

Summary

State housing agencies continue to be at the forefront of a movement to encourage development of healthier, more energy efficient and more environmentally sustainable affordable homes through their administration of the Low Income Housing Tax Credit (Housing Credit) program. State policies that address sustainable development generally fall into four broad categories: energy efficiency; sustainable site selection; resource conservation; and indoor air quality.

All states promote sustainable development in some fashion through their Housing Credit allocation plans. Forty two states employ “threshold criteria”—mandatory design, construction, or energy standards or other program requirements—that address sustainable development. Forty-eight states encourage green development using selection criteria incentives.

Perhaps most significantly, 29 states (Alaska, Arizona, Arkansas, Colorado, Connecticut, Florida, Georgia, Indiana, Kansas, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Minnesota, Mississippi, Missouri, Montana, Nebraska, Nevada, New Hampshire, New Mexico, North Carolina, North Dakota, Ohio, South Carolina, Utah, West Virginia and Wisconsin) implemented notable new policies or substantially revised policies encouraging sustainable development since just last year. Thirty-nine states have made significant strides in this area during the past two years.

Although it is beyond the scope of this analysis to quantify the relative importance of the sustainability provisions in each state’s plan, it is fair to say that in virtually every case the green elements in combination constitute a significant policy priority for the state. Developers competing for Housing Credits in many states will need to seriously consider achieving a high standard of sustainability to be in the best position to receive Housing Credit allocations in 2007 and beyond.

This report: provides background on the Housing Credit program; describes the methodology used to analyze the 2007 state Housing Credit allocation plans; discusses implementation of sustainable development policies through the Housing Credit program; and presents the green elements in every state’s 2007 allocation plan, sorted by the aforementioned categories.

Background

The Housing Credit is one of the most important and successful federal housing programs ever created, responsible for the development of nearly 2 million affordable homes for low-income families, seniors, and special needs populations since its enactment 21 years ago. Among the program’s signature strengths is its administration by the states under policies developed in the “Qualified Allocation Plan (QAP).”

The QAP is required by law and, adopted annually by each Housing Credit agency. It establishes the state's criteria and priorities for allocating Housing Credits during the year. Allocation plans must give preference to developments serving the lowest income tenants and qualified tenants for the longest periods, and developments located in qualified census tracts that contribute to a concerted community revitalization plan.

Agencies have authority to establish other selection criteria, including criteria that assess development location, housing needs, development and sponsor characteristics, tenant populations with special housing needs, tenant populations with children, public housing waiting lists, and developments intended for eventual tenant ownership.

States can promote policy objectives in a variety of ways using the QAP. The most direct method is establishing threshold requirements whereby only developments meeting the requirement are eligible for Credit. A second method is through use of Credit set-asides. A set-aside is a pledge by the state to allocate a certain portion of available Credits during the year to developments exhibiting a certain development characteristic (e.g., preservation of existing affordable housing or special needs targeting).

The third and most common primary mechanism for implementing state policy through the QAP is encouraging development characteristics through the award of points in the competitive scoring process. Because most states face demand for Housing Credits far in excess of supply, they can encourage the type of housing most needed in the state by awarding additional points to developments that best meet those needs. Awarding points is the most common method of achieving policy goals for a state Housing Credit agency because it retains maximum flexibility for the state in allocating Credits.

Methodology

In more than 20 years of allocating the Housing Credit, state agencies have designed and implemented an array of innovative QAP policies to advance smart, sustainable development. The primary research for this report involved a comprehensive review of each state's 2007 QAP with a focus on allocation policies that specifically promote:

- Energy efficiency;
- Sustainable site selection;
- Resource conservation;
- Enhanced indoor air quality; and
- Other sustainable development practices.

In some states, policies not found in the QAP are relevant to the Housing Credit program, either because they apply to it or to other programs that are often used in combination with the Housing Credit. Thus our research also included as thorough an analysis as possible of other state regulations, scoring criteria, design guidelines or energy standards that contain elements relevant to sustainable Housing Credit policies. We welcome feedback from the states, especially if we inadvertently omitted or mischaracterized anything.

Implementing Green Affordable Housing Policies

Through Green Communities, Enterprise is working with state (and local) housing agencies to develop policies to encourage more sustainable affordable housing. This annual analysis of Housing Credit allocation plans to provide a resource to states and other housing stakeholders is part of our efforts. With several years experience and the results of an informal survey of state agencies this year, we have begun to identify several emerging trends, good practices and challenges in implementing state policies to expand green affordable housing.

First, as noted in the Summary, the Housing Credit qualified allocation plan, and supporting policies such as design standards, are an effective way for states to encourage healthier, more energy efficient affordable housing development. Several states with more comprehensive green policies indicated that the large majority of Housing Credit developers in their states were incorporating green features into their developments as a direct result of provisions in the state's allocation plan.

Second, a number of sustainable development policies are so widespread among agencies that they can be fairly characterized as best practices in Housing Credit administration that other states should seriously consider adopting. In addition, states overwhelmingly report that the development community has responded favorably and quickly adapted to green policies as they have become part of the state's Housing Credit program. The following state's response was typical of many:

Developers have been supportive. There have been some concerns about increased costs, however, there is general agreement that sustainable housing is necessary for the long term viability of developments which will decrease management and operations costs with benefits both to the residents and owners of the developments.

Having said that, a number of states indicated that developers often have questions about specific green policies and require training and assistance in incorporating green features into developments. One way a number of states have addressed this issue – and proactively generated developer support for their green policies – is to seek the input of developers, as well as other stakeholders, in shaping the green criteria in the state's Housing Credit program through focus groups, task forces and informal meetings.

Some states have been able to provide green development trainings and a few are able to offer continuing support during design and construction to specific projects, typically with design or construction management staff. At least one state has dedicated resources to funding a staff position to focus on green policy and program implementation across agency programs.

Once a state has adopted green policies and awarded Housing Credits (and in some cases other funds) to developments that have committed to include specific green features, the agency must develop procedures for ensuring that the developments include the green elements. State agencies employ various approaches to ensure compliance with green criteria. A number of agencies require architects to certify in writing that the relevant green criteria are included in construction plans and specifications prior to construction. Some require certification after a development is placed in service as well. A handful of states require projects to undergo a performance test or energy audit to demonstrate that certain green features have been properly included.

A few states will not provide a project its “Form 8609” certifying its Housing Credit allocation until it is satisfied that green criteria have been incorporated. Others embed compliance in the “extended use agreement” that bind developers to ensuring developments remain affordable to low-income residents for at least 30 years.

An example of one agency’s particularly comprehensive approach is summarized below:

All applicants applying for acquisition/rehabilitation credits must contact [the agency] 45 days before application for a site inspection. [Our] engineer visits the site and advises the applicant what specifications they must adhere to in order to meet [the agency’s] minimum construction/rehabilitation standards, which include but are not limited to energy efficiency. Throughout the construction period, a project manager visits the site to ensure the owner is adhering to all of [the agency’s] standards including but not limited to energy efficiency. Any deviation from [the agency’s] minimum construction/rehabilitation standards may cause a project to lose all or part of their tax credits...Additionally, all new construction must undergo a satisfactory energy rating in order to receive tax credits.

A growing number of states are starting to incorporate an evaluation of compliance with green elements as part of regular site visits required by law under the Housing Credit program to ensure properties continue to provide decent housing to qualified residents and meet other program requirements.

Monitoring for continued consistency in the years following the placed in service date may pose significant challenges for the states. While some building systems such as roofs and furnaces have extended useful lives, items such as paint, lighting and landscaping are part of routine maintenance. To the extent that developments received favorable consideration for features such as low-VOC paints, energy efficient lighting, or water-conserving landscaping, states will need to ensure that such measures are sustained in the course of routine maintenance. States are actively considering these issues as more green affordable developments come on line.

Finally, with such a significant increase in sustainable development policies over the past two years, states will inevitably need to measure the efficacy of policies and document results in completed developments. As they do this, and as development and energy conditions change in the state, policy refinements may be necessary to ensure continued effectiveness.

Specifically state agencies, like financial institutions and developers Enterprise is working with to make sustainable development mainstream in all affordable housing, are intensely interested in the development costs of green compared to conventional developments and the energy and water savings in sustainable properties. (Health benefits are also of interest, but require much more time and resources to evaluate.)

Cost concerns play out in several ways. Many state agencies limit overall development costs and/or the amount of Housing Credits developments may receive. In addition construction costs in general have been rising in many parts of the country. To the extent agencies or developers determine (or perceive) that green features may force development to exceed cost or subsidy limitations, they may be prohibited or sacrificed. As one agency described:

Most developers have responded favorably by trying to incorporate as many sustainable development and green building features into their initial plans and specifications. However, the high cost of construction in [our state] continues to be a barrier for some projects. Unfortunately, green features are sometimes value engineered out of a project's scope if the contractor pricing is higher than initially estimated.

Some states are addressing cost concerns in innovative ways. A few specifically allow for higher costs for certain green features. At least one has an informal policy of placing the burden of proof on developers to show that including green criteria will cost more.

Enterprise is performing an intensive evaluation of the development costs and energy and water savings of sustainable developments in its Green Communities portfolio and will be sharing the results with state agencies and other stakeholders later this year. In addition to this data, state agencies have expressed a strong interest in receiving support to strengthen their training and technical assistance activities with developers, which Enterprise will be working to help provide in 2008. In addition state agencies leading on green affordable housing have expressed an interest in continuing to share with and learn from one another. Forums such as those convened by the National Council of State Housing Agencies are excellent venues for these opportunities.

As the states begin work on 2008 Housing Credit allocation plans, we expect refinement and continued strengthening of existing policies as well as new innovative approaches to further encourage sustainable development. Enterprise hopes this report will assist states in furthering policies that best meet their specific housing needs and looks forward to continuing to work with the states to make their affordable housing policies more sustainable.

Overview of Green Housing Credit Policies in 2007 Allocation Plans

Energy Efficiency

The first common sustainable development initiative promoted in 2007 state QAPs is **energy efficiency**, with 45 states actively promoting it through a variety of policies. These policies include minimum HVAC system performance criteria, specification of energy efficient windows and doors, minimum insulation standards, Energy Star rated appliances, performance criteria for water heaters, lighting fixture requirements, and other energy standards.

Among the many existing best practices in energy efficiency, the most widespread policy included in 2007 QAPs is providing **minimum performance criteria for heating, ventilation and air conditioning (HVAC) systems**, including specific requirements for furnaces, heat pumps, or air conditioning units. Of 38 states that provide such criteria, 15 (Arizona, Arkansas, Connecticut, Delaware, Illinois, Indiana, Kansas, Mississippi, Nevada, New Hampshire, North Carolina, South Carolina, Utah, Vermont, and Wisconsin) impose it via threshold requirements, 12 (Florida, Indiana, Iowa, Maryland, Massachusetts, Missouri, Montana, Nebraska, Pennsylvania, Texas, West Virginia and Wyoming) encourage it with selection criteria points, and nine (Alabama, Georgia, Kentucky, Louisiana, New York, Ohio, Rhode Island, South Dakota, and Virginia) employ a combination of threshold criteria and points. California allows an increase in eligible basis limits for developments that meet certain HVAC standards, while Colorado works in conjunction with another state agency to provide financial incentives for upgrading HVAC system criteria. Some states have various associated criteria, including additional standards on HVAC ductwork, use of Energy Star HVAC equipment and standards for proper equipment sizing. The number of states with at least one QAP provision addressing HVAC performance criteria is up six since last year.

Thirty-four states (Alabama, Arizona, Arkansas, Connecticut, Delaware, Florida, Georgia, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maine, Maryland, Michigan, Minnesota, Mississippi, Missouri, Montana, Nevada, New Hampshire, New Mexico, North Carolina, North Dakota, Oklahoma, South Carolina, South Dakota, Utah, Vermont, Virginia, West Virginia, Wisconsin and Wyoming) encourage the **use of energy efficient windows and doors** in the 2007 allocation plan. Policies range from general incentives for more efficient or insulated products to sophisticated design requirements that address maximum window area, U-value, solar heat gain, air infiltration rates, and other criteria. The number of states with at least one QAP provision addressing energy efficient windows and doors is up seven since last year.

Specifying Energy Star rated appliances is another best practice in energy efficiency, with 33 states (Alabama, California, Connecticut, Delaware, Florida, Georgia, Indiana, Iowa, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Minnesota, Mississippi, Missouri, Montana, Nevada, New Hampshire, New Jersey, New Mexico, New York, North Carolina, North Dakota, Oklahoma, Pennsylvania, South Carolina, South Dakota, Texas, Vermont, Virginia, West Virginia and Wisconsin) promoting this in the 2007

QAP. Specified appliances include refrigerators, dishwashers, and clothes washers with the Energy Star label. While most states award points to developments specifying Energy Star appliances, 13 (California, Connecticut, Delaware, Georgia, Louisiana, Maine, Missouri, Nevada, New Hampshire, North Carolina, South Dakota, Vermont and Wisconsin) require such appliances in all Housing Credit developments. The number of states with at least one QAP provision addressing Energy Star rated appliances is up ten since last year, and the number of states requiring such appliances is up four since last year.

Providing **minimum insulation standards for walls, ceilings, and floors** is another common QAP policy, exhibited in 31 QAPs in 2007 (Alabama, Alaska, Arizona, Arkansas, Connecticut, Delaware, Florida, Georgia, Illinois, Indiana, Iowa, Kansas, Maine, Maryland, Massachusetts, Michigan, Mississippi, Missouri, Montana, Nevada, New Hampshire, North Carolina, North Dakota, Pennsylvania, Rhode Island, South Carolina, South Dakota, Texas, Vermont, Virginia, and Wisconsin). Most states specify minimum R-values for insulation used in various building components, while others require insulation to a standard a specified percentage in excess of building codes or other established criteria. Insulation standards vary widely among the states depending on climatic conditions and some states impose different requirements in different areas of the state. Some states also dictate installation methods for insulation and requirements for air sealing. The number of states with at least one QAP provision addressing minimum insulation standards is up seven from a year ago.

Another best practice in state QAPs is specification of **energy efficient lighting fixtures**. Twenty-six states (Arkansas, California, Colorado, Connecticut, Delaware, Georgia, Illinois, Indiana, Iowa, Kentucky, Maine, Maryland, Massachusetts, Minnesota, Mississippi, Montana, Nevada, New Hampshire, New Mexico, North Dakota, Oklahoma, Pennsylvania, South Dakota, Vermont, Virginia, and Wisconsin) currently promote this with QAP design requirements or points awarded for products such as Energy Star rated lighting fixtures, fluorescent fixtures, motion sensors, and photocells. While more than half of these states encourage use of energy efficient lighting by awarding points via selection criteria, 12 (Arkansas, Delaware, Illinois, Maine, Mississippi, Nevada, New Hampshire, New York, South Dakota, Vermont, Virginia, and Wisconsin) require use of Energy Star or other energy efficient lighting products in the allocation plan. The number of states with at least one QAP provision addressing energy efficient lighting fixtures is up ten since last year.

Another QAP best practice relating to energy efficiency is the provision of **performance criteria for hot water heaters**. In 2007, 24 states (Arizona, California, Colorado, Connecticut, Delaware, Florida, Georgia, Illinois, Indiana, Kansas, Louisiana, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Nevada, New Mexico, North Carolina, North Dakota, Pennsylvania, South Carolina, and Vermont) referenced such criteria in the allocation plan. Policies range from requiring or encouraging energy efficient units to standards dictating proper sizing, minimum Energy Factor ratings, and insulation requirements. Nine states (California, Connecticut, Florida, Indiana, Massachusetts, Minnesota, Nevada, North Dakota and Pennsylvania) specifically

encourage the use of tankless water heaters. The number of states with at least one QAP provision addressing water heater performance criteria is up six since last year.

In addition to the specific standards cited above, 18 states (Alaska, Arizona, Arkansas, Delaware, Georgia, Kansas, Kentucky, Louisiana, Maine, Massachusetts, Nevada, New Jersey, North Carolina, Ohio, Pennsylvania, Utah, Vermont and Wisconsin) promote overall energy efficiency with policies that require or encourage developments to meet the **Energy Star standard for buildings**, receive a minimum rating on the **Home Energy Rating System (HERS) index**, or pass other **independent inspection, verification, certification, or audit** requirements for energy efficient building components. Energy Star-qualified homes are independently verified to be more energy efficient than homes built to the 2006 International Energy Conservation Code or state energy codes, whichever is more stringent. These savings are based on heating, cooling and hot water energy use and are typically achieved through a combination of building-envelope upgrades, high-performance windows, upgraded HVAC systems, controlled air infiltration, and upgraded water-heating equipment. The number of states promoting energy efficiency consistent with one of these standards is up three since last year.

Finally, 13 states (Alabama, Alaska, Arkansas, California, Delaware, Iowa, Kentucky, Maryland, Massachusetts, Montana, New Hampshire, Wisconsin, and Wyoming) provide specific QAP incentives for developments that **exceed other applicable national or state energy standards**. The number of state QAPs with such an incentive is up one from last year.

Sustainable Site Selection

Forty-six states promote **sustainable site selection** with the 2007 allocation plan. This category includes policies that encourage Housing Credit development in proximity to services and transportation options, in areas consistent with “smart growth” or other state and local planning policies, on sites assessed for environmental issues, in areas close to employment opportunities, on brownfield or greyfield sites, or on sites exhibiting various sustainable site design principles.

The most common policy relating to sustainable site selection is requiring or encouraging **proximity of Housing Credit developments to services** such as grocery stores, pharmacies, banks, parks, schools, daycare centers, libraries, and medical facilities. In 2007, 37 states (Alabama, Arizona, Arkansas, California, Colorado, Connecticut, Delaware, Florida, Georgia, Hawaii, Illinois, Indiana, Iowa, Kansas, Louisiana, Maryland, Massachusetts, Michigan, Minnesota, Missouri, Montana, Nevada, New Hampshire, New Jersey, New York, North Carolina, North Dakota, Ohio, Oregon, Rhode Island, South Carolina, South Dakota, Texas, Vermont, West Virginia, Wisconsin and Wyoming) promoted this via threshold requirements or selection criteria in the allocation plan. The number of states with at least one QAP provision promoting development proximity to resident services is up five since last year.

Nearly as important among the states is encouraging **proximity of Housing Credit developments to transportation options**. Thirty-six states (Alabama, Arizona, Arkansas, California, Colorado, Connecticut, Delaware, Florida, Georgia, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Missouri, Montana, Nevada, New Hampshire, New Jersey, New York, North Carolina, Ohio, Oregon, Rhode Island, South Carolina, Texas, Vermont, Virginia, West Virginia and Wisconsin) encourage this in the allocation plan in 2007. While most states provide points for development location near public transportation, California, Georgia, Illinois, and Minnesota all encourage more extensive transit oriented development strategies. The number of states promoting development proximity to transportation is up seven since last year.

A third common policy relating to sustainable site selection is the requirement to conduct a **Phase I environmental site assessment or other environmental analysis** of the development site. Thirty states (Alabama, Arizona, Arkansas, California, Colorado, Connecticut, Delaware, Florida, Georgia, Idaho, Indiana, Kansas, Louisiana, Maryland, Massachusetts, Michigan, Minnesota, Missouri, Nebraska, Nevada, New Hampshire, North Carolina, Ohio, Oklahoma, Oregon, Pennsylvania, Rhode Island, Texas, Utah and West Virginia) include such a requirement in their 2007 QAP. The number of state QAPs addressing environmental site assessments is up two from last year.

Another sustainable site selection policy advanced by the states is encouraging **Housing Credit development in accordance with state or local smart growth or other planning policies**. In 2007, 19 states (Colorado, Delaware, Florida, Georgia, Illinois, Maine, Maryland, Massachusetts, Michigan, Minnesota, Nevada, New Hampshire, New Jersey, Oregon, Pennsylvania, Rhode Island, Tennessee, Vermont and Wisconsin) include such a priority in the QAP. The number of states promoting development in accordance with smart growth or other planning policies is up six since last year.

In 2007, 16 states (Arkansas, Connecticut, Delaware, Georgia, Iowa, Maryland, Massachusetts, Minnesota, Montana, New Hampshire, New Mexico, North Carolina, North Dakota, Pennsylvania, Rhode Island and West Virginia) promote other **sustainable site design principles** in the QAP. Policies address such issues as solar orientation of buildings, reducing heat gain, use of porous paving materials, erosion and sedimentation control, storm water drainage, site grading, and noise mitigation. The number of states promoting sustainable site design is up six since last year.

Several other policies relating to sustainable site selection are emerging as best practices in state allocation plans. For example, 11 states (Arizona, Delaware, Georgia, Hawaii, Illinois, Indiana, Kansas, Massachusetts, Minnesota, New York and Oregon) include QAP policies that promote **proximity of Housing Credit developments to employment opportunities**, while four states (Georgia, Iowa, Maryland and New Jersey) specifically promote **use of brownfield or greyfield sites** for Housing Credit development.

Resource Conservation

A third sustainable development priority in state allocation plans is promoting **resource conservation**. This category includes policies that encourage use of durable or low-maintenance building materials, water conserving plumbing fixtures and appliances, low-water and low-maintenance landscaping, recycling or waste management practices, renewable energy technologies, sustainable wood products, and locally produced building materials. In 2007, 45 states advanced resource conservation in one or more areas using the QAP.

The most common resource conservation policy in current QAPs is encouraging the use of **durable, low-maintenance building materials**. In 2007, 37 states (Alabama, Arizona, Arkansas, California, Connecticut, Delaware, Florida, Georgia, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Missouri, Nebraska, New Hampshire, New Jersey, New Mexico, New York, North Carolina, Oklahoma, Oregon, Rhode Island, South Carolina, South Dakota, Tennessee, Texas, Vermont, Virginia, West Virginia and Wyoming) promote this policy in the allocation plan. Policies range from requirements or points awarded for general material durability to specific durability standards for materials such as siding and roofing. Some states reference the 15-year maintenance-free standard while others approach the standard through requirements or incentives for specific low-maintenance building materials such as brick or stucco. The number of states promoting durable, low-maintenance building materials is up ten since last year.

Thirty-one states (Alaska, Arizona, Arkansas, California, Connecticut, Delaware, Georgia, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Montana, Nevada, New Mexico, New Jersey, North Carolina, North Dakota, Oklahoma, Pennsylvania, Vermont, Virginia, West Virginia and Wisconsin) encourage use of **water-conserving plumbing fixtures and appliances** such as faucet aerators, flow restrictor devices, low-volume showerheads, low-flow toilets, and front-loading washing machines. Policies range from threshold design requirements to points awarded in selection criteria for use of such fixtures and appliances. The number of states promoting water-conserving plumbing fixtures and appliances is up 12 since last year.

Eighteen states (Arizona, California, Connecticut, Delaware, Georgia, Iowa, Maine, Maryland, Massachusetts, Minnesota, Montana, Nevada, New Mexico, North Carolina, North Dakota, Pennsylvania, South Carolina and Wyoming) promote **low-water and low-maintenance landscaping** through such initiatives as preservation of existing vegetation, indigenous plant specification, xeriscaping, use of water conserving irrigation systems, and design of rainwater harvesting systems. While most policies are advanced through selection criteria, six states (Arizona, California, Delaware, Maine, New Mexico and North Carolina) mandate water-conserving landscaping in the QAP. The number of states promoting low-water and low-maintenance landscaping overall is up four since last year.

Fourteen states (California, Connecticut, Delaware, Indiana, Kentucky, Maine, Maryland, Massachusetts, Minnesota, Montana, Nebraska, New Mexico, North Carolina and North Dakota) specifically encourage resource conservation with some form of **recycling or waste management** in Housing Credit developments, including construction waste management programs, use of recycled content building materials, or provision of tenant recycling programs. The number of states promoting recycling or waste management practices is up six since last year.

Fifteen states (California, Colorado, Connecticut, Illinois, Iowa, Maryland, Massachusetts, Missouri, Montana, Nebraska, New Jersey, New Mexico, North Dakota, Pennsylvania and Rhode Island) specifically promote resource conservation through the use of **renewable energy technology** such as solar panels. All encourage this via selection criteria except three—California, which allows up to 5 percent increase in threshold basis limits for developments involving renewable energy sources; Colorado, which works in conjunction with another state agency to provide financial incentives for provision of solar photovoltaic systems; and Pennsylvania, which may waive maximum per unit basis limits for developments proposing solar, geothermal or other innovative energy savings techniques. The number of states promoting renewable energy technologies more than doubled since last year.

Some emerging QAP best practices in the area of resource conservation include use of **Forest Stewardship Council certified or other sustainable wood products**, promoted by seven states (California, Connecticut, Kentucky, Maine, Massachusetts, Montana and North Dakota), and preferences or requirements to use **locally or regionally-produced building products**, advanced by six states (Connecticut, Maine, Massachusetts, Michigan, Montana and North Dakota).

Indoor Air Quality

The fourth general category commonly advanced in state allocation plans is **enhanced indoor air quality**. This category includes policies that address moisture control, products designed to limit indoor air pollutants, adequate ventilation, nonsmoking buildings and indoor air quality management plans. As of 2007, there are 34 states that currently address indoor air quality issues in the allocation plan.

Twenty-nine states (Alabama, Alaska, Arkansas, California, Connecticut, Delaware, Georgia, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maine, Massachusetts, Michigan, Minnesota, Mississippi, Montana, New Hampshire, New Mexico, North Carolina, North Dakota, Oklahoma, Pennsylvania, Rhode Island, South Dakota, Utah, and Virginia) currently provide QAP policies that address **moisture control** by requiring or encouraging use of exterior-ducted bathroom exhaust fans, humidistats, water heater drain pans, water-resistant gypsum board, insulation of water pipes or HVAC system piping to prevent condensation, or other measures to control or prevent damaging effects of moisture, humidity, and mold. The number of states promoting moisture control in the QAP is up 11 since last year.

Twenty-three states (Alabama, Arizona, California, Connecticut, Delaware, Georgia, Indiana, Iowa, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Mississippi, Montana, Nevada, New Hampshire, New Mexico, North Dakota, Pennsylvania, Rhode Island, South Carolina and South Dakota) address indoor air quality with standards specifying one or more **products designed to limit indoor air pollutants**. Commonly referenced products include carbon monoxide detectors; exterior-ducted kitchen range hoods and clothes dryers; Green Label-certified carpets and padding; low volatile organic compounds (VOC) paints, primers, sealants and adhesives; or formaldehyde-free composite woods and insulation. The number of states specifying products designed to limit indoor air pollutants is up four since last year.

In addition to the above policies, 17 states (Alaska, Arizona, California, Connecticut, Georgia, Illinois, Iowa, Kansas, Kentucky, Massachusetts, Montana, Nevada, New Hampshire, New Mexico, North Dakota, Pennsylvania, and Vermont) specifically promote enhanced indoor air quality by requiring or encouraging **adequate ventilation of living space via the HVAC system or natural ventilation**. The number of states promoting ventilation measures in the QAP is up four from last year.

Two emerging QAP best practices in the area of indoor air quality are designation of **nonsmoking buildings** in Housing Credit developments, encouraged by five states (California, Connecticut, Kentucky, Maine and New Mexico) in 2007, and development of **indoor air quality management plans** or other strategies to limit effects of construction debris, promoted by three states (California, Maine and North Carolina).

Other Sustainable Development Practices

The policies discussed in the above four categories represent the most common sustainable development policies in state allocation plans. Some states have chosen to go beyond typical QAP provisions by rewarding developments that meet national sustainable development guidelines, while others have developed agency-specific green building guidelines instead. In addition, some states have responded to the issue of incremental costs for sustainability measures with innovative underwriting criteria and financing solutions. A description of these practices follows.

Nine states (Georgia, Iowa, Kentucky, Louisiana, Maryland, Minnesota, New Mexico, Ohio and Virginia) have supplemented strong sustainable development approaches with QAP incentives for **consistency with various national sustainable development guidelines**. Six of these states (Iowa, Louisiana, Maryland, Minnesota, New Mexico and Ohio) award points to developments demonstrating consistency with the Green Communities criteria, while three (Georgia, Maryland and Virginia) award points to developments obtaining EarthCraft certification, three (Kentucky, Louisiana, and New Mexico) encourage LEED certification, and one (Maryland) recognizes green building guidelines from the National Association of Home Builders. Maryland and Virginia also award points to developments designed by a LEED-certified design professional. The number of states rewarding consistency with at least one of the national sustainable

development guidelines tripled from a year ago when just three included such provisions in the QAP.

Nine states (Connecticut, Iowa, Maine, Minnesota, Nebraska, New Jersey, New Mexico, North Dakota and Pennsylvania) reference detailed **state sustainable development or green building guidelines** in the QAP. While most of these states award points for consistency with some or all of the specified criteria, Maine has mandatory Green Building Standards that apply to all developments and New Jersey awards points to developments that participate in the state's Affordable Green program. The number of states referencing such state guidelines increased by four from a year ago.

One of the challenges states face in encouraging sustainable development practices is balancing the importance of each provision against its incremental cost. An emerging trend in state allocation plans to address this issue is allowing **adjustments to standard agency underwriting practices** for developments that meet specified green criteria. In 2007, four states have such policies:

- California can increase threshold basis limits by up to 4 percent for developments that incorporate at least three sustainability measures from a specified list including use of tankless or solar thermal hot water heaters, rainwater harvesting systems, or recycling at least 75 percent of construction and demolition waste. California also allows up to a 5 percent increase in threshold basis limits for developments involving distributive energy technologies such as microturbines and/or renewable energy sources such as solar;
- North Carolina allows additional Credit per unit to developments agreeing to have all buildings comply with Energy Star standards;
- Pennsylvania may waive maximum per unit basis limits for development with up-front capital expenditures related to energy efficiency systems that will result in demonstrable savings in utility costs to the residents, including solar, geothermal, or other innovative energy savings techniques; and
- South Dakota lists energy efficiency as one factor for which increased cost per unit may be justified.

Two states have taken a different approach to covering additional costs—**identifying outside funding sources to pay for certain green building initiatives**:

- Colorado works with another state agency to fund the differential between base measures and increased energy efficiency measures for items such as compact fluorescent lighting, high efficiency HVAC equipment or water heaters, increased insulation, material efficient framing, and solar photovoltaic systems; and
- Utah developments may request funding from a state loan fund to cover cost increments related to Energy Star qualification.

Finally, as with other aspects of the allocation plan, sustainable development practices include numerous unique state policies. In addition to some of the practices noted above, unique policies include:

- Connecticut specifically awards points to developments that meet requirements for asthma safe homes;
- Delaware requires all general contractors to certify and provide evidence they are an Energy Star Builder;
- Maine requires a building envelope water management plan for prevention of mold and use of framing and finish lumber harvested from sustainably managed forests;
- South Dakota awards points to developments designed with a drain tile system for foundation waterproofing; and
- Vermont energy standards include a goal of keeping records of energy consumption by fuel type, individual building, and residential unit to allow periodic evaluation of energy and water use for cost-effective improvements.