	10	35			
B-	Texas	0	1	1	1	1	1	1	0	1	7	1	1	1	2	2	0	3	10	0	0	1	5	1	0	1	1	9	1	1	0	0	0	0	1	3	5	34		
	Missouri	0	0	1	0	1	1	1	1	1	6	0	1	1	2	0	2	3	9	0	0	1	0	0	0	0	0	1	1	1	5	0	0	0	0	7	10	34		
	Kentucky	0	0	1	1	0	1	0	0	1	4	0	1	1	2	2	2	0	8	0	1	0	3	1	1	1	1	8	0	1	0	0	1	1	1	4	10	34		
	Montana	1	1	1	1	1	1	1	0	0	7	1	1	1	2	1	2	0	8	0	1	1	5	0	1	1	1	10	0	0	0	1	0	1	1	3	5	33		
	Pennsylvania	0	0	0	1	0	1	1	0	1	4	0	1	1	2	2	2	3	11	0	1	1	5	0	0	0	0	7	0	1	0	1	1	1	1	5	5	32		
C	Nevada	0	0	1	1	1	1	1	0	0	5	1	1	1	2	2	2	3	12	0	0	0	4	0	0	0	0	4	0	1	1	1	1	1	1	6	5	32		
	Virginia	0	1	1	1	0	1	1	0	0	5	1	1	1	2	2	2	3	12	0	0	1	2	0	0	0	0	3	0	1	0	0	0	0	1	2	10	32		
	Oregon	0	0	1	1	1	1	1	0	0	5	0	1	1	2	0	2	0	6	0	0	1	5	0	0	1	1	8	0	1	0	1	0	1	0	3	10	32		
	North Carolina	0	1	1	1	1	1	1	0	1	7	0	1	1	2	2	1	3	10	0	0	1	1	0	0	0	0	2	1	1	2	0	0	0	1	5	5	30		
	Wyoming	0	0	0	0	1	1	1	1	1	5	0	1	1	2	2	0	3	9	0	0	1	3	0	0	0	0	4	1	1	2	0	0	0	1	5	5	29		
	Arkansas	0	0	1	1	1	1	1	1	1	7	0	1	1	2	2	2	3	11	0	0	1	1	0	0	0	0	2	1	1	1	0	0	0	0	3	5	29		
	Idaho	0	1	1	0	0	1	1	0	0	4	1	1	1	2	2	2	0	9	0	1	1	5	0	0	0	1	8	0	1	0	1	1	0	0	3	5	29		
	Arizona	0	0	1	1	1	1	1	0	1	6	1	1	1	0	0	2	0	5	0	1	0	5	0	0	0	0	6	1	1	1	1	1	0	0	5	5	28		
	Alabama	0	0	1	0	1	1	1	0	1	5	1	1	1	2	2	2	0	9	0	0	1	0	0	0	0	0	1	1	1	3	0	0	0	1	6	5	27		
	Kansas	0	1	1	1	1	1	1	0	1	7	0	1	1	0	2	2	3	9	0	0	0	1	0	0	0	0	1	1	0	1	0	0	0	1	3	5	25		
	Florida	0	1	0	1	1	1	1	0	0	5	0	1	1	2	2	0	0	6	0	0	0	5	0	0	0	0	5	0	1	1	1	1	0	0	4	5	25		
	South Dakota	0	0	1	0	1	1	1	0	1	5	0	1	1	2	1	0	0	5	0	0	1	4	0	0	0	0	5	1	0	0	1	1	1	1	5	5	25		
	Wisconsin	0	1	0	1	0	1	1	0	0	4	0	1	1	2	1	1	0	6	0	1	0	2	0	0	0	0	3	1	0	0	0	0	0	1	2	10	25		
	D	Hawaii	0	1	0	1	1	1	1	0	0	5	1	1	0	2	0	0	0	4	0	1	0	5	0	0	0	0	6	0	1	0	1	1	1	0	4	5	24	
		Ohio	0	0	0	1	1	1	1	0	0	4	0	1	1	0	2	2	3	9	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	2	7	23	
West Virginia		0	0	1	1	1	1	1	0	1	6	0	1	0	2	2	2	0	7	0	0	1	2	0	0	0	0	3	1	0	0	0	0	0	1	2	5	23		
Alaska		0	0	1	0	1	1	1	0	0	4	0	1	1	2	1	2	3	10	1	0	1	0	0	0	0	0	2	0	0	0	0	0	0	1	1	5	22		
South Carolina		0	0	1	0	1	1	1	0	1	5	0	1	1	2	2	0	0	6	0	0	1	0	0	0	0	0	1	1	0	1	0	0	0	1	3	5	21		
Nebraska		0	0	1	1	1	1	1	0	0	5	0	1	1	1	2	0	0	5	0	1	0	0	0	0	1	0	2	0	1	0	1	0	0	0	2	5	19		
Mississippi		0	0	1	0	0	1	1	0	0	3	0	1	0	2	2	0	0	5	0	0	0	2	0	0	0	0	2	0	1	0	1	1	1	0	4	5	19		
Utah		0	0	1	1	0	1	1	0	1	5	0	1	0	1	1	2	3	8	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	2	2	17		
Oklahoma		0	0	1	0	1	1	0	0	0	3	0	1	1	2	2	0	0	6	0	0	0	1	0	0	0	0	1	0	1	0	0	0	0	0	1	5	16		
Tennessee		0	1	1	1	1	1	1	1	0	7	0	1	0	2	2	0	0	5	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	2	15		
# of states		9	28																																					

## Looking Forward

The primary intention of this analysis and report is to provide a comparative snapshot of green building criteria in QAPs in order to identify which states may serve as models of best practices and also to encourage those that lag behind. However, in addition to showing the range of performance, this analysis begins to point toward a set of minimum green-building standards that are broadly accepted as beneficial and implemented nationally. The top 15 strategies used by states show that a significant majority of states already promote green building criteria.

### Top 15 Green Building Strategies



As we see a continued increase in the incorporation of green-building criteria in a majority of states, we suggest that a new, higher standard in green affordable housing is emerging; one that should be codified and comprehensively promoted.

The report released by the US Green Building Council (USGBC) in April of 2010, *Using Executive Authority to Achieve Greener Buildings: A Guide for Policymakers to Enhance Sustainability and Efficiency in Multifamily Housing and Commercial Buildings*, suggests that "the Treasury should provide guidance that would encourage states to include sustainability criteria... as a part of the 'housing needs characteristics' and 'project characteristics' elements of their allocation plans." We are in agreement with USGBC that at this point in the evolution of green affordable housing, minimum standards should be considered for inclusion as a mandatory component of all affordable housing funded by the LIHTC process that is overseen through Section 42(n) of the Internal Revenue code. We also concur with the suggestion that the Treasury should put forward a "model" allocation plan that reflects best practices in green affordable housing. Similar to how the Housing and Economic Recovery Act of 2008 expanded the scope of Low-Income Housing Tax incentives to include energy efficiency, we hope that a comparable action can further broaden the scope of such incentives to include a model set of minimum standards for green affordable housing.

Targeting the QAP as a place to include minimum green building standards would ensure that all projects financed through the LIHTC program will reap the benefits that green building brings to affordable housing tenants, owners, and the larger community: energy and water cost reductions, reduced exposure to environmental toxins, more durable construction, resource conservation, and overall climate change mitigation.

## Analysis Criteria: 55 Points Total

	<i>Points Possible</i>		<i>Points Possible</i>
<b>Smart Growth</b>		<b>10</b>	
BR	1	Brownfields Redevelopment	
UI	1	Urban Infill	
AR	1	Adaptive Reuse / Historic Preservation	
PT	1	Proximity to Public Transit	
PS	1	Proximity to Services	
XH	1	Existing Housing Rehabilitation	
RP	1	Revitalization Plans	
HP	1	Habitat Preservation	
FP	1	Floodplain Preservation	
WP	1	Wetlands Preservation	
<b>Energy Efficiency</b>		<b>12</b>	
PV	1	Photovoltaics	
SP	1	Specified Efficient Products	
IS	1	Insulation Standards	
EP	2	Energy Star Appliances	
HV	2	HVAC Performance	
		<i>Heating / Ventilation – 1 pt</i>	
		<i>Cooling – 1 pt</i>	
EC	2	Energy Codes	
EB	3	Energy Star Homes	
<b>Resource Conservation</b>		<b>12</b>	
EF	1	Existing Flora Preservation	
RC	1	Recycled Content Materials	
MF	1	Maintenance Free / Durability	
WC	5	Water Conservation	
		<i>Fixtures – 3 pts</i>	
		<i>Irrigation – 1 pt</i>	
		<i>Landscaping – 1 pt</i>	
NM	1	Renewable Materials	
UM	1	Reused Materials	
CD	1	Construction & Demolition Recycling	
SW	1	Stormwater Protection	
<b>Health Protection</b>		<b>11</b>	
HZ	1	Hazard Proximity	
EA	1	Environmental Assessment	
HA	5	Hazard Abatement	
		<i>Lead Based Paint – 1 pt</i>	
		<i>Asbestos Containing Materials – 1 pt</i>	
		<i>Radon – 1 pt</i>	
		<i>Groundwater – 1 pt</i>	
		<i>Soils – 1 pt</i>	
QP	1	Paint (Low/No-VOC)	
QC	1	Carpet (Low-VOC)	
QF	1	Formaldehyde Free	
QV	1	Quality Ventilation	
<b>Bonus</b>		<b>10</b>	
		Multiple Categories	5
		<i>3 Categories – 2 pts</i>	
		<i>4 Categories – 5 pts</i>	
		Third-Party Green Building Program	5