

Workshop Manual

**Hamilton County
Sustainable Development and
Building Code Project**

February 2012

Contents

- Introduction 1
- Purpose of this Manual 2
- Sustainable Development Code Overview..... 3
- How-To Guide 7
- Resources for Sustainable Codes..... 18
- Appendix A..... 19

Introduction

Under the direction of the Department of Planning and Development, Hamilton County has undertaken a timely and exciting initiative, the Sustainable Development and Building Code Project. The goal of this project is **to evaluate and incorporate sustainability provisions into its development regulations (zoning, subdivision, etc.) and building codes**. The project was funded by a federal Department of Energy (DOE) Energy Efficiency Conservation Block Grant (EECBG). Through this initiative, Hamilton County is looking to expand its current efforts to encourage more sustainable building and site design, construction, and land use in the larger community.

As a first step in the process, the County, with the assistance of Clarion Associates, completed a diagnostic report and recommendations. This diagnosis included a detailed review of Hamilton County's development regulations and building codes to identify opportunities to make its regulations more supportive of sustainable design. The report, "Hamilton County Development Regulations Analysis for Energy Efficiency and Sustainability", was completed in January 2012 and is available on the county's website.

The report focuses on **five main topics**: (1) Energy and Resource Management (renewable energy sources, energy conservation, water use, stormwater management, and waste management); (2) Development Patterns (mix of land uses, compact development, and infill development); (3) Mobility and Connectivity (multi-modal transportation options, community connectivity, and context-sensitive design of transportation infrastructure); (4) Urban Agriculture; and (5) Building and Energy Codes.

Production of the report entailed a three-step process, summarized below.

- **Step one** consisted of review of background documents and several days of stakeholder interviews to identify issues and barriers in County regulations.
- **Step two** included a review of current policies and programs in the County that are supportive of sustainability goals, and a review and inventory of current regulations that address each of the identified topics.
- **Step three** consisted of a detailed analysis of current regulations to identify and prioritize a series of recommended changes to existing codes and practices in order to enhance energy efficiency and sustainability in the County. The recommendations were based on current national trends and best practices.

Purpose of this Manual

As part of the Sustainable Development and Building Code Project, Hamilton County commissioned the preparation of this Training Manual, to be used as **a guide to assist municipalities and townships within Hamilton County and elsewhere in the region to conduct their own tailored sustainability diagnosis of development codes and regulations.**

Its primary purpose is to **serve as a step-by-step guide** for incorporating sustainability into local government development codes and regulations. It outlines a three-step process of inventorying current regulations; identifying barriers, incentives, and gaps; and determining priority code amendments.



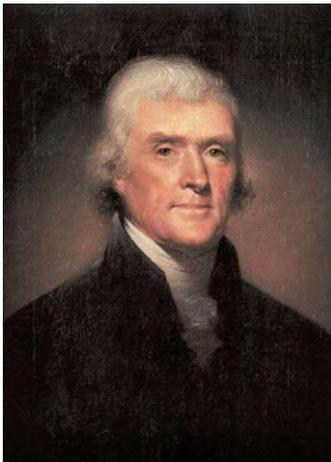
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Sustainable Development Code Overview

Planning and Sustainability – an Introduction

First, let's step back and define some key terms. Exactly what is sustainability, and what is meant by a sustainable community? The United Nations Brundtland Commission in 1987 defined sustainability as ...**"meeting the needs of the present while ensuring that future generations have the same or better opportunities"**.

Thomas Jefferson, our original Renaissance man, in 1789 could have been speaking about sustainable communities when he wrote, "Then I say the earth belongs to each generation during its course, fully and in its own right, [but] no generation can contract debts greater than can be paid during the course of its own existence."



"Then I say the earth belongs to each generation during its course, fully and in its own right, [but] no generation can contract debts greater than can be paid during the course of its own existence."

- Thomas Jefferson (1789)

While the specifics about sustainability will inevitably vary from community to community, it really is a quite simple notion: **preserving choices for the future**. And while many associate sustainability with "green" and environmental issues, in fact it is much broader covering issues such as economics and social issues. For example, how can a community be sustainable if people do not have jobs or housing, or if its residents don't have access to healthy food or live in a safe environment?

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4 | Sustainable Development Code Overview

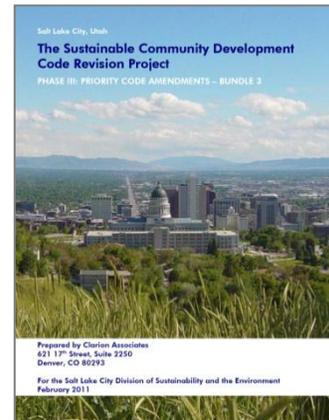
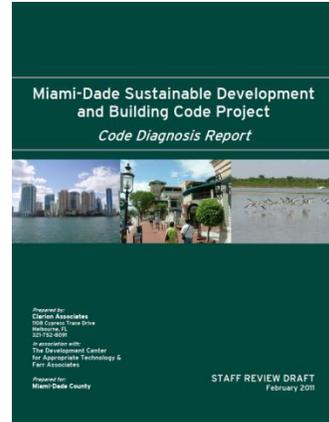
Communities across the country are approaching planning and sustainability in a variety of ways. Some are preparing a separate sustainability plan as a guiding document for community-wide action. Others are incorporating the concept of sustainability in their comprehensive plans, either by adding an element to an existing plan, or by making sustainability the overarching theme for a complete revamping of their plan. Still others are looking closely at their development regulations and amending them to remove barriers and address new topics.

As in most things related to planning, there is no single right answer. Planners and communities must follow the path that best meets their needs and tailor their approach to the specific issues and characteristics of their community. Most importantly, they should do this in a comprehensive, integrated way that focuses on tangible results. This manifests itself in several different ways.

First is a stronger focus on the linkages between environmental, economic, and social issues, recognizing that policies or actions in one area have impacts on another. Good sustainable community plans and codes focus on integrating land use, housing, transportation, and other core topics with energy use, community health and well-being, a resilient economy, and local food production.

The second is incorporating new approaches and new topics. Addressing sustainability in planning incorporates a wide range of topics that rarely, if ever, have been mentioned in traditional comprehensive plans and codes. These topics include global issues such as climate change and energy resources, which are affected by planning's core areas of housing, land use, and transportation. Policies calling for compact growth patterns that use land efficiently and make travel choices viable, a broader mix and variety of housing types to meet the changing needs of our communities, and multiple travel modes that create more walkable and transit-accessible communities all contribute significantly to community sustainability.

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Finally, sustainability introduces a variety of new topics such as renewable energy, greenhouse gas reduction, community health, waste stream reduction and recycling, and food production and security into the planning dialogue.

Why Focus on Development Codes?

Many communities have undertaken revisions to their development codes over the past decade. These laudable efforts often focus on design (e.g., form-based codes), landscaping, environmental protection, and more efficient procedures. When you look at new, award-winning development codes, you will find they devote pages to architectural design, arcane topics like non-conforming uses and structures...and usually don't even mention key sustainability topics like solar, recycling, or community gardens.

A sustainable development code differs from more traditional codes in some important ways:

- It covers new topics: energy, health, food security, climate change, recycling—and the relationships among them. Sustainability goes beyond just environmental topics to address such issues as health, nutrition, mobility—all issues a comprehensive sustainable code covers.
- It is not just reactive or prescriptive: it focuses on removing barriers, and creates incentives.
- It seeks to create a balance between the environmental, economic, social aspects of development.
- It must be tailored to meet local and regional climate and ecological conditions. Simply stated, what works in the desert of Tucson, Arizona may not translate well to Cincinnati, Ohio.

The sustainable code charts three paths to sustainability. First, it focuses on removing barriers, which is an easy sell in most communities, especially during tough economic times. Second, it looks to incentives to promote sustainable development. Third, it recognizes that there are regulatory gaps that must be filled, since codes are often out of date when it comes to contemporary sustainable concepts.

Does your Community Embrace the Concepts of Sustainability?

Just as all communities are different, sustainability topics embraced by communities will differ, too. Some communities are well along the path of addressing sustainability in their plans and codes. There is a broad range of communities across the country that are embracing sustainability concepts – from major cities such as Seattle, Denver, Miami, Chicago, and New York City – to mid-sized smaller communities such as Boise, Omaha, Keene, NH, Commerce City, CO, and Albany. As you begin your sustainability initiative, you must take into consideration local politics and culture, and the extent to which your community is ready to address the wide variety of topics described in this manual. In some cases, you may need to start modestly by focusing on a few topics that might be less controversial, such as local food production or energy conservation. Other communities may be ready to tackle all aspects of sustainability, including topics that can often be more controversial such as climate change. Both approaches are acceptable – the most important thing is to tailor your approach to fit the needs, wishes, and values of your community.



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How-To Guide

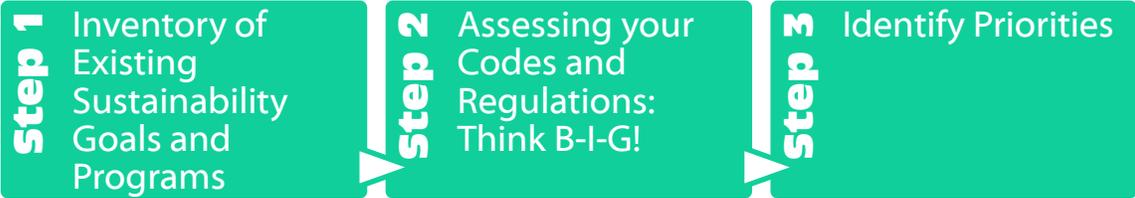
Incorporating Sustainability into Your Development Codes

This section will guide local officials and planners through a process of review, analysis, identification of barriers, and developing recommendations for incorporating sustainability into development regulations. It essentially is a three-step process:

Step 1: Prepare an inventory of key sustainability topics of interest to your community, including current initiatives, goals, and policies;

Step 2: Assess your current codes to identify key existing code provisions that address sustainability topics, identify barriers, possible incentives, and regulatory gaps; and

Step 3: Set Priorities by identifying a set of recommended code changes that realistically can be implemented in the near and longer-term given existing staff resources, costs and benefits, and political considerations.



The following is a detailed description of the steps to follow in the process.

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Step One: Inventory of Existing Sustainability Goals and Programs



The first step in the process is to conduct an inventory in order to identify community sustainability goals and initiatives. If your community hasn't begun a conversation at all about sustainability, you may need to take a step back and start with more basic discussions about your community's sustainability goals before beginning a development code diagnosis effort. This should be accomplished through a process that aims to be inclusive and representative of the views, interests, priorities, goals and perspectives of the community at large.

The purpose of this step is to answer the following questions:

- To what extent does your community embrace or have interest in sustainability?
- What are your community's key sustainability topics?
- What does your community focus on when discussing sustainability?
- How does your leadership and public address sustainability?

You should start this by creating an inventory of existing community sustainability goals, in order to gain an understanding of the starting point for the code update process. These can be identified by reviewing existing plans and policy documents; through discussions with elected officials, planning commission members, or other community leaders; by conducting stakeholder interviews with a wide variety of community members and interest groups; and by reviewing other information sources such as websites.

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The product of this effort should be a **concise summary of community sustainability topics** (2-3 pages per topic) that briefly summarizes existing goals and programs/initiatives; perspectives from staff and stakeholders; and provides a list of references and sources for current policies and initiatives.

From this list, you will be able to identify the most important sustainability topics that should be addressed in your code diagnosis

process (Step Two). In some cases, you may be able to group a number of similar issues into a broader topic. For example, if greenhouse gas reduction is one of your community's priority topics, this might include a variety of issues such as recycling; compact development patterns; tree protection; mobility and alternative transportation; and other topics that are related to the goal of reducing greenhouse gas emissions.

At this stage, it would be appropriate to develop a draft list and review it with community leaders and elected officials to confirm that it is appropriate for your community. You should seek to choose a maximum of 15-20 topics in order to keep your diagnosis manageable.

Sample topics that you might identify as areas of interest could include:

- climate change
- alternative energy and conservation
- food security/urban agriculture/farmland conservation
- recycling/waste reduction
- water quality and conservation
- community health
- green jobs
- mobility/connectivity

Step Two: Assessing your Codes and Regulations: Think B-I-G!



The next step in the process (and the most complex and time-consuming) is to conduct a methodical chapter-by-chapter assessment of zoning and other development codes. This should include a **review of all regulations** related to land use, including:

- Zoning ordinance
- Subdivision regulations
- Design review standards
- Historic preservation code and guidelines
- Landscape and tree protection regulations
- Streets and public works specifications
- Utility and district regulations – water, sewer, electricity, stormwater
- Building and energy codes¹

¹ Building and energy codes for both commercial and residential construction in Ohio are established and revised at the State level, and counties have limited authority to mandate more efficiency in building design and construction. Municipalities have more flexibility to develop requirements that are different or more stringent than those mandated by the State, as counties are limited in their ability to adopt additional rules or regulations only if they do not conflict with State building codes.

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Document Existing Regulatory Provisions

First, you should prepare an inventory of key code provisions that are related to sustainability. This will give you a good starting point for understanding the relationship between your current regulations and your community’s sustainability goals. For each of the broad topics, your inventory should include a brief description of the current regulation, and a reference to its source document. The table below is an example of an existing regulations inventory for Hamilton County, Ohio.

Table 1: Example of Current Regulations Analysis (Source: Hamilton County Development Regulations Analysis, January 2012)

REGULATIONS ADDRESSING URBAN AGRICULTURE	
Ref.	Regulation
Urban Agriculture	
ZON: Section 2-3	Definitions for Agricultural Uses – Section 2-3 includes two distinct definitions for agricultural uses; Rural Agriculture and Suburban Agriculture. Rural Agriculture refers to farming, ranching, or agricultural operations such as dairy production, cultivation, and similar uses; processing of agricultural products; and farm markets where 50% or more of income produced is from products raised on farms. Suburban Agriculture refers to farming or other activities on lots in subdivisions of one acre or less; and to animal or poultry activities, including dairy operations, on lots of five acres or less. Suburban Agricultural uses include aquaculture, horticulture, beekeeping, private compost piles, tree farming and crops, kennels, and several other similar uses.
ZON: Section 2-3	Definition for Livestock – Section 2-3 includes a definition for livestock that includes hooved mammals typically raised for food, fiber, or draft as well as domestic fowl and game birds.
ZON: Section 2-3	Definition for Farm Markets – Section 2-3 includes a definition for farm markets, where 50% or more of the gross income received from the market is derived from produce raised on farms owned or operated by the market operator in a normal year; with the size of the structure limited to 800 square feet and other restrictions on parking and signage.

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REGULATIONS ADDRESSING URBAN AGRICULTURE	
Ref.	Regulation
ZON: Section 3-2	Permitted Uses – Section 3-2, Table of Permissible Uses, defines the land uses that are permitted in zoning districts throughout the County. Rural Agricultural uses are exempt from any regulatory requirements in all zoning districts, except on lots that are five acres or less in any platted subdivision, or in any unplatted subdivisions containing 15 or more lots, each smaller than five acres. Suburban agricultural uses are permitted as-of-right in most standard zoning districts, but are not permitted in all Planned Districts. Certain Suburban Agriculture uses, such as greenhouses, farm markets, and keeping of exotic wildlife, are more restricted and are not permitted in residential districts and office districts. Keeping of livestock, which in Hamilton County’s codes includes poultry, is not permitted on lots that are less than one acre.
ZON: Section 3-6	Agricultural Regulations – Section 3-6 establishes that agricultural uses are permitted as-of-right with no regulatory standards other than for uses on lots that are five acres or less.

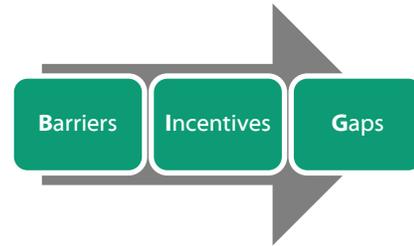
Keep in mind that your inventory should be as thorough as possible, and should include a review of the following elements of your regulatory documents:

- Definitions
- Purpose statements
- Zone districts and use tables
- Accessory uses and nonconforming uses
- Special planned districts and planned unit developments
- Dimensional standards
- Supplemental regulations – lighting, home occupations, off-street parking, etc.
- Roadway and other utility standards and specifications

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Diagnose the Code by Thinking B-I-G

The next step in the diagnosis process is to diagnose your development and building codes by thinking B-I-G, where “B” stands for identifying **barriers** in your regulations that are preventing sustainability measures from being implemented; “I” stands for identifying possible **incentives** that could help to encourage more sustainable development patterns; and “G” stands for

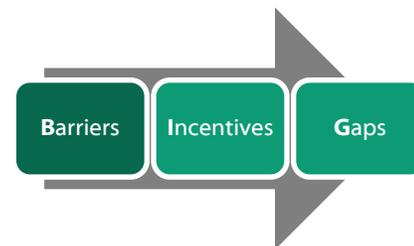


identifying **gaps** in the code that if plugged, would help enable more sustainable development. In preparing this section of your diagnosis, it is not enough to just identify the aspects of your code that are restricting sustainability. You should identify possible revisions that could be made to your code to resolve the problem that the current regulations are causing. It may also be helpful to identify examples or “best practices” of other communities, locally and nationally, that have addressed similar problems in their codes. These can be identified by looking at examples of sustainable codes prepared by other communities. Section 5 of this document includes a list of resources that might be helpful in your research. Appendix A contains a list of possible sustainable code provisions for a variety of topics that can be used as a resource as you prepare your diagnosis.

The following sections provide more information on how to identify and address barriers, possible incentives, and gaps in your codes.

Barriers

Simply stated, a barrier is something in your code that obstructs or impedes an aspect of sustainability from being implemented. For example, if your goal as a community is to encourage more locally grown food, one barrier that is commonly found in many communities is that the sale of produce from community gardens is not allowed in most zoning districts, limiting the areas where community gardens that seek to sell excess produce to

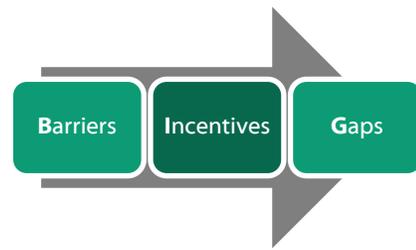


offset costs and make produce available to area residents could be located. If your goal is to promote alternative energy use, a common barrier in many codes is that wind energy systems are subject to restrictive height limitations that make them infeasible.

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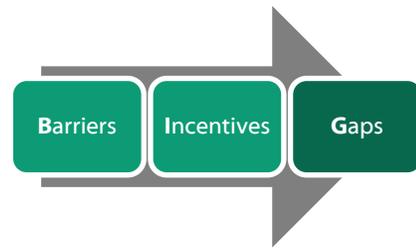
Incentives

In some cases, simply removing barriers may not be enough to encourage developers or other users of the code to move in a more sustainable direction. Many communities are looking to create incentives for sustainability provisions, either by streamlining approval procedures, reducing costs, providing density or height bonuses, or other measures. During the diagnosis process, you should look closely to determine if incentives could be added to your code to encourage the implementation of more sustainable development. Using the previous topic of community gardens as an example, some communities are amending their codes to allow community gardens to count as credit towards open space requirements for new development. This can result in several benefits -- allowing community garden space to count towards open space credit, as a marketing feature for their project, and providing residents of the development with a community garden facility for growing some of their own food. If your goal is to promote alternative energy use, some communities have introduced low-cost, over the counter permits for such systems as an incentive to encourage their use.



Gaps

Finally, many codes contain gaps that inadvertently restrict sustainability measures simply by the lack of provisions that allow them to be used. Oftentimes this is the case because at the time that the code was prepared, many of the topics that sustainability addresses were not commonly included in development codes. Again using the community gardens example, many codes do not define what a community garden is, or identify it as a permitted use in its zoning districts. The solution is to clearly define a community garden, and identify it as a permitted use in appropriate locations in your community. For alternative energy it is not uncommon for many codes to not include definitions or provisions that allow solar and wind systems. Amending your code to clearly define them, and allowing them as accessory uses by right, will ensure that your code is not hampering their use as an energy source.



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Table 2 below is an example of a diagnosis for development patterns, from the Hamilton County Development Regulations analysis.

Table 2: Example of Code Diagnosis and Recommendations (Source: Hamilton County Development Regulations Analysis, January 2012)

Filling Regulatory Gaps		
<p>MC-G1: Zoning and subdivision regulations do not contain pedestrian connectivity or non-vehicular level of service standards or specifically require sidewalks and pedestrian ways.</p>	<ul style="list-style-type: none"> Specify that sidewalks or pedestrian ways are required in all developments. Add pedestrian connectivity and LOS standards for all development above a certain threshold (e.g. square footage of development). 	<ul style="list-style-type: none"> Several existing SPI Districts require pedestrian connections along the street frontage, from the street to the building, and through vehicular use areas. Florida Department of Transportation (DOT), Model Regulations and Plan Amendments for Multimodal Transportation Districts (2004) and Multimodal Transportation Districts and Area-wide Quality of Service Handbook (2003) contain extensive multi-modal level of service and connectivity standards.
<p>MC-G2: Several SPI Districts address sidewalk and connectivity requirements, but most zone districts and subdivision regulations do not.</p>	<ul style="list-style-type: none"> Provide more specific and aggressive standards for road connectivity. For example, add a “connectivity index” that requires new development to achieve a minimum connectivity score based on the number of intersections and road links provided within the development and to surrounding properties. Require pedestrian as well as vehicular connectivity. 	<ul style="list-style-type: none"> The Florida DOT adopted connectivity standards in its “Model Regulations for Multimodal Transportation Districts.” These are used as criteria in funding local transportation projects. Franklin, TN, adopted a connectivity index with numerical standards to assess new subdivisions. Henderson, NV, requires all new development, except for new attached and detached single-family residential uses with less than five dwellings and properties ½ acre or less zoned nonresidential or mixed use, to develop a circulation plan meeting a specific “connectivity index”. Several existing SPI Districts require vehicular connections with adjoining property owners and limit the number of access driveways based on street frontage.

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Step Three: Identify Priorities



Your code diagnosis process will identify a wide range of ideas for code revisions; in some cases, there may be multiple options to address individual revisions. Not all are equal, and some may be more challenging than others to prepare and to implement. You might also identify more changes than can realistically be accomplished at one time.

In order to get the process underway and to build some momentum, it may be useful to **identify an initial set of changes that can be implemented in the near, mid, and long-term**. This part of the process typically will be staff driven with direction from elected officials, as well as input from other stakeholders as appropriate to your community. The objective of this process is to determine which changes to your codes will make the most difference to achieve your community’s goals.

Considerations will include the following:

- Which of the changes are likely to be the most difficult to accomplish, due to political or other considerations?
- Are there “low-hanging fruit” amendments that can be showcased as early successes?
- What are the potential costs and benefits from an economic perspective?

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As a first step, you will need to review the recommendations for each of the topic areas and evaluate them in terms of their feasibility, potential effectiveness in addressing the issues identified, and resources required to implement. Priority recommendations might be sorted into three categories:

1. **Proceed** – means the recommendation is ready to be drafted into a development code amendment in the near-term.
2. **Consider After More Research** – means the recommendation may be a viable idea, but more information about the details of implementing the recommendation is needed before time is invested in creating a text amendment.
3. **Postpone** – means the recommendation may be too complicated or a low priority right now.

Your goal at this stage should be to identify a list of 20-30 priority code changes, for which you are able to set timelines and goals for preparing amendments and getting them adopted. Depending on the extent of changes needed, you may be able to accomplish all of your objectives in one package, as a full sweep of code amendments, or may want to consider a strategic multi-year approach, with amendments organized in achievable “bundles”.

Once you have reviewed your preliminary set of priority recommendations, you should run them by your planning commission, elected officials, and other stakeholders as appropriate to obtain comment and buy-in before you begin drafting code amendments.

As you begin the process of drafting code amendments, it is important to process them in **digestible bundles** so that you don't overwhelm staff and elected/appointed officials who will be reviewing them. Many of the topics related to sustainability delve into areas of unfamiliar subject matter for many, and it may take some time to get up to speed on new topics that are not commonly found in development codes.

Resources for Sustainable Codes

There are a number of resources that can be helpful as you begin the process of diagnosing and updating your development codes. These are listed below. New resources are becoming available all the time, so check online frequently as you begin your process.

U.S. EPA web site and publications -

<http://www.epa.gov/smartgrowth/partnership/tools.html>; EPA Essential Smart Growth Fixes for Urban and Suburban Zoning Codes - http://www.epa.gov/smartgrowth/essential_fixes.htm

Rocky Mountain Land Use Institute Model Sustainable Development Code -

<http://www.law.du.edu/index.php/rmlui/rmlui-practice/code-framework>

LEED For Neighborhood Development (US Green Building Council) -

<http://www.usgbc.org/DisplayPage.aspx?CMSPageID=148>

Projects completed or underway by other communities:

- Salt Lake City Sustainable Code Revision Project - <http://www.slcclassic.com/slcgreen/code/>
- Tucson Sustainable Code Integration Project - <http://cms3.tucsonaz.gov/plannews/news/sustainable-land-use-code-integration-project>
- Omaha Sustainability Initiative - <http://www.omahabydesign.org/projects/environmental-element/>

The screenshot shows the EPA website's 'Green Power Partnership Quarterly Rankings' section. It features a banner with wind turbines and the text: 'Buying green power is an easy and effective way to improve your organization's environmental performance. Partnering with EPA can help your organization lower the transaction costs of buying green power.' Below the banner are links for 'Learn more', 'Top Partner Rankings', and 'National Top 50 List'. To the right, there's a 'Mercury and Air Toxics' section with a map of the United States and a list of topics including 'Air Quality', 'Air Dumps', 'Air Pollution', 'Asbestos', 'Batteries', 'Eradicants', 'Hazardous Waste', 'Mercury & Air Toxics', 'Mold', 'Pesticides', 'Radon', 'Soil', 'Toxic Substances', 'Waste', 'Water', and 'Wetlands'. There is also a 'Greenversations' section with a 'Read the Search Blog post' link.

The screenshot shows a document titled 'DRAFT Sustainable Community Development Code Framework' with a focus on 'RENEWABLE ENERGY' and 'Large-Scale Wind Energy Conversion Systems'. It includes a 'REFERENCES' section with several bullet points. The main body of the document is a table with columns for 'ACHIEVEMENT LEVELS', 'GENERAL INCORPORATION LEVELS', and 'GENERAL INCORPORATION LEVELS'. The table contains detailed text regarding wind energy conversion systems, including requirements for siting, performance standards, and permitting. The document is attributed to RMLUI (Rocky Mountain Land Use Institute).

Notes

Appendix A

Potential Topics to Address in Sustainable Codes

ENERGY AND RESOURCE MANAGEMENT

Renewable Energy

Solar Facilities	<ul style="list-style-type: none"> ▪ Consolidation of solar facility regulations in one section in the code ▪ Standards for solar facilities in residential and non-residential areas ▪ Standards and processes to address various sizes of solar facilities ▪ Solar-orientation standards to apply to new residential developments ▪ Solar-ready requirements for new buildings ▪ Regulations to protect solar access of existing development ▪ Expedited review processes or permitting of small-scale solar facilities as a use-by-right or as an accessory use in some/all zoning districts ▪ Fee reductions or waivers on development/permit fees for solar facilities ▪ Prohibiting homeowner covenants as part of a PUD approval process from banning residential solar facilities
Wind Energy Systems	<ul style="list-style-type: none"> ▪ Consolidation of wind energy system regulations in one section in the code ▪ Standards for wind energy systems in residential and non-residential areas ▪ Standards and processes to address various sizes of wind energy systems ▪ Expedited review processes for small-scale wind energy systems or permitting small-scale solar facilities as a use-by-right or as an accessory use in some/all zoning districts ▪ Fee reductions or waivers on development/permit fees for wind energy systems ▪ Allowing large-scale wind energy systems on open space/agricultural lands ▪ Prohibiting homeowner covenants from banning small-scale residential wind energy systems

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<p>Geothermal Energy Systems</p>	<ul style="list-style-type: none"> ▪ Consolidation of geothermal energy system regulations in one location of code ▪ Standards for geothermal energy systems in residential and non-residential areas ▪ Standards and processes to address individual and shared geothermal energy systems or districts ▪ Expedited review processes for geothermal energy systems or permitting individual geothermal energy systems as a use-by-right or as an accessory use in some/all zoning districts ▪ Fee reductions or waivers on development/permit fees for geothermal energy systems ▪ Prohibiting homeowner covenants from banning residential geothermal energy systems
<p>Hydropower Systems</p>	<ul style="list-style-type: none"> ▪ Consolidation of hydropower regulations in one location of code ▪ Standards for hydropower systems on public and private property ▪ Alternative compliance procedures for hydropower facilities located along important waterways or in sensitive natural areas ▪ Modification of stormwater regulations to allow power generation from stormwater conveyance systems

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Energy Conservation	
Site Design	<ul style="list-style-type: none"> ▪ Passive solar design requirements to apply to new subdivisions (e.g., solar orientation of streets, lot layout) ▪ Regulations to protect solar access of existing developments (e.g., height limitations for nearby buildings) ▪ Allowing “green” roofs to count towards landscaping or open space requirements ▪ Standards requiring shade trees in parking lots ▪ Requirements for shade tree plantings along major roadways ▪ Maximum outdoor illumination (lighting) standards (including streetlights, building exterior lighting, landscape lighting, and signs) ▪ Requirements for high-efficiency outdoor lighting fixtures, bulbs, and/or automated controls ▪ Parking regulations to address electric vehicle charging ▪ Provision of priority parking spaces for alternative fuel vehicles, carpool vehicles, and shuttles
Building Performance	<ul style="list-style-type: none"> ▪ Passive solar design requirements to apply to new buildings (e.g., window quality and placement, thermal mass, window shading, roofing materials, natural lighting, etc.) ▪ Requirements for high albedo (reflective) coatings or materials for large roofs ▪ Requirements for energy efficiency upgrades at time of building sale, occupancy, major renovation, and/or change of use ▪ Requirements for pre-wiring of buildings to accommodate charging of electric vehicles ▪ Standards to address energy efficiency/conservation for historic properties ▪ Incentives for installation of high-efficiency fixtures and heating/cooling systems in existing buildings (e.g., rebates, reduced permit fees, etc.) ▪ Incentives for buildings that pursue/achieve Energy Star or LEED certification (e.g., fee waivers/reimbursement, property tax abatement, expedited review process, etc.)

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Water Systems	
Irrigation/ Landscaping	<ul style="list-style-type: none"> ▪ Requirements for native, water-efficient landscaping and/or street tree plantings ▪ Requirements for automatic irrigation systems with rain gauges ▪ Allowing non-irrigated or “natural” areas to count towards landscaping requirements ▪ Standards for use of greywater (water recycling) systems for irrigation purposes ▪ Standards for rainwater collection structures (e.g., rain barrels) ▪ Allowing rainwater collection structures as permitted accessory uses in all zoning districts
Stormwater Management	<ul style="list-style-type: none"> ▪ Allowing “green” roofs to count towards landscaping or stormwater requirements ▪ Incorporation of stormwater best management practices (BMPs) (e.g., bio-swales, rain gardens, etc.) ▪ Standards allowing for use of pervious/porous pavement systems ▪ Standards for proper grading techniques to improve quality of stormwater runoff
Indoor Conservation	<ul style="list-style-type: none"> ▪ Requirements for water-conserving plumbing fixtures (e.g., non-water urinal, efficient showerheads, faucets, toilets, etc.) ▪ Standards for use of greywater (water recycling) systems for indoor use ▪ Requirements for water conserving fixture upgrades at time of building sale, occupancy, major renovation, and/or change of use ▪ Requirements for pre-plumbing of buildings to accommodate greywater systems ▪ Incentives for installation of water-conserving fixtures in existing buildings (e.g., rebates, reduced permit fees, etc.) ▪ Incentives for buildings that pursue/achieve LEED or other “green building” certification (e.g., fee waivers/reimbursement, property tax abatement, expedited review process, etc.)

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Waste Management	
Recycling	<ul style="list-style-type: none"> ▪ Requirements for recycling enclosures/bins for commercial and multi-family residential uses ▪ Standards for the appropriate size of outdoor refuse enclosures (large enough to accommodate both trash and recycling containers) ▪ Options for use of recycled-content landscaping or groundcover materials (e.g., recycled tire mulch etc.)
Composting	<ul style="list-style-type: none"> ▪ Consolidation of composting facility regulations in one section in the code ▪ Standards for composting facilities in residential and non-residential areas ▪ Standards for various sizes of composting facilities (e.g., backyard/small-scale, commercial-scale composting operations, etc.) ▪ Permitting small-scale composting bins/facilities as a use-by-right or an accessory use in some/all zoning districts ▪ Prohibiting homeowner covenants in the PUD process from banning residential composting bins/piles ▪ Incentives for non-residential uses to provide an on-site composting facility or use an off-site service (e.g., reduced parking requirements, allow additional seating, etc.)
Construction Debris	<ul style="list-style-type: none"> ▪ Incentives for the reuse and rehabilitation of existing buildings (e.g., tax credits, expedited review processes, etc.) ▪ Requirements for construction management plans that detail handling of construction waste (for projects of a certain size) ▪ Requirements for a minimum percentage of construction waste recycling ▪ Standards for the deconstruction (rather than demolition) of existing buildings and requirements for the sorting/recycling of materials

Notes

DEVELOPMENT PATTERNS

Mix of land uses	<ul style="list-style-type: none"> ▪ Include provisions for mixed-use development in all zoning districts as a primary use type. ▪ Streamlined review process for mixed use development projects. ▪ Fee reductions for mixed use development projects. ▪ Requiring a mix of housing types as part of residential developments. ▪ Allowing accessory dwelling units as a use by right, with standards to address size, parking, etc.
Compact development	<ul style="list-style-type: none"> ▪ Establish minimum densities in residential, commercial, and mixed-use developments in areas where compact development is desired. ▪ Allow for a full range of housing types in all residential districts. ▪ Modify nonresidential district lot sizes and setback development standards to allow development that is not auto-oriented. ▪ Provide incentives for the placement of parking to the side or rear of buildings. ▪ Density bonuses as incentives for mixed-use development. ▪ Reduced parking standards and adopt maximum parking limits. ▪ Allow alternative parking plans and expanded options for shared parking, allowance for off-site parking, on-street parking, and other approaches.
Infill development	<ul style="list-style-type: none"> ▪ Adopt development standards (landscaping, parking, open space) that are tailored to urban development patterns ▪ Grant automatic reductions in off-street parking requirements in mixed-use projects. ▪ Streamlined review process and/or fee reductions for infill development projects. ▪ Clarify that renovations or expansions related to “green building” design (e.g. adding solar panels) may be made without bringing entire site into compliance with development standards.

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MOBILITY AND CONNECTIVITY

Multi-modal transportation	<ul style="list-style-type: none"> ▪ Ensure that zoning and other standards include provisions for low and moderate speed urban vehicles. ▪ Ensure that fueling and charging facilities for alternative fuel vehicles are included as permitted uses in all districts as appropriate. ▪ Require construction of pedestrian connections to public sidewalks and adjoining property and development.
Context-sensitive design	<ul style="list-style-type: none"> ▪ Adopt standards for complete streets, with design standards to accommodate auto, transit, pedestrian, and bicycle travel.
Connectivity	<ul style="list-style-type: none"> ▪ Connectivity standards for pedestrian and bicycle travel (e.g., minimum # of connections and maximum spacing of connections between developments and neighborhoods). ▪ Standards for road connectivity, such as a connectivity index that requires new development to achieve a minimum connectivity score based on the number of intersections and road links provided.

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URBAN AGRICULTURE

Small-scale activities	<ul style="list-style-type: none"> ▪ Standards to allow the keeping of backyard chickens for personal use in all residential districts, with appropriate limits on size of structures and number of hens. ▪ Permit small-scale farm stands in single-family residential and agricultural districts; to allow for the sale of produce raised on-site only (limited parking). ▪ Allowing community gardens (on both public and private lands) as a permitted use-by-right in all districts. ▪ Allow community gardens as an alternative open space amenity; allow them to qualify as a percentage of required open space for residential and non-residential development. ▪ Modify home occupation regulations to allow limited food production uses from home as a permitted use. ▪ Include food-bearing trees on list of permitted trees in landscaping plans. ▪ Make provisions for rooftop gardens as a permitted use in all districts.
Commercial activities	<ul style="list-style-type: none"> ▪ Provide for community-supported agriculture uses (CSA) as a permitted use in appropriate locations. ▪ Allow roadside farm stands with parking and permanent structures in appropriate locations (e.g., agricultural districts, commercial and industrial districts)

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Workshop Manual

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Building Code Project**

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