Above Code Building Programs

Commercial Programs

■ Reduce Carbon Emissions through
  ■ Community Energy Conservation
  ■ Building Energy Conservation
  ■ Waste Reduction
Commercial Standards

Program Elements
- Building Size
- Site Selection
- Landscaping
- Water Conservation
- Energy Conservation
- Materials and Resources
- Indoor Environmental Quality
- Operation, Maintenance and Owner Education

Commercial Above Code Program in the Region
- Chandler, AZ – Voluntary, Supports LEED projects
- Scottsdale, AZ – Voluntary, Home Grown
- Albuquerque, NM – Mandatory Energy Conservation Code, Voluntary Green Path, Based on LEED
- Eagle County, CO – Mandatory, Home Grown

Other notable examples
- Austin, TX – Voluntary, Home Grown, LEED can exempt
- Portland, OR – Voluntary, Supports LEED projects
- Seattle, WA – Voluntary, Based on LEED
- Rohnert Park, CA – Mandatory, Requires LEED
Taking a Look at the Whole Community

- Common standards for Municipal Green Buildings are LEED Silver or Gold
- Are there other sustainable policies in place?
  - Vehicle Fleet Efficiency
  - Municipal Irrigation Efficiency
  - Energy and Water Conservation in Municipal Buildings
  - Recycling in Municipal Buildings
  - Community Recycling

Taking a Look at the Whole Community

Purpose

As emphasized in a May 2007 poll, the goal is to “encourage the use of shade and environmentally sensitive design,” as recommended by the Chandler General Plan, as supported by the general public, and as directed by the Green Building Task Force. This City of Chandler Green Building Program aims to promote sustainability by encouraging green building in the private sector and setting standards for City facilities and operations.

Objectives

1. To encourage green building practices in all new preliminary development plans in cooperation with community efforts in that new development incorporates basic green building strategies.

2. To ensure that all new development meets basic minimum energy efficiency standards. This objective will be accomplished through the adoption of the International Energy Conservation Code (IECC) 2006.

3. To encourage green building certification among private development through programs such as expanded fee waivers, permit the reduction of building setbacks, the increase of educational opportunities, and technical assistance, and the adoption of Energy Star in Environmental Design (LEED) projects.

4. To enhance City sustainability efforts and ensure Chandler, green building technical assistance and requirements encourage sustainable practices at City operations.

In order to accomplish these objectives, this program utilizes a comprehensive approach for incorporating the building industry in the creation of green building development standards, incentives for green building certification, and city commitments. The following sections describe in more detail the nature of these objectives and their implementation.
Taking a Look at the Whole Community

**Green Development Standards**

**Objective 1:** To encourage green building practices in all new preliminary development plans in conjunction with resulting requests so that new developments incorporate basic green building strategies.

**GREEN DEVELOPMENT POLICY**

For many years, Chandler has utilized Planned Area Development (PAD) zoning districts for much of its new residential growth. This practice has resulted in several benefits to the City, including increased neighborhood cohesion and participation and flexibility with development standards in situations where other standards result in greater benefits for the City.

Section 1402(b) of the Zoning Code gives "flexible" accommodation, exception, or variance, and a description of development or "environmental design" as the approving authority (Council). Commission or staff may depart from standard provisions where either having made a finding as to the need, deviations, or balance, will result in environmental quality, character, or other reasonable benefits which such deviations might achieve. Two examples in this section have been designed to emphasize the City's authority in the Zoning Code to vary from development standards in order to achieve the highest attainable environmental quality. The flexibility has been designed to keep PAD zone decisions on a scale of consideration including: lack of compatibility, area, location, and environmental quality.

The intent of the Green Development Policy is to expand these existing options to include green development practices. The City will use the following decisions to include green development practices. The City will base these development policies on the regulations of individual entities, such as green development practices. Rather, green development standards should be used as the primary consideration that is balanced with other zoning factors.

Green development practices, for the purpose of this Green Development Policy, are practices that contribute to the following goals:

- Improve opportunities for energy conservation, and public health and safety, and provide for sustainable living.
- Reduce pollution and impact on air quality, water quality, and public health.
- Provide increased shade and air circulation, and reduce excessive noise and visual impacts.
- Incorporate energy-efficient and sustainable design solutions to reduce non-renewable energy and to meet building's energy needs.
- Promote water conservation efforts.

**Example,**

City of Chandler, AZ

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Taking a Look at the Whole Community

**Objective 2:** To ensure that all new development meets basic minimum energy efficiency standards.

The City of Chandler [will adopt] the 2015 International Energy Conservation Code (IECC) to ensure that all new development meets energy efficiency standards. The IECC establishes energy conservation standards for new construction and relies on code enforcement to ensure compliance. The IECC establishes minimum energy requirements for new construction, new development, and existing buildings. The IECC also establishes a program to incorporate energy requirements into the City's building code, which is an important step toward addressing energy use.

The IECC is used as the standard. The City of Chandler Building Code will also need to be updated to incorporate regulations similar to the IECC.
Taking a Look at the Whole Community

Green Building Incentives

Objective 3: To encourage green building certification among private development through incentives.

Due to the environmental, social and economic benefits associated with green building for the City of Chandler, we will offer incentives to encourage green building in the private sector. Incentives will be based on the achievement of LEED Certifications from the United States Green Building Council (USGBC), or certifications from other nationally or regionally recognized green building rating systems. Staff at the Green Building Task Force reserve the right to utilize green building rating systems to confer these certification levels to LEED to determine eligibility for incentives.

EXCAVATION REVIEW

Projects that pursue LEED Gold Certification will be eligible for expedited plan review. Expedited plan review is a plan review process with a shorter turnaround time than the standard 20-day period. To be eligible, expedited plan reviews will be completed within ten business days.

To qualify for expedited plan review, projects must meet the following criteria:

1. Projects must have a LEED-Chandler plan review.
2. Supporting documentation must be submitted to the City's Planning and Development Department.
3. Projects must be at least three years old.
4. Projects that meet the LEED Gold Certification requirements will be subject to the LEED-NC criteria.
5. Projects that meet the LEED-NC criteria will be subject to the LEED-NC criteria.

Additionally, projects that are eligible for expedited plan review are also eligible for a Tier 1 approval, which can reduce the time spent on plan review. Projects that meet the LEED-NC criteria will be subject to the LEED-NC criteria.

The City of Chandler will provide guidance and recognition to Chandler Green Building Program participants. In today’s increasingly environmentally-conscious society, recognition for green building can be a powerful marketing tool.

Example,
City of Chandler, AZ

Taking a Look at the Whole Community

Non-residential developments that obtain LEED Certification on certifications from another green building rating system recognized by the City of Chandler will be eligible for the following:

1. Green Building Award for LEED-Gold Certified Buildings: The City of Chandler will issue a Green Building Award to recognized LEED-Gold certified buildings.
3. Green Building recognition signs: The City of Chandler will provide green building recognition signs to eligible LEED-Gold certified buildings.

Residential developments that obtain LEED certification from LEED or another green building rating system recognized by the City of Chandler will be eligible for the following:

1. Green Building Award for LEED-Gold Certified Buildings: The City of Chandler will issue a Green Building Award to recognized LEED-Gold certified buildings.
2. Recognition on the Residential Chandler Green Building Participant List: The City of Chandler will recognize LEED-Gold certified residential projects.
3. Green Building recognition signs: The City of Chandler will provide green building recognition signs to eligible LEED-Gold certified residential projects.

GREEN BUILDING APPLICATION ASSISTANCE

Non-residential projects applying for LEED Certification will be eligible for the following assistance:

1. LEED Certification Fee Reduction: The City of Chandler will reduce the LEED Certification Fee for projects that meet the LEED Gold standards.
2. Construction Completion: The City of Chandler will provide assistance in completing construction projects that meet the LEED Gold standards.

Residential projects applying for LEED Certification will be eligible for the following assistance:

1. LEED Certification Fee Reduction: The City of Chandler will reduce the LEED Certification Fee for projects that meet the LEED Gold standards.
2. Construction Completion: The City of Chandler will provide assistance in completing construction projects that meet the LEED Gold standards.

The City of Chandler Planning and Development Department will provide technical assistance and guidance for projects interested in pursuing LEED Certification. The City of Chandler Planning and Development Department will also assist developers in preparing green building applications and strategies, the LEED Certification process, and requirements to obtain LEED points. City staff will also be available to assist individual developers that may be interested in pursuing LEED Certification.
Taking a Look at the Whole Community

EDUCATIONAL OPPORTUNITIES

Development professionals and residents that are interested in participating in the Chandler Green Building Program can take advantage of green building educational programs offered by the City of Chandler. For more information on the educational programs see Objective 3.

City Commitments

Objective 4: To enhance City sustainability efforts...

Although the City of Chandler recognizes that a small percentage of buildings within the City’s jurisdiction, City green buildings is an important element of the Chandler Green Building Program. This article highlights the City as a leader in green building, as an example for private development.

The following section describes some new approaches that the City can take to promote sustainability in its own operations. These measures are further detailed in the paragraphs that follow.

- New City buildings should attain LEED Gold Certification
- Upgrade Energy Management System
- Energy audits and metering in existing buildings
- Park LEED for Existing Buildings when feasible
- Purchase Green Power
- Park EV-qualified Electric Vehicles
- Recycle Emerging Technologies
- Offer Green Building Technical Assistance to Private developers
- Promote Green Building Education
- Expanded Recycling Efforts
- Maintain City’s 100% recycling level
- Update the Green Building region on a 5-year basis

NEW CITY BUILDINGS

As specified in Resolution no., all new City of Chandler buildings larger than 5,000 square feet will attain LEED-Gold certification. This requirement will be applied to buildings that currently are under design and construction prior to the adoption of Resolution no.

When LEED-Gold certification is not feasible, the City should strive to construct energy-efficient, water conserving, and environmentally responsible buildings. Additionally, the City should utilize renewable energy sources when feasible.

Example,

City of Chandler, AZ
Taking a Look at the Whole Community

Example,
City of Chandler, AZ

CITY FLEET

For new City vehicles purchased, the City should prioritize the most energy efficient vehicles possible and in the long run, should purchase electric vehicles. The City should purchase vehicles with the most fuel efficient engine necessary to perform required tasks. The City should strive to acquire alternative fuel vehicles where available and feasible. Additionally, the City should consider new environmentally friendly technologies as they become available.

RECRUIT GREEN INDUSTRY

Economic Development should continue to recruit emerging green technologies. Emerging green technologies may include, but are not limited to, renewable energy technologies such as photovoltaic manufacturing, wind or conservation technology, energy efficiency technology, and manufacturers making recycled materials. The City should only recruit those technologies that are compatible with City sustainability planning goals.

GREEN BUILDING COORDINATION TECHNICAL ASSISTANCE

The Planning and Development Department should staff an employee that can serve as the Green Building Coordinator. This person must be a LEED Accredited Professional and knowledgeable of green building strategies. The employee should be able to provide technical assistance to development professionals that are interested in participating in the Chandler Green Building Program or addressed issues by improving energy efficiency. A City Green Building Coordinator would provide assistance to help develop a plan for the City.

Additionally, the Green Building Coordinator should participate in any green building related issues that may arise. The website should include information about ongoing educational events.

EDUCATIONAL PROGRAMS

The City of Chandler should coordinate with the City of Scottsdale, APS, SRP and other agencies that have educational programs. Educational sessions should be offered to develop green initiatives and the public is invited. The educational component should include a green building lecture series, a green building building with educational material, and green building publications.

TAKING A LOOK AT THE WHOLE COMMUNITY

REGIONAL GREEN BUILDING EVENTS

The City should look for opportunities to promote and be involved in events that promote environmental sustainability and green building.

Along with the cities of Glendale, Scottsdale, and Surprise, the City of Chandler will be a sponsor of the annual Green Building Expo. The Green Building Expo offers a valuable educational venue and provides green products vendors and manufacturers with the ability to promote their products to Valley residents.

The City should also consider joining the Green Summit Alliance. The Green Summit is similar to the Green Building Expo in that it offers educational events and networking opportunities for green product vendors and manufacturers. Joining the Green Summit Alliance will also enable the City of Chandler to promote its Green Building Program and other sustainability efforts.

EXPAND RECYCLING EFFORTS

The City of Chandler has had an excellent recycling program in place since 1997. The program has generated over $3 million in revenue over the past 10 years.

Although the City’s recycling program has been successful, there are areas that can be expanded. The City should consider adding a curbside recycling program and food waste collection. Additionally, the City should consider expanding the recycling program to include electronic waste.

The City should pursue the collection of more materials over the coming year.

MANTAIN GROWTH

The United States Green Building Council (USGBC) has recently released a new rating system for green building. The USGBC has set new standards for green building. The City should continue to work toward these new standards to ensure the continued growth of the City’s green building program.

UPDATE GREEN BUILDING PROGRAM

The City should review the Green Building Program on an annual basis. If necessary, the program should be updated based on the program’s level of success, changing market conditions, City budgets and funding concerns, or other factors that may generate a need to update the program.
Support LEED, Based on LEED, or Home Grown?

- Chandler, AZ – Supports LEED projects
- Scottsdale, AZ – Home Grown
- Albuquerque, NM – Based on LEED
- Eagle County, CO – Home Grown

Other notable examples
- Austin, TX – Home Grown, LEED can exempt
- Portland, OR – Supports LEED projects
- Seattle, WA – Based on LEED
- Rohnert Park, CA – Requires LEED

Voluntary or Mandatory?

- Albuquerque has a mandatory energy code that substantially exceeds the IECC
- Chandler, Scottsdale and others are voluntary
**Will Requirements Vary with Zoning?**

- Use Zoning to Designate Mandatory LEED Certification in Critical Corridors or Downtown Areas – City of Austin

Projects Requiring an Austin Energy Green Building™ Rating

These zones require an Austin Energy Green Building™ Rating:

- **Central Business District and Downtown Mixed Use** zoned projects requiring a site plan also require a minimum one-star Austin Energy Green Building Rating (per Land Development Code 25-2-593): [Ordinance 030612-93 (pdf)]

- **University Neighborhood Overlay** multi-family developments require a minimum one-star Austin Energy Green Building Rating (per Land Development Code 25-2-754): [Ordinance 040902-58 (pdf)]

- **Mueller Redevelopment** projects as follows:

  - Office, single tenant retail, and institutional buildings greater than 25,000sf require LEED Certified® certification and/or a minimum two-star Austin Energy Green Building Rating. Multi-family developments with three or more units require LEED Certified® certification and/or a minimum two-star Austin Energy Green Building Rating. Single-family and duplex units require a minimum three-star Austin Energy Green Building Rating.

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**Time**

**Fast Track Plan Review**

- Chandler, AZ
- Scottsdale, AZ and
- Albuquerque, NM.
Money

Financial Incentives…and Disincentives

- Chandler, AZ
- Eagle County, CO
- Seattle, WA

Chandler – Supports LEED

- Voluntary
- Supports LEED Certification
- Proposed Incentives
  - Expedited Plan Review
  - Financial Assistance
  - Technical Assistance
  - Education

Table 1

<table>
<thead>
<tr>
<th>LEED</th>
<th>Percentage of LEED Certification Fee to be Reimbursed*</th>
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<tr>
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<td>100%</td>
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<tr>
<td>Platinum</td>
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* Fee reimbursements are based on the USGBC chapter rate LEED Certification fees.
Scottsdale, AZ – Home Grown

- Voluntary
- Points Based
- Comprehensive
  - Sustainable Sites
  - Water Efficiency
  - Energy and Atmosphere
  - Materials and Resources
  - Indoor Environmental Quality

The Duke, Circle West Architects

Scottsdale Incentives

**BUILDER INCENTIVES**

**Priority plan review** – Fast track plan review service; Development process and technical assistance is provided as part of the plan review and approval process.

**Green Building Permit and Inspections** – Once plans are approved under the green building rating checklist, a green building permit is issued and green building inspections are provided in conjunction with the regular city inspections to ensure the project complies with the green building provisions as approved on the plans. Upon completion of the building, a Green Certificate of Occupancy is issued that becomes a permanent record of the city.

**Job site signs** - City green building construction job site signs are available for builders to help distinguish their projects from others.

**Directory of participating designers and builders** – Available to the public on the City’s website

**Promotional package for builders/developers** - Promotional packages include green building logo for ads, program brochures, and green home buyers guide. The Green Building Program has additional literature in the area of energy efficiency, indoor water efficiency, drought tolerant landscaping, indoor environmental quality and resource efficiency.

**Educational programs** - The City of Scottsdale sponsors an annual Green Building Expo and a monthly green building and solar lecture series that features information and resources in the areas of site use, energy, building materials, indoor environmental quality, water and waste reduction.
Scottsdale, Energy Element

- Commercial
- Must meet all prerequisites in Commercial Building Checklist including:
  - Reducing heat island effect
  - On-site shielding of site lighting
  - Meet ASHRAE/IESNA 90.1 or 2003 IECC
  - Fundamental Building Systems Commissioning
  - On-site peak power demand (5%) through on-site renewable energy or off-site (green tags)
  - Daylighting required in 25% of all spaces occupied for critical visual tasks

Albuquerque, NM – Two Programs

- Mandatory Energy Conservation Code
- Voluntary Green Path
Albuquerque Energy Conservation Code

Provides 2 options for compliance with IECC:
- Simplified – for buildings ≤ 20,000 ft², using unitary HVAC equipment and is a retail or office building, only
  - Uses modified ASHRAE Envelope tables with increased efficiencies.
  - Requires 0.9 W/ft² for office lighting
  - Requires 0.9 W/ft² for retail with allowance for display lighting
  - Requires minimum efficacy for general lighting for retail or office
- Performance Rating Method – for all other buildings
  - References Appendix G of ASHRAE 90.1-2004 requiring buildings to be 15% more efficient than ASHARE 90.1-1999

Albuquerque, NM – Green Path, Based on LEED

- Voluntary
- LEED Gold, minimal 6 credits in Energy and Atmosphere,
  - EA 1 Optimizing Energy Performance or shared credits with
  - EA 6 Renewable Power
Other notable examples
Austin – Home Grown

- Voluntary
- Points Based
- Comprehensive
  - Basic Requirements
  - Team
  - Site
  - Energy
  - Water
  - Indoor Environmental Quality
  - Materials and Resources
  - Education

Portland – Supports LEED Projects
Portland Proposal

- Mandatory performance standards for commercial buildings

Seattle – Supports LEED Projects

Our services include:

- Incentives - financial and code-based incentive packages for your project, and a referral service to utility conservation programs
- Technical Assistance - design team coaching, assistance with code barriers, design charrettes, and integrated design process; referrals to resources on green building practices, materials, and technologies
- Education programs - workshops, lecture series, continuing education, and more; targeted to developers, design professionals, CEO’s, building managers, homeowners, and real estate agents
- Recognition - awards programs and publicity to help spread the word about green building; case studies to highlight successful projects and show others the how to's.
Rohnert Park, CA – Based on LEED

### Covered Project Type

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<th>Tier 1</th>
<th>Tier 2</th>
<th>Tier 3</th>
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<td>SFD New</td>
<td>&gt; 12 dwelling units/acre</td>
<td>7-12 dwelling units/acre</td>
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<td>SFD Addition</td>
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### Green Building Ordinance

**Step-by-Step Instructions**

**Effective Date:** July 1, 2007

**Summary**

- Existing Single-Family Housing:
  - 1.5 FLOPS or less

- New Single-Family Housing:
  - 4.0 FLOPS or less

- New Commercial Buildings:
  - 5.0 FLOPS or less

- Commercial Tenant Improvements:
  - 5.0 FLOPS or less

**Worksheet**

For residential projects, provide a worksheet with an example of each item along with any other documentation that may be required for compliance.

**A - PRE-APPLICATION & PROJECT REVIEW**

Include:
- Project contact person, name of the LEED AP, architect, engineer, etc.

**B - PROJECT CHECKLIST & SUBMIT**

The project checklist must be submitted to the LEED Accredited Professional or LEED AP. The project checklist must be submitted online at www.greenpointview.com.

**C - WORKSHEET**

For commercial projects, provide a worksheet with an example of each item along with any other documentation that may be required for compliance.
To LEED or not to LEED?
What it means for enforcement

- LEED Requires Third Party Verification
  - Building Department focuses on traditional inspections, requiring certification paperwork
  - Certification required for final inspection and Certificate of Occupancy

- Local emphasis
  - LEED lacks emphasis on energy and water conservation desired in some communities
  - Solution – specify level of LEED certification and number of points in categories such as energy and water

- Home Grown
  - Allows tailoring to the community
  - Requires cross-training of building and planning staff to ensure new standards are understood, supported and enforced
  - Can include some third party verification (e.g. HERS ratings)

Thank You - Questions?